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ABSTRACT

Published twice annually as a forum for the critical review of proposals, programs, and practices in Florida's community colleges, this journal provides articles by community college practitioners analyzing issues and showcasing exemplary practices. The first issue of volume 1 includes the following articles: "Starving the Solution" (Robert H. McCabe and Clynne L. Morgan); "A Critique: State Higher Education Systems and College Completion" (Cathy Morris and Herman I. Brann); "Benefits of Effective Developmental Education" (Jay R. Bushnell); "The Influence of the CLAST on Faculty and Students in a Community College English Department" (Don Meagher); "The Florida Education Lottery: A Lotto Nonsense or a Wise Bet for Florida's Community Colleges?" (Susan Robinson Summers, M. David Miller, and David S. Honeyman); "Florida's Responses to Reduced Fiscal Support" (Edward M. Henn); "Cost-Plus Budgeting's Long Term Effect on Horizontal Fiscal Equity" (George W. Harrell); and "World Community College: Using Technology To Provide Interactive, Comprehensive, Personal Learning" (Maxwell C. King, Albert Koller, and Steve Eskow). The second issue presents the following articles: "Local Control through Local Vision" (Lawrence W. Tyree); "The Responsibility for Selecting a President" (James L. Wattenbarger); "The Expanding Role of Community Colleges in the Transfer of Technology to Their Districts" (R. Bruce Judd); "Students' Success: Does Technology Have a Place?" (Kamala Anadam); "Why Do Many High School Graduates Require Basic Skills Remediation in College?" (Pat Smittle); "Organizational Climate and Job Satisfaction: What's the Connection?" (Susan K. Chappell and David S. Honeyman); "Leadership Principles for America's Future and for America's Community Colleges" (Marshall W. McLeod; "Applying the Florida Plan for Community Colleges to Poland" (David Marzak); and "Computer Mediated Learning" (Maxwell C. King, Tace T. Crouse, and Bernard R. Gifford). (HAA)

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VISIONS

The Journal of Applied Research for the Florida Association of Community Colleg

Winter 1995 - Fall 1996

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The Journal of Applied Research for the Florida Association of Community Colleges

FOREWORD

DR. BURT HARRES
1995 FACC PRESIDENT

A professional association can use numerous criteria to ascertain its effectiveness. Some associations boast of large memberships while others take pride in their diversity. Excellent training opportunities are the trademark of some associations. Many professional associations gain prominence for effectively influencing legislation that affects their members.

The Florida Association of Community Colleges (FACC) can lay claim to each of the previously identified measures of success. However, in one area, FACC has been lacking. Unlike many other professional associations, FACC has not produced a journal in which issues of vital concern can be published and widely disseminated. With this issue of **VISIONS**, this deficiency has been addressed.

VISIONS: the Journal of Applied Research for the Florida Association of Community Colleges is the idea of Dr. Harry Albertson, FACC's new Executive Director. Dr. Albertson reasoned that numerous issues are considered by the Florida Legislature and critical decisions are made based on flawed, inaccurate, incomplete and/or biased data. Dr. Albertson contended that FACC needed a vehicle by which it could promulgate applied research in a reader friendly format. He envisioned a journal that would contain articles written by community college professionals which accurately analyzed critical issues and showcased exemplary practices.

In the spring of 1995, an ad hoc committee was formed to explore the possibility of establishing a journal for FACC. Under the leadership of Dr. James Wattenbarger, the following educators gathered on numerous occasions, laid the groundwork for FACC's journal, and comprised the journal's first editorial board:

Dr. James Wattenbarger, Editor
Dr. Harry Albertson
Mr. David Armstrong
Mr. Howard Campbell
Dr. Tom Delaino
Dr. Burt Harres
Mr. Preston Howard
Dr. David Leslie
Dr. John Losak
Ms. Margaret Massey
Dr. Catherine Morris
Dr. Anne Mulder
Dr. Jeffery Stuckman
Dr. Larry Tyree
Dr. Theodore Wright

With this inaugural issue, the FACC Journal of Applied Research will provide a forum for the critical review of proposals, programs and practices. The journal will also provide one of the key ingredients to FACC's success and enable our Association to serve better its members and our students.

Winter 199

VISIONS

Published by the Florida Association of Community Colleges

THE FLORIDA ASSOCIATION OF COMMUNITY COLLEGES

The **Florida Association of Community Colleges (FACC)** is the professional association of Florida's 28 public community colleges, the Division of Community Colleges, their boards, employees, retirees, and associates. The mission of the Association is to promote actively, represent democratically, support and serve the individual members and institutions in their endeavors to provide their students and the citizens of Florida the best possible comprehensive community college educational system.

FACC is governed by a 31 member Board of Directors, and the Association's administrative offices are located in Tallahassee, Florida. For additional information about FACC, inquiries should be addressed to:

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CONTENTS

EDITOR'S COMMENTS

When a new adventure is undertaken, there is always excitement. We are all excited at this time because **VISIONS** has become a reality. The community colleges of Florida have long since proved their value to the people of this state and have provided educational opportunities to more than a million persons each year. They have provided partnerships to a myriad of community businesses and other agencies in the twenty eight districts that cover the state. The professional competence of their teaching and administrative faculties has been recognized not only within the state but in national forums as well. Florida citizens have attested to this competence by their job performance and by their continuing college work at Florida's four-year colleges and universities as well as those in other states. This issue also illustrates the contributions that the Florida State University System is making in cooperation with and support of the community colleges in the state. **VISIONS** now provides an avenue to present the research that every college carries out in its regular operations as well as through special studies and doctoral dissertations. These reports of research and practice will add to the basic knowledge that enables the colleges to continue to improve programs and to provide the best possible educational opportunities to the citizens of Florida. These reports of research and practice will also be valuable and helpful to the 1300 other community colleges in the other 49 states.

You can understand our excitement!!!!!!!!

CONTRIBUTING AUTHORS

Dr. James L. Wattenbarger, Editor

Dr. James L. Wattenbarger, the Editor of **VISIONS**, is a 1941 graduate of Palm Beach Community College (Florida's oldest community college) and throughout his long and distinguished career in higher education he has continually affirmed his community college roots. In 1943, he graduated with High Honors from the University of Florida with a Bachelor of Arts Degree in Education. After service as a navigator in the United States Air Corps during World War II, he returned to the University of Florida to complete a Master and Doctoral degree. His doctoral dissertation became the basis for Florida's Master Plan for Community Colleges, and most historians regard Wattenbarger as the "father" of Florida's Community College System.

Dr. Wattenbarger has held a variety of leadership positions in higher education. He has served as a high school teacher and assistant principal in Florida, as well as a university professor in Florida, Missouri, Iowa, North Carolina, Virginia, Illinois and Arizona. From 1955 through 1957, he was the Director of the Florida Community College Council, and in the following decade he served as the Director of Florida's Division of Community Colleges and the Assistant State Superintendent of Education.

More recently, Dr. Wattenbarger retired from the University of Florida after twenty-four years of service. During his tenure at the University of Florida, he served as a Professor of Higher Education, Director of the Institute of Higher Education and Chair of the Department of Educational Administration. After his retirement from the university, and in recognition of his accomplishments, the University of Florida and the Florida Board of Regents bestowed on him the title **Distinguished Service Professor Emeritus.**

Dr. Wattenbarger has served on the Board of Directors of the American Association of Community Colleges (AACC), as Chair of the Community College State Director's Association, and as a member of the AACC Futures Commission. In 1987, he was awarded the prestigious **AACC Leadership Award,** and in 1991 he was awarded the **Leroy Collins Distinguished Community College Alumnus Award** by the Florida Association of Community Colleges. A noted author and researcher, Wattenbarger has recently co-authored **America's Community Colleges: The First Century**.

Dr. Robert McCabe, who recently retired as district president of Miami-Dade Community College (MDCC), is now the first senior fellow for the League of Innovation in the Community College. He will direct Reinvest in America's Community Colleges, a project with an objective of helping community colleges nationwide as they organize local efforts to build support that will result in increased private fundraising and in increased local/state appropriations. Dr. McCabe has demonstrated repeatedly his high commitment to the open door concept. Glynne Morgan has served as the Administrative Assistant for Dr. McCabe and has assisted him in the development of this report.

Dr. Cathy Morris and Dr. Herman Brann are in the Institutional Research Department at Miami-Dade Community College. Dr. Morris serves as Dean and Dr. Brann as the Senior Research Associate. Dr. Morris received her advanced degrees from the University of Miami and began her professional career as an evaluator for the University of Miami School of Nursing where she worked for three years before joining MDCC as a Research Associate in 1979. She serves on a number of local and state committees concerned with data gathering and interpretation; her competencies in these areas is unquestioned. Dr. Brann received his B.S. and M.S. degrees in Agricultural Economics from the University of the West Indies and Cornell University and his Ph.D. in Economics from the University of the West Indies. Since 1972, he has taught courses in Economics, Finance and Statistics at the University of the West Indies and Prairie View A&M University, and was a Fullbright-Hays Professor at Iowa State University in 1976. He served as the Research Associate for the Children's Services Council in Palm Beach County before joining the MDCC research staff in 1933.

Dr. George W. Harrell is Assistant Vice Chancellor for Business Affairs at East Carolina University. He is also a member of the teaching faculty of the School of Education in the Department of Educational Leadership at East Carolina. He was formerly on the staff at the University of Florida and received his doctoral degree from the University of Florida.

Although there are a number of possible special columns that may be added in future publications, only one is available at this time. A special section on EXEMPLARY PRACTICES in Curriculum and Instruction has been prepared by Dr. Laurie Culbreth, Professor of English, Chipola Junior College. Dr. Culbreth has selected for this first issue examples from Brevard Community College, Pasco-Hernando Community College, Miami-Dade Community College, Gulf Coast Community College, and Valencia Community College. Future issues may provide examples from other colleges in Florida.

CONTRIBUTING AUTHORS

Dr. Jay Bushnell has taught at Daytona Beach Community College (DBCC) during the past 28 years. Teaching anthropology, sociology, American history, and social science, he learned that some students did not have the reading skills to succeed in such courses. The completion of his doctoral degree in Higher Education from the University of Florida provided him with the opportunity to test a generally held assumption about developmental reading courses: there is great benefit to students who take such courses in assisting them to gain the skills required for completing their educational programs and in encouraging them to continue their degree programs in order to become contributing citizens in their communities. Dr. Bushnell's interest in developmental reading has led him to accept the responsibility as a Title III Activity Director for Curriculum and Instruction for Developmental Education at DBCC during the past two years.

Dr. Don Meagher is a graduate of a community college in Norwalk, California. He received two Master's degrees, one in Reading from Nova University that enabled him to teach in elementary school and one in English (Creative Writing) from the University of Miami that prepared him to teach in the community college. In 1993 he completed his doctoral degree in higher education from the University of Miami with a dissertation focused upon perspectives on literacy in a community college. Dr. Meagher presently teaches college-prep reading and writing at MDCC. He is currently working on a critical reading textbook under contract with Harcourt Brace. He is also working on a book of original retellings of creation myths for children.

Dr. Edward M. Henn is a native Floridian who grew up in the Melbourne area. He earned his B.A. degree from the University of South Florida in Applied Music. His early professional career was in the entertainment industry, working for Walt Disney World as a performer, director and producer. He continued his education with an MBA from Florida Institute of Technology in Business Administration and a doctoral degree from Florida International University in Community College Teaching. He has served as a department chair at both the North Campus and South Campus of Broward Community College (BCC) and is currently the head of Business Administration, Accounting and Legal Assisting Departments at the South Campus. He has been actively involved in the application of educational technology to facilitate learning and is developing an educational film in cooperation with Anheuser-Busch.

Summers

Miller

Dr. Susan Summers is Division Chair, Extended Studies, Lake City Community College. Her work in community college finance has been recognized by her colleagues. She received the first James L. Wattenbarger Information Systems of Florida Community College Leadership Award from the University of Florida. She also received the Roe L. Johns Travel and Jean Flanigan Dissertation Awards from the American Education Finance Association. She is recognized as one of the nation's experts in the area of the influence of lotteries upon support for education. Dr. David Honeymoon is a professor of Educational Leadership at the University of Florida where he teaches in the area of Higher Education Finance. He is currently president of the American Education Finance Association. M. David Miller is an Associate Professor in the Department of Foundations of Education. He specializes in psychometric methods and applied research methods.

King

Koller

Eskow

Dr. Maxwell King, Dr. Albert Koller, and Dr. Steve Eskow are among the nation's experts in the area of International Education as served by electronic technology. Dr. King is President of Brevard Community College (BCC) and has served as a Florida community college president longer than any other person, more than 30 years. He is a doctoral graduate of the University of Florida and is recognized as a national leader in International Education. Dr. Koller is Executive Director of Community Colleges for International Development, Inc. and Associate Vice President for International Education/Quality Management at BCC. He has been active in this area for a number of years and provides leadership to the consortium of community colleges. Dr. Eskow is President of Electronic University Network, San Francisco, and consults with colleges and corporations on educational technology, distance learning, and training networks.

Starving the Solution

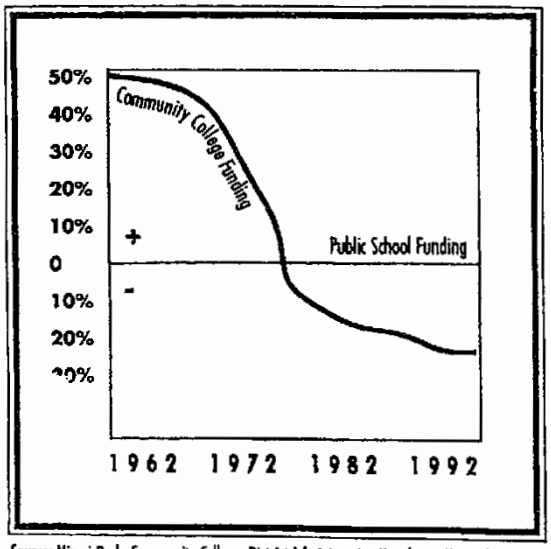
Robert H. McCabe and Clynne L. Morgan

The growing underclass of individuals who are dependent on society is threatening th ewell-being of all Floridians. Our state is becoming overwhelmed by the cost of sustaining this dependency. The number of persons receiving Aid to Families with Dependent Children (AFDC) has been rising at a rate of 20 percent a year since 1988. The state's 1990 Medicaid expenditure skyrocketed to almost two billion dollars by 1990 and over $4.1 billion by 1993. This was equal to the state general revenue budget in 1980-81. Expenditures on prison and law enforcement are escalating exponentially. In Dade County alone, nearly one quarter of our citizens are receiving public assistance in housing, health care, or food stamps.

Florida has exceptional prospects for a bright economic future as the business connector to the emerging nations of the Caribbean and Central and South America. However, the loss of our human resources, because of lack of skills and the cost of sustaining growing numbers of individuals in a dependent status, threatens to destroy that potential.

Florida's productive and efficient community colleges have been the primary access to college and post-secondary education for our residents. Community colleges are uniquely positioned to help dependent individuals gain the skills to become self-sufficient, thus providing business and industry with a much needed quality work force and saving Floridians literally billions of dollars. Despite the community colleges' excellent record of performance, the state has consistently reduced the resources available per student that the community colleges receive in order to provide essential services to our communities. Over the history of the community college system, the income per student has been reduced from 50 percent more to 22 percent less than that provided for public schools, grades K through 12. In 1994-95, community colleges received just over half as much per lower division student as the state universities.

The current level of funding for community colleges threatens their capacity to carry out their mission. Indeed, the very mission itself is being threatened. Florida is, in effect, starving the most promising solution to the problem of reducing the number of dependent individuals by denying the colleges the resources they need to help these individuals gain the skills they need to be productively employed.



Source: Miami-Dade Community College, District Administration Newsletter, November, 1994

Community college funding per full-time student as a percentage of public school funding.

Supporting dependency has high costs and high risks to society as a whole.

There are individuals in our own neighborhoods, in this land of plenty, who live in terrible circumstances. The growth of America's underclass — fueled by increasing poverty, drugs, unemployment, and breakdown in family life—is causing our social structure to crumble. Values we

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The top school disciplinary problems in the nation have taken a drastic turn since the 1940s.

once held in high esteem are no longer relevant to our daily life which is plagued by crime, violence, and disregard for basic rights. Our underpinnings of honor and duty—our good citizenship — seems to be meaningless to increasing numbers of our young people.

All Americans are deeply concerned about the escalation of mindless violence and increasing numbers of incarcerations. In 1994, for the first time, there are over one million Americans incarcerated — the highest rate of any country other than Russia.

1940	1990
Talking out of turn	Drug Abuse
Chewing Gum	Alcohol Abuse
Making Noise	Pregnancy
Running in the Halls	Suicide
Cutting in Line	Rape
Dress-Code Violations	Robbery
Littering	Assault

Source: The Florida Council of 100, Committee on the Justice System, November, 1994

Most Americans perceive that life has become fraught with danger.

The sight of homeless persons begging on our streets has become common, and their cardboard homes disgrace us all. Our poor communities are breeding grounds for disease, crime, and drugs, all of which directly impact our lives.

"Poverty costs the society its sense of well-being and its human resources."

In Florida, the rate for all crimes has been steadily climbing since 1989. The Florida Council of 100's Committee on the Justice System filed a draft report that showed the impact of crime on Florida businesses, which were victims of more than 136,000 reported crimes resulting in $7.5 billion in losses.

There are wide-spread initiatives to increase federal allocations to fight crime, such as the $30 billion Federal anti-crime bill. But according to Alfred Blum-stein, former president of the American Society of Criminology, "Starting in the next year (1995) or beyond, demographics will start to work against us as the number in the high-crime age group increases."[1] The high-crime age group to which he refers is from 15 to 19 years old.

James Alan Fox, dean of the College of Criminal Justice at Northwestern University, was even more blunt: "To prevent a blood bath in the year 2005, when we will have a flood of 15-year-olds, we have to do something today with the 5-year-olds. But when push comes to shove, prevention programs often fall by the wayside in favor of increas-ed incarceration."[2]

The problem is dramatically illustrated by the *1993 KIDS COUNT* ranking of the 16 SREB states which showed that only Florida and Louisiana were below the national average on all ten indicators relating to the status of children. The percentage of change from 1985 to 1990 is equally foreboding. Based on national data from the National Center for Health Statistics, the Bureau of the Census, the U.S. Department of Education, and the FBI, our state steadily increased in births to single teens, children living in poverty, children in single parent families, teens not in school or the workforce, teens dying by violence and who were arrested for violent crimes. The most significant change was a 9% decrease in the high school graduation rate.[3]

Unfortunately, our society has become more and more reactive instead of seeking ways to deal with the most basic root cause of crime—poverty. In Dade County alone, almost one-third of our 143 neighborhoods are considered "high poverty" areas. In Florida, 41% of black males between 18 and 32 are under the control of the courts. This is an overwhelming loss to the community.

There are many portraits of poverty—hungry and abused children, homeless families, young people with no hope for a productive future. Unbearable living conditions create enormous emotional and economical pressures that explode in outrageous acts of violence. The recent riots in Los Angeles, and those in Miami in 1980, make it very clear that the problems of the underclass impact all of us.

The costs of poverty are more than monetary. Poverty is the leading cause of shortened life expectancy in America. Poverty costs society its sense of well-being and its human resources.

The cost of maintaining a state of dependency is astronomical.

The 1990 Census reported that there were 341,216 persons, one of each six residents in Dade County, living in poverty. In Florida, 14.4% of our citizens—1,896,000 persons—

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were living in poverty. Of all the children in Florida, 19.9% were living in poverty.

The 1990 Census also reported that the average number of AFDC recipients in Florida was 368,458. The costs and the number of persons needing assistance have most certainly risen in the ensuing five years. Dade County's 1993 expenditures for just two programs—food stamps and Aid to Families with Dependent Children (AFDC)—totalled $479,706,672. Almost half a million persons, one-quarter of our county's population, received AFDC and/or food stamps; the average time food stamps and AFDC are received is two years.

Service	Dade County
Human Services Administration	5,994,925
Hospitals	490,008,755
Other Health Service Facilities	48,268,706
Health	198,664,525
Childrens' Medical Services	11,103,990
Alcohol, Drugs, Mental Health	46,733,300
Health Insurance Benefits (disabled)	110,000,000
Health Insurance Benefits (aged)	1,040,000,000
Total Human Service	4,183,666,982

Source: Baseline Profile for Neighborhood Transformation, DEYPLAN, Inc., November, 1994

Over $4 billion was spent on Human Services in Dade County

When determining the cost of maintaining persons in a dependent condition, public housing is another important factor.

The Department of Health and Rehabilitative Services tells us that the average stay in public housing is 15 years.

Even if children succeed in escaping from a life of poverty, they will be in the health care system until they are out on their own; many people will stay in the health care system—the cost of which amounted to $215 million in Dade County for unreimbursed care in 1993—for their whole lives.

There are many services other than those for food and shelter that dramatically increase the real, total cost of dependency

Crime and educational deficiencies go hand in hand.

Direct correlations can be drawn between levels of education and careers in crime; the national data show that most persons in our prisons have less than a high school education. Consider this: most criminals begin their careers as juveniles, with an average of six juvenile offenses. They may have turned to crime for many reasons, but they have one commonality: they are a tremendous financial drain on the rest of society.

Career criminals in Dade County, profiled in a study by the Program Analysis and Grant Development Division of the Metro-Dade Department of Justice Assistance, impose a shocking aggregate dollar cost on our residents. The study showed continuous costs incurred by 1,800 violent career criminals—whose histories include rearrest, reprosecution, and reincarceration—including costs associated with case processing, screening by the state attorney, arraignment, and any type of pre-trial hearing, averaged $141,319 per criminal.[4]

While the cost of maintaining our criminal justice system should be of great concern, we should be equally disturbed when we examine the lifetime patterns of the career criminals profiled in this study. What, for instance, was their educational level? Consider the following: Their mean age is only 24. On average, they had six prior juvenile convictions. They had an average of 14 prior convictions for misdemeanors, felonies, and violent felonies. They had three prior robbery charges, 33 total prior charges and 19 prior arrests. Their average sentence for all convictions was 11 years, 2 months. Their average time served for all convictions was 3 years, 5 months.[5]

The Florida Council of 100 reports that a juvenile is arrested every six minutes in Florida and that most have skills 4-5 years behind their actual age.[6] What with time spent for arrest, booking, pre-trial jail, screening, arraignment, other hearings, trial, sentencing, jail, and conditional release, it would be safe to say that these 1,800 career criminals spent little time in school. In fact, the Florida Department of Corrections Annual Report for 1992-93 indicated that of 30,530 inmates, the average amount of education claimed was 8.2 years and the median was 9.0 years.[7]

In the Florida State Prison System alone, with 50,603 inmates in 1993,[8] at an operational cost of $26,000 per inmate,[9] the cost to Florida taxpayers is calculated at $1,315,678,000. The annual expenditure on prisoners is nearly ten times the expenditure for a full-time student in a community

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college. These expenditures are having little effect on the rate of recidivism; most released criminals are back in jail within three years.

We are facing the frightening prospect of an ever-increasing burden on society and the loss of important human resources.

Members of the Information Age workforce need a higher level of skills.

In the 21st century, the socially deprived, undereducated person will be at an even greater disadvantage. Business and industry leaders are expressing deep concerns about the need for workers with high quality skills at a post-secondary level. Persons with minimal skills, even though they are willing to work, will find there are fewer available jobs.

Today, business and industry leaders tell us that only 20% of new jobs are for the unskilled or semi-skilled; 80% will require some post-secondary education. In 1993, the Institute for Future Studies at Macomb Community College published a document containing this indicator of workforce transformation: "A Hudson Institute study reported by child advocate Sylvia Ann Hewlett indicates that "...jobs created in the 1990s will require almost a year's more education than jobs generated in the mid-1980s."[10]

George A. Baker, III and Lester W. Reed, Jr., authors of *Creating a World-Class Workforce, cut to the heart of the issue:* "America's problems can in fact be traced to a prime cause—and a cure exists. The root cause, exacerbated by rapid growth in social and entitlement programs, is the inability of the U.S. economy to expand sufficiently to cover the cost of increased spending. At the core of the economic situation is a large, underprepared work force that cannot or often does not choose to compete effectively in today's economy. Particularly in the production of sophisticated products, an underprepared or unmotivated work force has no hope of meeting the challenges of the future... Without a restructured educational process to create this workforce, all of our efforts to combat social ills are doomed to be losing battles."[11]

Our businesses and industries must have a workforce of the highest quality in order to succeed in the world marketplace. We are already seeing a gross mismatch between the capabilities of individuals attempting to enter the job market and the needs of employers. The gap between the skills needed and those possessed by the workforce continues to grow, seriously handicapping American business and industry.

Floridians are underskilled for the Information Age.

On a statewide basis, 54% of students entering Florida's community colleges test as academically underprepared. Currently at Miami-Dade, 72% of entering high school graduates, and 43% of those from the top 20% of high school graduates, required remedial work just to be able to do basic entry-level college work.

On a nationally standardized test, 41% of Dade tenth grade students were in the last quartile in reading. In addition, it is clear that the entering immigrant population adds even more underprepared students to Florida's schools.

In 1989, the U.S. Department of Education reported that Florida led the nation in high school dropouts. Young people who drop out of high school before graduation are virtually unemployable in any but the most menial jobs. According to the SERVE Report, "Florida and Georgia, for example, offer lots of jobs through tourism, which provides minimum wage and 'working poor' positions for high school dropouts and well-paying jobs for college graduates in business, computer, financial, and professional services."[12]

Higher education leads to higher pay.

The Florida Department of Commerce reported data from 1991-1992 U.S. Department of Commerce and U.S. Department of Labor statistics, comparing Florida to the other 49 states. In average annual pay, at $21,991, Florida ranked well below the national average of $24,575. In average hourly earnings in manufacturing, Florida was sixth from the bottom of the scale, at $9.61 per hour.

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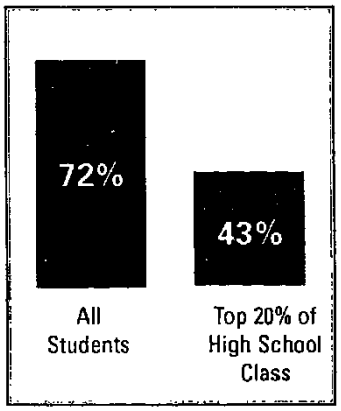

Source: Miami-Dade Community College, District Administration, Spring 1994

At Miami-Dade Community College, nearly 3 of 4 of all entering students, and 4 of 10 from the high school top 20%, are academically deficient.

Average Annual Earnings in 1992 for:

High School Dropout:	$12,809
High School Graduate:	$18,737
Associate Degree:	$20,866
Bachelor's Degree:	$32,629
Advanced Degree:	$48,653

Estimated lifetime earnings by education levels:

High School Dropout:	$609,000
High School Graduate:	$821,000
Associate Degree:	$993,000
Bachelor's Degree:	$1,062,000
Advanced Degree:	$2,142,000

Source: U.S. Department of Commerce, July 1994

A national study released in July by the U.S. Department of Commerce found that higher earnings are linked to higher levels of education

Education is the answer.

It appears that children undergo a gradual disillusionment. The freshness, the curiosity seen so often in young children, begins to disappear as they learn more of life's realities. By the time they are old enough to enter middle school, many young people—particularly those who are attempting to rise from poverty—have become completely defeated by a system they perceive as uncaring and unsupportive.

They despair of ever finding a way out. They are stuck in the bog of public assistance. Some will struggle in low-paying jobs and accept their fate while trying to maintain a sense of worth and pride. Others will decide to take what they want, regardless of the tenets of law and order. A fortunate few will get the encouragement and support they need to reach their goals.

The cards are stacked against the underprepared. A person who has dropped out of school, or even one with a high-school diploma, will not be equipped to enter the new workforce. The community colleges have a record of helping the underprepared to attain success.

Community colleges are the bridge to independence.

Labor Secretary Robert Reich recently said it best: "Community colleges are the unsung heroes of the nation's middle class."[13]

Community colleges are the primary access for the essential postsecondary education that leads to jobs and self-sufficiency. For substantial numbers of Floridians, community colleges are the bridge to independence. Florida's community colleges have often been acknowledged as among the best in America. For most minorities, these institutions are the only opportunity to gain a post-secondary education and a better future. At Miami-Dade, for instance, we have the most Blacks, Hispanics, low-income, and ESL students of any college or university in the country. By the same token, MDCC has been rated as the best at teaching and learning, providing the most innovative programs, and holding the number one ranking among the community colleges in America.

As an example of what can be achieved when there is a serious commitment to help all individuals develop fully, Miami-Dade is the producer of most registered nurses in Dade County. In the past two years, the Medical Center Campus graduated just over 600 nurses. Two-thirds were minorities, only 6 percent of whom would have been eligible for state university admission; almost half were academically deficient in basic skills. One third of the graduates were white non-Hispanics, only 13% of whom were eligible for state universities; more than two-thirds were academically deficient.

The graduates, after a two-year program, sit for the same state licensure examination as graduates of four-year university bachelor degree nursing programs. At the most recent examination, 217 nurses from Miami-Dade took the test with 107 from the State University System. Of first-time candidates, 88% of Miami-Dade students passed as did 92% of students from the university baccalaureate programs. That is truly remarkable considering that less than 10% of the Miami-Dade graduates would have initially been admitted to the State University System.

Opening the doors to independence.

Using the education they have received at Miami-Dade, thousands of citizens serve the community in very special ways. There is an abundance of persons who are gaining success and self-sufficiency everyday.

Single parents who struggle to attain an education, sometimes against overwhelming odds, deserve special mention. About 28 percent of Florida's children are raised by more than 700,000 single parents, a rate surpassed by only five other states. Florida's community colleges have provided child-care and other supportive programs to assist single parents, thus moving entire families to self-sufficiency.

Poverty-stricken single parents have an enormous task in simply providing sustenance for their children. Imagine the near impossibility of accessing a post-secondary education under those circumstances. Those who try and, to an even deeper extent, those who succeed, are truly American heroes and heroines.

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Florida has abandoned its commitment to higher education in general and to the community colleges in particular.

From 1988 to 1993, Florida's general revenue and community colleges' enrollment increased by about the same percentage. But the state appropriation to education was much lower, and the community colleges' portion was minuscule. When the figures are corrected for inflation, state revenue was still up, but the community colleges' appropriation was down by more than 15%. This spread is even more startling when viewed on a per-student basis. When adjusted for inflation, the decrease in the appropriation per student was 38%.

Although Florida's lottery funds were intended for quality enhancement, they, in fact, have been used to supplant general revenue. Even when these funds are added back into the mix, there is an appropriation decrease of 4.4% per student, which is a decrease of 22.6% when corrected for inflation.

When the education picture is looked at as a whole, it becomes obvious that Florida has not given priority to education and that community colleges have fared most poorly of all.

Community colleges are a bargain.

Community colleges throughout America have been effectively serving their towns and cities by enabling citizens to become productive and independent. Why then, is financial support for community colleges decreasing to the point of major crisis?

The cost of education, when compared to the cost of maintaining persons in dependency is, as the old saying goes, cheap at twice the price. Community college expenditures in 1992-93 were $3,361.18 for the equivalent of each full-time student. In 1992-93, Florida spent approximately $26,000 for each prisoner incarcerated in our prisons. When we think in wider terms of the debilitation of our social health through rising crime and increased dependence on the system, it is clear that major changes must be made in our list of priorities. If post-secondary education carries such positive implications, does it not make sense to support the very colleges that have been engaged in this war against poverty since their inception?

The State of Florida is Starving the Solution.

There are three salient points to consider —The growth of the underclass is destructive to the health of our society; in a world economy, America needs a quality workforce with high skills; the cost of maintaining an underclass in dependency is escalating and intolerable.

Community colleges can provide a way out of hopelessness and a road to self-sufficiency. It would be far better to spend our resources on education than to permit people to fall into permanent dependency to be supported for their lifetimes. Community colleges are essential to our economic future; they are productive; they are efficient; but, they are undervalued, underappreciated, and underfunded.

For many years, financial support for Florida's community colleges has been steadily declining. On top of gradually declining appropriations, colleges have been faced with major cuts in support over the past five years. At the same time, the cost of maintaining growing numbers of dependent individuals has been steadily increasing. There is ample, incontrovertible evidence of the ability to assist men and women in moving from dependency to self-sufficiency through our educational programs. Lack of support has placed the community colleges on the very edge of being able to carry out their mission successfully.

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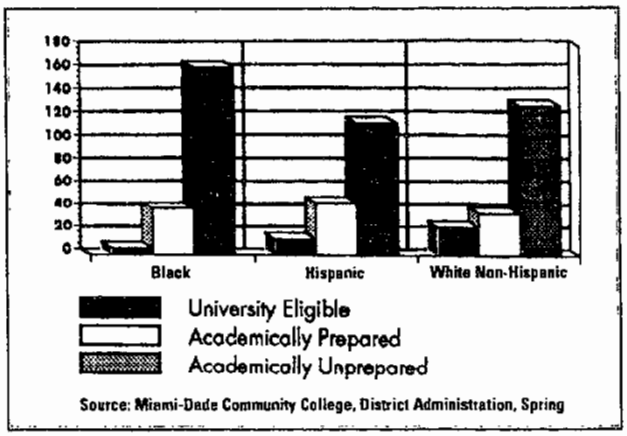
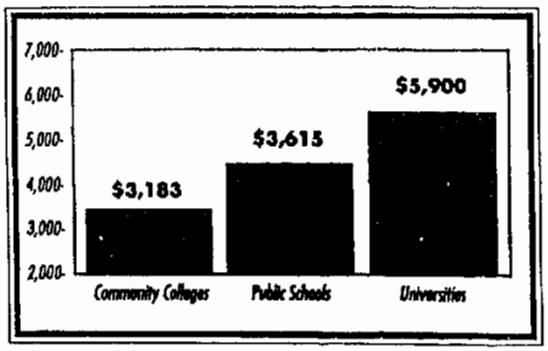
The majority of entering students are underprepared, yet they succeed in Miami-Dade Nursing Programs



Source: Miami-Dade Community College, District Administration, Spring

Florida Community College System Funding Per FTE (30 Credit Hours) by Delivery Systems 1994-1995



Source: Florida Department of Education

Everyone is deeply concerned about the many issues that impact our society's well-being, but there is one underlying issue That tends to be ignored—the expense of staying on the current path. If the costs of crime and welfare programs continue to increase, and most predictions offer no indication otherwise, reduced funding for constructive assistance will become a pattern, and the quality of life for Florida's citizens will continue to decline. Florida could soon be saying the early '90s were "the good old days."

"Florida is on the verge of irretrievably damaging the community colleges' capacity to be a constructive resource for the people of our state."

A Call to Action for future Florida Legislatures

Not one of Florida's public educational institutions is well-funded, but the underfunding of community colleges has reached a critical circumstance. If the community colleges were hospital patients, they would be in intensive care. The symptoms are ominous—a rapid increase in sections taught by part-time faculty, a decrease in support personnel, inadequate funds to stay current with technical equipment and library materials, and non-competitive salaries.

What has happened is the equivalent of starving a promising solution to the most serious problems facing our state. The passage of Proposition 2 and the resulting constitutional amendment severely restricts spending by future legislatures. Nevertheless, it is imperative that the legislature give a priority to beginning the process of helping the recovery of the community colleges. Our state cannot afford the long-term cost of inaction—in lost human resources, a less-prepared workforce, and increased costs to support more dependent individuals.

It is time to invest in Florida's future by reinvesting in Florida's Community Colleges.

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A CRITIQUE:

State Higher Education Systems and College Completion

Cathy Morris *Herman I. Braun*

Community college critics agree that students who begin at two-year colleges are at a disadvantage when they aspire to a baccalaureate degree. A few years ago, a study by Gary Orfield of Harvard University and Faith G. Paul of the University of Chicago appeared to confirm this notion. They submitted their findings to the Ford Foundation in November 1992, and the results were featured in a Miami Herald article headlined "Study Questions Junior Colleges: Few Students Get 4-Year Degrees." The authors argued that states with a heavy reliance on community colleges (including Florida) are not efficient or effective in producing bachelor degree graduates. With respect to Florida, Orfield told the Herald reporter that the two-plus-two system is becoming an educational dead-end because: (1) There are not enough nearby transfer universities; (2) There are too few spaces in university programs that lead to desirable careers (business, nursing, etc.); (3) Community college transfers are not prepared for university material; and (4) The CLAST is a clear obstacle to transfer.

This article reviews the main findings and limitations of the study. Data from the original report are summarized and critiqued. Orfield and Paul, however, give no systematic explanation of the data source used for many of the rates presented in their tables. While general sources for each state are cited at the end of the report, these are not specific enough to go to a particular reference page and verify the base data from which the ratios were formed. Even if the data are correct, some of the conclusions drawn by Orfield and Paul are not logical. In general, this review concludes that the study used poor operational definitions, flawed data, and faulty logic to draw sweeping conclusions about the community colleges' role in higher education.

Educational Structure in the States Selected for the Study

Florida, California, Illinois, Indiana and Wisconsin were selected for the study.

There were major differences in the reliance on community colleges in these five states. Florida and California were characterized by a heavy reliance on community colleges; while at the other extreme, Indiana and Wiscon-sin were characterized by little or no reliance on community colleges. Illinois was characterized as having a balance between community colleges and four-year public and private institutions.

Enrollment spaces for freshmen in the four-year campuses in Florida and California were reported to be very limited, with Florida accepting only twelve percent of its high school graduates directly into four-year campuses each year, and California accepting thirty percent. Consequently, access to the four-year campuses in these states was reported to be highly selective with an adverse impact on minorities. Problems of access were exacerbated by the fact that Florida required the successful completion of an entrance examination for community colleges and four-year campuses, and another examination (the CLAST) for progression to upper division courses at four-year campuses. The authors stated that Georgia was the only other state in the nation that required similar examinations.

On the other hand, Illinois, with a moderate balance between community colleges and accessible public and private four-year campuses, accepted almost fifty percent of its high school graduates directly into four-year institutions, while Indiana and Wisconsin, with no community colleges, relied essentially on four-year institutions. Wisconsin was further characterized by the development of a network of two-year academic centers that were fully integrated with the four-year campuses, and a separate set of vocational centers.

College-Going Rate

Among the five states studied, the authors reported that states with the heaviest reliance on community colleges—Florida and Californ-ia—had a low proportion of

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Table 1*
Percent of In-State High School Graduates Going on to College

State	Reliance on Community Colleges	1988 College Going Rate
Florida	High	55.0 (63.0**)
California	High	57.1
Illinois	Moderate	76.9
Indiana	None	44.5
Wisconsin	None	73.7

* From Table 19 of the original study.
** College-going rate given in The Florida Statistical Abstract (State of Florida, 1990).

high school graduates continuing their education. The states with little or no reliance on community colleges—Illinois and Wisconsin—had the highest proportions of high school graduates continuing their education (Table 1). The authors conclude that college-going rate itself is influenced by the structure of the state higher education system. Low cost accessible four-year campuses presumably provide more incentive for students to continue their education than do community colleges.

Flawed Data It is not clear who was included in the college-going rate. The Florida Statistical Abstracts indicate that 63% of graduates continue their education either in state community colleges or universities, an out-of-state college or university, or a technical or trade school. The authors give a State of Florida reference, but do not cite a page number or indicate whether all forms of higher education were included. This is especially crucial when comparisons are made to a state like Wisconsin that has an elaborate system of two-year academic centers integrated into their university system as well as separate vocational centers. Also, the college going rate of only 44.5% for Indiana seems much too low to be reasonable. Again, one wonders if only a partial data source was used.

Florida and California were characterized by a heavy reliance on community colleges. . .

Faulty Logic Even if one were to accept the college going rates presented by the authors, the findings reveal a pattern that runs counter to the logic of their argument. That is, Florida and California should have the lowest college going rates. Indiana should have a rate similar to that of Wisconsin since it has few community colleges. Illinois, with a balance between community colleges and four-year campuses should have an intermediate college-going rate. The authors really do not deal with this anomalous data pattern, but simply laud the systems present in Wisconsin and Illinois.

Freshmen Enrollment at four-year Campuses and Bachelor Degree Attainment

The authors concluded that states with the largest proportional reliance on community colleges—Florida and California—frequently had low freshman baccalaureate enrollment and much lower bachelor degree attainment rates (Table 2).

It is not surprising that states with heavy reliance on community colleges should have a low proportion of freshmen enrolled at four-year campus. That is the way these systems were constructed. The authors' attempt to link the proportion of first-time freshmen enrolled at baccalaureate campuses to the eventual bachelor degree attainment rate for the states has some clear problems.

Table 2
Proporation of Freshman at Baccalaureate Campuses*, and Bachelor Degree Attainment**

State	Reliance on Community Colleges	1988 Freshman Enrolled at Baccalaureate Campuses	Bachelor Degrees as % of Total Higher Education Enrollment
Florida	High	23.3	7.2
California	High	37.9	5.8
Illinois	Moderate	39.4	8.1
Indiana	None	77.0	11.7
Wisconsin	None	51.6	9.6

*From Table 20 of the original Study.
** From Table 22 of the original Study. See text for discussion of problems with this calculation.

Faulty Definitions The authors

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noted a number of difficulties in trying to measure bachelor degree attainment. Data limitations required that they use aggregate enrollment in higher education as the student base for computing degree attainment rates. Thus a state's degree attainment rate was computed by dividing the number of bachelor degrees awarded at the end of an academic year by the total enrollment in higher education in the fall of that year. The authors claimed that this enrollment data provided degree attainment rates that were similar to the rates estimated using enrollment data lagged for the previous four, six, eight or ten years.

It is not surprising that states with heavy reliance on community colleges should have a low proporation of freshmen enrolled at four-year campus.

Further, it was not possible to separate the regular degree credit enrollment from the non-degree credit enrollment for Florida. And, while both public and private higher education data were used for other states, only public college and university data were used for Florida. Finally, the authors included enrollees seeking two-year terminal occupational degrees in their base for the bachelor degree attainment rate.

These differences in the Florida data clearly lead to problems. Non-degree-seeking credit students are more than 10% of the total community college enrollment in Florida. The claim that these enrollments could not be removed for Florida is puzzling. Data in the Florida Community College Fact Book (State of Florida, 1992) clearly separate non-degree-seeking credit students, as does IPEDS national data for all of the states. The inclusion of students seeking two-year occupational degrees is also problematic. Once again, in Florida, one-fifth of the degree-seeking students are in occupational programs. The authors assume that the rate of transfer of occupational students is "increasing." A study done at Miami-Dade Community College (Belcher, 1987) found that less than a third of two-year occupational degree students enrolled in the State University System within the subsequent five years after obtaining their occupational degree. States like Florida with a broad mission for their community colleges are penalized when career occupational students and non-degree-seeking credit students are included in a denominator which purports to measure bachelor degree attainment rate.

Finally, the count of bachelor degrees for Florida is also underestimated. By using only public college and university data, community college transfers to private universities in Florida do not contribute their bachelor degrees to the final count for the state. At Miami-Dade Community College, fully 17% of A.A. graduates transfer to local private universities (Belcher, 1987). And, there are few private two-year colleges in Florida to add their transfers to the eventual public university bachelor degree count to offset this loss.

Faulty logic The pattern of the data in the five states simply does not support the argument that a higher proportion of first-time students at baccalaureate campuses leads to a higher proportion obtaining bachelor degrees. Certainly the data for these five states, however flawed, does not show such a clear pattern. The proportion of first-time students enrolled in baccalaureate campuses is almost identical for California and Illinois, yet the supposed bachelor degree attainment rate is much lower for California. Florida, with the lowest percentage of first-time freshmen enrolled at baccalaureate campuses has a higher bachelor degree attainment rate than California and a rate comparable to Illinois.

Bachelor Degree Attainment by Ethnicity

In spite of the problems with the way Orfield and Paul calculate bachelor degree attainment, their findings on ethnicity are noteworthy because they were unable to draw firm conclusions about the relationship between ethnicity and degree attainment rates. The data in Table 3 reveal that Indiana had the highest degree attainment rates for each of the ethnic groups compared, while California had the lowest. However, Florida had the second highest degree attainment rates for Blacks

(continued on page 14)

Table 3
Bachelor Degree Attainment for Minorities*

State	Reliance on Community Colleges	Bachelor Degrees as % of Total Higher Education Enrollment for Blacks	Hispanics
Florida	High	4.8	5.5
California	High	3.0	3.5
Illinois	Moderate	4.3	3.0
Indiana	None	6.5	9.3
Wisconsin	None	n/a	n/a

* From Table 18 of the original Study.

and Hispanics, followed by Illinois. It is unfortunate that we do not have data for Wisconsin. (Orfield and Paul state that ethnic data were not available.) But given the data that are displayed, Florida and California should have the lowest degree attainment rate, Illinois should be higher than either of these two states, and Indiana and Wisconsin should have the highest rates. The fact that Florida, with a heavy reliance on community colleges, ranks second on this table meant that Orfield and Paul were unable to draw any conclusions about higher education structure and degree attainment rates of ethnic minorities. Apparently, the logical inconsistency in this data pattern was apparent even to them.

Transfer Rate

Orfield and Paul purport to show "transfers from the two-year colleges to the public and private baccalaureate campuses." They used a "transfer rate" that is constructed by dividing the number of community college transfers by total higher education enrollment. This gives a "transfer rate" that is deceptively low and that would very likely mask any patterns that actually exist. Also, the data for Florida include transfers to public universities only. Recall that at Miami-Dade fully 17% of two-year graduates transfer to private universities in the local area (Belcher, 1987). It is difficult to know what to say about this table. The measure is very peculiar. It appears as if few students transfer to baccalaureate campuses in Florida. And yet, 77% of all students in upper division at the State University System in Florida had their origin in a community college (Belcher, 1991). Whatever this table is trying to argue, the actual transfer contribution in Florida is very high. The transfer rate of two-year graduates into public universities is approximately 70% within the year following graduation.

Funding Capacity and Bachelor Degree Attainment

Orfield and Paul concluded that differences in funding did not determine degree attainment rates. They reported that states such as Florida and California had the highest tax capacity, the largest higher education appropriation per student, the lowest tuition as a percent of appropriation plus tuition, and the lowest bachelor degree attainment rates. On the other hand, states such as Illinois, Indiana, and Wisconsin had lower appropriations, higher tuition, and higher bachelor degree attainment rates.

Faulty Logic. Orfield and Paul highlight the findings for tax capacity, even though data are presented that show that Florida's tax effort (actual tax revenues as a percent of capacity) is the lowest of the five states studied. In fact, Florida's tax effort is 44th in the nation, while Wisconsin's is 4th (Research Associates of Washington, 1992).

It should also be noted that the

Table 4*
Transfers From Two-Year Colleges to Baccalaureate Campuses

State	Reliance on Community Colleges	Transfer Rate
Florida	High	2.2
California	High	6.3
Illinois	Moderate	4.2
Indiana	None	n/a
Wisconsin	None	9.9

* From Table 21 of the original Study.

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Higher Education Appropriations per student quoted for each state is the statewide average across community colleges and universities. Use of such figures gives a particularly misleading picture of the plight of community colleges in Florida. Funding per student in Florida universities compares more favorably to national norms than does funding per student in Florida community colleges, which ranks in the lowest 30% nationwide (Jones & Brinkman, 1990).

Faulty data. Finally, the Florida data for Higher Education Appropriations per student are simply incorrect from 1983-84 onward. The state switched to a 40 credit FTE after 1980, and the State Higher Education Finance Officer (SHEFO) reported "reduced" FTE totals rather than re-converting back to 30 credits as had been requested. This inflated the dollars per FTE reported. The reviewers confirmed this with both Research Associates of Washington (the source of the data), and the current Florida SHEFO. When the data are converted, the Florida number for 1989-90 is about $ 1,300. Thus, California and Wisconsin have the highest appropriation per student.

Orfield and Paul were not aware of this error in FTE. Given that Wisconsin's tax effort is 4th in the nation and that it ranks above Florida in higher education appropriations per student, it is possible that funding is related to degree attainment.

Summary

The Ford Foundation study by Orfield and Paul argued that systems with a reliance on community colleges were not effective in producing bachelor degree graduates. An examination of five of their conclusions demonstrates several problems. Data used to determine College-going rate are flawed, and the authors do not cite a complete enough reference to determine the problem. The pattern of findings for the states studied does not fit their conclusions for both College-Going Rate and Bachelor Degree Attainment. In addition, faulty definitions are present in most measures, but especially in Bachelor Degree Attainment and Transfer Rate. Their study drew sweeping conclusions from these poor data.

Have Orfield and Paul reconsidered some of these findings? The reviewers of this critique thought so. However, the author has not seen any recantation. Quite the contrary, in a July 1995 ***Miami Herald*** article headlined "Outsmarted: System Discourages 4-Year Degrees," Faith Paul was quoted as saying that "the loss out of the community colleges [in Florida] has to be enormous." This conclusion was drawn from a single "statistic"— the number of bachelor's degrees per 100,000 working residents. Fortunately, the Postsecondary Education Planning Commission (PEPC) is beginning a longitudinal study of bachelor degree attainment in Florida. If the study uses a proper research design and controls for entering level skills, we will finally have some believable data on the contribution of community colleges to baccalaureate degrees.

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Benefits of Effective Developmental Education

Jay R. Bushnell

With an open-door policy, community college educators face the challenge of serving increased numbers of students not academically prepared to succeed in college. There exists legislative resistance to support funding of developmental courses for these students. The results of this study suggest that there are at least three benefits from effective developmental programs:

1. students do acquire the skills to succeed in college courses.
2. students will continue with their college careers, thus making retention an important form of enrollment.
3. society benefits from individuals who are skilled and well educated.

In short, the benefits from effective developmental programs justify the costs. The operative word here is "effective." In working with at-risk students to develop an effective program, community college educators have the opportunity to take a proactive lead in teaching/learning innovations. This study demonstrates why an effective developmental education program is an appropriate component of the curriculum of a comprehensive community college.

The cornerstone to the community college movement has been the open-door policy that gives all students an opportunity to succeed in higher education. In dealing with those students who lack the basic college level skills of reading, writing, or math, community college educators have been shifting from a philosophy that these students have the "right to fail" to a philosophy that these students have a "right to succeed". Today there appears to be professional awareness among many community college educators that with the appropriate curricula, instructional techniques, and assessment methods, a significant number of students who are academically at-risk can succeed in college.

Perhaps equally important to this shift in philosophy is the recognition that at-risk students now represent a majority of the present day community college student body. To support enrollment levels, many four year colleges and university are also admitting students who lack the basic college level reading, writing or math skills

Historically, community colleges have provided the most comprehensive environment for meeting the needs of these academically at-risk students. Within higher education, community college educators have had the most experience in working with these students. With such a history, one might expect that community college educators have mastered the art of working with these students. Yet critics have severely questioned the value of past developmental courses in community colleges. Zwerling (1976), one of the severest critics, labeled developmental programs as 'remedial ghettos' where students are tracked for failure. While this conclusion is harsh, it underscores the need of community college educators to carefully evaluate their developmental education courses. This is especially true since many legislators and the general public are becoming impatient with the general idea of offering developmental education courses in a college setting. As Roueche and Roueche (1993) suggest, there are indicators that the friendship between higher education and

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the public has cooled over the issue of poor results from developmental education programs. To prevent further intrusion by legislative bodies, community college educators must demonstrate that developmental programs are effective.

Benefits from effective developmental education

There are at least three benefits from an effective developmental education program. The first benefit is the philosophical and professional satisfaction of knowing that the correct guidance and learning climate has been provided for the development of these students. Students placed in developmental courses have every right to expect that they will benefit from their experiences in these classes. Community college educators should expect no less of themselves than a complete commitment to the success of these at-risk students.

A second benefit of an effective developmental education program involves an assumed economic payoff to society and to students. As first suggested by Schultz (1961) and Weisbrod (1962), the public support for higher education results in higher productivity to society and higher earning power for the individual. If a developmental education program contributes to the academic success of students in college, then this benefit may have been realized.

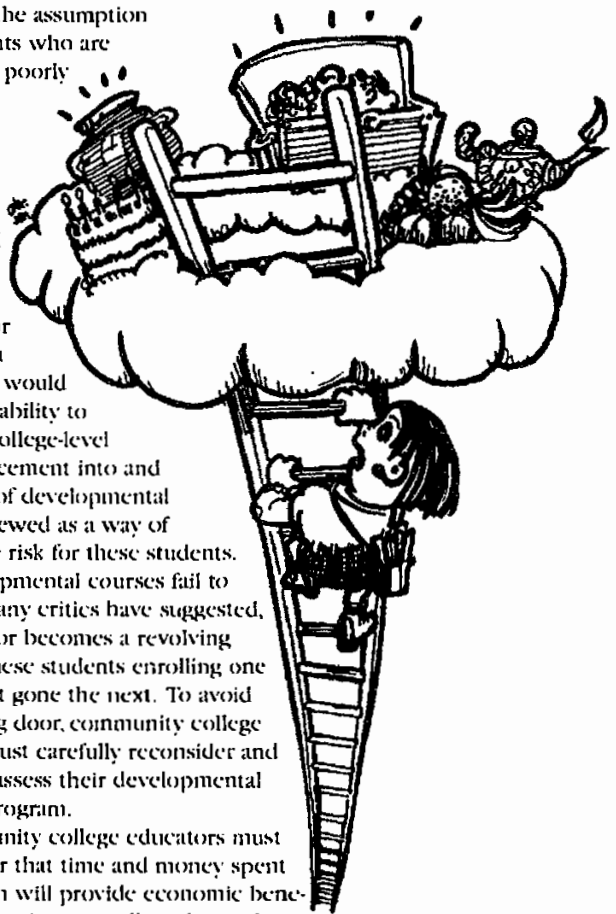
Finally, there is the benefit to the community college. If the results of a recent study (Bushnell, 1992) are generalizable, students who complete effective developmental education courses tend to remain at the college significantly longer than either students not needing remediation or students who do not successfully complete effective developmental courses.

The challenge — to identify 'effective'

The challenge for developmental educators is to determine what constitutes 'effective' developmental education. Classroom assessment as outlined by Cross and Angelo (1988) and Angelo and Cross (1993) provides a means for instructors to evaluate instructional techniques. Yet the more basic question is whether students succeed in college-level courses because of skills acquired in developmental courses. Longitudinal tracking of students who complete developmental courses provides a means for answering this question.

Opportunities for community college educators

It is common knowledge that a large percentage of students coming out of high school today are ill prepared to academically deal with college. Bell's (1993) recent revisitation of *A Nation at Risk* makes it clear that the conditions are not likely to improve in the near future. It is also generally accepted that large numbers of older students will continue to enroll in community colleges. Having been out of school for several years, many of these older students need academic refresher courses. The challenge for community college educators is to view working with these at-risk students as an opportunity to discover what constitutes effective learning. Since these effective learning strategies for developmental students may be applicable to all students, community college educators have the opportunity to become leaders in learning theory and application. Opportunities also abound to demonstrate how students actually contribute to society once they successfully complete developmental courses.



Clearly, the assumption is that students who are academically poorly prepared are at-risk of not completing their college education. It is assumed that lacking the skills to read, write, or compute at a college level would hinder their ability to succeed in college-level courses. Placement into and completion of developmental courses is viewed as a way of reducing the risk for these students. Yet if developmental courses fail to deliver, as many critics have suggested, the open-door becomes a revolving door with these students enrolling one semester, but gone the next. To avoid the revolving door, community college educators must carefully reconsider and continually assess their developmental education program.

Community college educators must also consider that time and money spent on education will provide economic benefits to both society, as well as, the student. When applied to developmental education, the question is whether the financial support provided through funding of developmental

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courses provides an adequate return to society. Equally important is whether the student benefits from his/her financial contribution. Not only do students incur the expense of tuition, books, and living expenses, but they also incur a loss of earning power while attending these classes.

Are developmental courses academically effective

Most research that has evaluated developmental programs has focused on traditional academic measures of success, such as degrees earned, grade-point averages, retention rates, or credits earned. The general assumption has been that academic success translates into life success. A review of the literature suggests mixed results as to whether students actually benefit from the completion of developmental courses. In many cases, the critics have just cause for their concerns about ineffective treatment of developmental students. While there are indicators that some students are not likely to succeed regardless of the strategies employed, most students, as suggested by Moore (1970), Cross (1971 & 1976), Roueche and Snow (1977), and Maxwell (1979), can succeed under the right circumstances. Moreover, there are some clear indications as to what constitutes effective developmental education programs (Roueche & Roueche, 1994). The research suggests that failure of student success with developmental education has been due mostly to the poor design of developmental courses and not the students' deficiencies as is so often assumed.

The challenge for community college educators is to determine the optimal circumstances for success. No longer should placement into or even completion of developmental courses be used as the measure of effectiveness. Do students exit developmental courses because they have mastered the necessary skills for future success? Are there clear objective criterion-referenced assessments of whether students have mastered these skills? Do community college educators longitudinally track these students as a means of formatively evaluating their developmental courses? In short, community college educators need to provide a total quality management (Cross 1993) approach to developmental education. There is a need to follow students who complete developmental courses out the college door and into society in an effort to measure the quality of instruction. The objective is to continue to seek ways of maintaining or improving quality. Not only would it be professionally sound to take a developmental attitude about an instructor's skills to 'teach' or provide an effective learning environment, but also it would be highly beneficial to ascertain the degree of learning that has been accomplished. Of course, this developmental attitude about teaching applies to all college teachers, not just developmental education instructors.

Results of the study

The general assumption has been that academic success translates into life success.

To test the academic effectiveness of developmental reading at Daytona Beach Community College (DBCC), Bushnell's study (1992) examined the academic results of students who completed developmental reading in the 1979-80 school year by matching their performance to that of a demographically similar cohort group of students not placed in reading. Being tested was the assumption that on completion of developmental reading courses, students should be able to successfully compete with those students not placed in developmental reading. Both groups were tracked through the fall term of 1991 or until the student completed a degree or degrees at the community college. While the group who completed developmental reading had a significantly lower GPA (2.64 v. 2.90) for all their academic work at the community college (Table 1), there was no significant difference between the two groups in terms of degrees earned or credits earned per semester. Interestingly, the reading group actually had a higher percentage of students earning degrees from the community college with 41% earning either Associate of Arts degrees or Associate of Science degrees compared to 29% of those not required to take developmental reading. Even more surprising was the discovery that the students completing developmental reading remained enrolled at the community college twice as long and carried the same comparable course load. This may help explain the higher percentage of developmental read-

Table 4-1
Composite academic comparison of Group #1 (those who completed developmental reading) and Group #2 (those who did not take developmental reading)

Characteristics	Group #1 (n 113)	Group #2 (n 95)
Mean semesters attended/student	8.2	4.1
Mean credits attempted/st./semester		10 10.7
Number students earning degrees	46 (41%)	28 (29%)
Number of degrees earned	51	31
GPAs at DBCC	2.64	2.9

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ing students getting degrees. Of course, this higher retention rate of developmental students also represents an important source of college enrollment.

The study also examined the issue of long-term economic benefits. As stressed by Schultz (1961) and Weisbrod (1962), it is assumed that increased education provides significant economic returns to society and the individual. It is also assumed that there are many immeasurable noneconomic benefits from a higher education that exceed the monetary benefits. The problem is how to measure such economic benefits. In the past, one could intellectually debate this issue. However, the economic conditions of recent years has created a climate where higher education must provide concrete proof of such benefits. Legislators are beginning to require proof that financial support for developmental education programs is warranted.

The economic condition of recent years has created a climate where higher education must provide concrete proof of such benefits.

The Bushnell (1992) study addressed this issue by comparing the economic performance of both groups during the fourth quarter of 1991. Comparisons were made in terms of fourth quarter earnings, weeks worked during the quarter, and types of industries employed. Clearly, one course taken eleven years prior cannot be used to explain any economic pattern, but the assumption is that completion of developmental reading should help contribute to later success in as much as it helps the student master reading skills needed for success in college and future employment. Although the group not placed in developmental reading had higher average salaries, the difference was not statistically significant. Thus both groups were comparable in terms of earnings for the quarter. Interestingly, despite the recession conditions for the fourth quarter of 1991, both groups were fully employed. Finally, both groups were equally represented in industries as listed in the Standard Industrial Classification Manual of 1988. All this evidence suggest a favorable return to society for its financial support of the developmental courses.

Community college educators need to accept the responsibility for what they do have control over and plan to provide opportunities for all students to achieve success at the community college.

A proactive opportunity

There is no point of lamenting the 'good old days' when students were prepared to do college work. This train of thought not only tends to gloss over conditions of the past, it tends to impede proactive solutions for what community college educators now face.

There is also no benefit with blaming others for the academic condition of these at-risk students. There is enough blame to go around. Again, this train of thought fails to be proactive. Community college educators need to accept the responsibility for what they do have control over and plan to provide opportunities for all students to achieve success at the community college.

The bad news is that there are many students entering through the open-door not academically prepared to succeed in college. The good news is that this will provide exciting opportunities to discover effective learning. In their search for 'effective' strategies, developmental educators have the opportunity to discover and evaluate new innovations in learning. Whether the instructor utilizes classroom assessment, thematic instruction, cooperative learning, critical thinking skills, learning styles, multiculturalism, supplemental instruction, or individualized instruction, he/she will be in the forefront of a teaching/learning revolution. With the ability to demonstrate that students actually do benefit from the completion of developmental courses, community college educators would be in a better position to address the financial and political concerns of legislators. By demonstrating the benefits of developmental education, perhaps the love affair between higher education and society that has been lost (Roueche and Roueche, 1993) can be rekindled.

An institutional commitment to effective developmental education makes everyone a winner. The college benefits by demonstrating its ability to successfully fulfill its mission. Most importantly, the student is given a real chance to succeed and become a contributing member of society. The college also benefits not only from the satisfaction of doing a good job, but they benefit with better students in all classes, a growth philosophy about what constitutes learning and a more stable student population.

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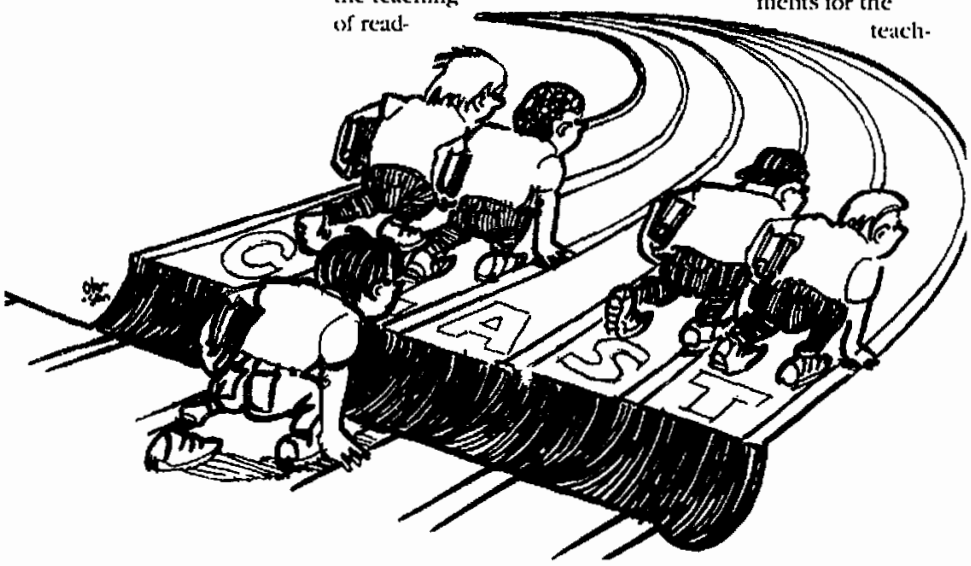
The Influence of the CLAST

on Faculty and Students in a Community College English Department

by Don Meagher

Those who have been vocal in their opposition to the CLAST have cited its disproportionate effects on minority and second-language students and have questioned the expenses involved in administering the test. With the recent legislation offering alternatives to the CLAST, perhaps some of the urgency has been removed from arguments against it. However, I would like to add to these objections by suggesting a pedagogical reason for eliminating the CLAST, particularly noting the effects it has had on the teaching of reading and composition. I will base my suggestions on an interview study I conducted with community college faculty and students concerning their attitudes toward college-level literacy (Meagher, 1993).

I conducted this study at a Florida community college that for the sake of anonymity I will refer to as "Everglades Community College." I wanted to gain an understanding of how both faculty and students conceive of college-level reading and composition to see if their comments would suggest improvements for the teaching and learning of these subjects. Through an analysis of interview transcripts, I was able to draw what I think are some interesting conclusions concerning the meaning that both groups ascribe to literacy, especially as this involves the influence of the CLAST.



As one would suspect, I found both similarities and differences in the views expressed by the students and faculty. One similarity was that faculty and students seem to agree that there are many practical and personal benefits of literacy. Also, both groups view literacy as a hierarchy of increasing complexity. On the other hand, the main difference I found was that the students interviewed tended to emphasize matters of correctness and organizational clarity, while faculty tended to emphasize the more critical, social, and cultural aspects of literacy. In addition, comments made by both students and faculty suggested that the overriding influence of the CLAST exam has imposed a specific sense of purpose on all of those involved in the

(continued on page 22)

teaching and learning of reading and composition. I concluded that this has not only influenced what is taught in the English and reading classes by forcing a focus on the mechanical and organizational skills tested on the CLAST-like departmental exams, but has also limited the teaching of social, cultural, rhetorical, and literary aspects of reading and composition that the faculty value as well.

In this article, I will first discuss some of these findings and their implications and then offer some specific recommendations regarding the ways reading and composition are taught and assessed. In short, because of what I feel have been limiting influences on the English curriculum, I suggest that the CLAST be completely eliminated, that college administrators allow English departments to determine their own assessment processes, and that faculty devise assessments directly reflecting what they teach and value.

The Teaching and Learning of English

While few of the students that I interviewed at Everglades mentioned the social or cultural dimensions of literacy, almost all of them mentioned the importance of grammar, mechanics, and form. Students frequently mentioned concerns for the importance of grammar, punctuation, format, and clarity in their writing in general, and for writing the standard five-paragraph essay and the research paper in particular. Despite a common observation of the foreign-born students that American students don't seem to have acquired an adequate foundation in grammar, all of the students seemed to agree that these things are important to learn, especially in relation to the communicative aspects of literacy.

To address the need to prepare students for the departmental exam, one teacher described how he requires students to write in-class timed essays "to familiarize them with the kind of topics that they are going to get."

On the other hand, most of the faculty I interviewed tended to stress the more rhetorical and critical dimensions of literacy, such as the abilities to express understanding in writing with adequate support from textual sources and to evaluate what is read according to criteria of validity and relevance. These critical skills are more intellectual abilities applied in purposeful situations than they are matters of mechanical competence. Some faculty participants also expressed a concern for the cultural enrichment of the individual and the ability to make aesthetic judgments. Others stressed the importance of ethical and social questions involved in literacy and the need for students to become conscious of social realities and to be able to analyze complex social problems, especially those faced by minorities. Some faculty participants seemed to conceive of literacy as a way for a person, especially minority individuals, to assimilate into mainstream society.

In one sense, it may not seem surprising that many more faculty would express views of literacy that include much less of the mechanical and technical and more of the critical and cultural dimensions than students did, especially considering the differences in age, maturity, and educational backgrounds. Nevertheless, noting this difference in perspective raises the question of why this is so given the attempt that teachers make to influence their students.

At Everglades, the English faculty are definitely committed to the effective teaching of what they feel is realistic and practical under circumstances of institutional and academic limitation. However, it seems that the requirement to prepare students—especially those who are nontraditional or academically underprepared—for the CLAST exam has encouraged the teaching of reading and composition in ways that exclude aspects of literacy and of the discipline of English that are valued by the faculty. This situation may in part account for what seems to be a student orientation toward English as language skills that are learned and applied in the writing of clearly organized essays. While this perspective on English has probably been one that most of the

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students learned in elementary and secondary schools, it seems to have been reinforced in their community college experience by a sequence of reading and composition courses that in effect communicates this same way of thinking by requiring exit exams requiring such limited language use.

However, the comments of faculty participants suggest deeper theoretical perspectives that are not being included in this type of assessment. For example, several of the faculty used the terms "the reading process" and "the writing process" to refer to the way in which they teach students to approach the tasks of comprehending and composing texts. One faculty member described quite explicitly how she takes a process approach in her classes: "I start out talking about the writing process, and we do a lot with that, like brainstorming and what makes a good essay."

Grammatical correctness and organizational clarity are the main criteria for passing the exams because these are the criteria for evaluating the CLAST essays.

These and other references by the faculty participants suggest that despite whatever else they may concentrate on in their classes, and despite how students will be assessed at the end, a process approach in some form is used to teach different aspects of reading and writing, and much of the teaching and learning is thought of in terms reflecting a cognitive or developmental orientation. In respect to the departmental exams, this orientation finds no expression in what students are asked to do when they write what essentially is a rough draft of a five-paragraph essay in sixty minutes. Not only is it impossible for students to go through the steps of prewriting, writing, and revision in any more than abbreviated ways, but also students are not expected to write in complex rhetorical forms. Grammatical correctness and organizational clarity are the main criteria for passing the exams because these are the criteria for evaluating the CLAST essays.

The faculty also express other opinions and values that are not reflected in the highly structured skills-oriented departmental exams. In fact, one English teacher expressed serious doubts about a skills approach to teaching writing and stated her belief that "Sometimes we deprive them because of our focus" and "We forget what reading and writing is all about." She also suggested a preference for allowing students to "feel that they really do have something intelligent to say, that we're not just putting them through this, like a herd of cattle."

Another teacher made it clear that one of the things she wants her students to experience is the use of writing as a way "to gain some perspective on themselves." She stated that she sees college as a place to "help them speed along in this process of self-discovery." She also stated that she tries to help her students with attempts to "get students to think about their positionality in society that we live in" and "to make them look inwardly or to make them look at human nature." This teacher seems to see literacy as a way to understand social issues and as a liberating opportunity, especially, as she emphasized, for minority students.

In addition to these emphases that go beyond universally applicable skills and organizational logic, many of the faculty attempt to bring literature into the core of their courses. For example, one faculty member who is a published poet and writer of short stories, stated how he tries to emphasize the subtleties and complexities of language in literature. Another teacher clearly stated how he tries to interest students in the literary tradition in a way that "goes against some of the current critical trends, where there is no inherent value in any work." A third teacher holds an aesthetic view of literature and requires students in one of his classes to write a semester-long critical analysis of one literary work, leading "toward value judgments" and a critical evaluation of the author and the work.

The emphasis on cognitive development made by virtually all of the faculty, the social perspective expressed by some, and the use of literature mentioned by most suggests approaches to the teaching of English

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Not only is it impossible for students to go through the steps of prewriting, writing, and revision in any more than abbreviated ways, but also students are not expected to write in complex rhetorical forms.

that are more than the skills of grammatical correctness, logical clarity, and organizational coherence that are stressed on the CLAST-like departmental exams. Indeed, most of the faculty participants expressed views that conflicted with the limited perspective reflected in the CLAST skills. One teacher exemplified this objection when she expressed her feeling that a departmental exam emphasizing highly structured essays and grammatical correctness may cause both faculty and students to lose sight of more meaningful reasons for reading and writing. In fact she stated her doubts about an emphasis on just such formulaic writing: "We know that they have to take a department exam, so we focus on writing, writing, writing, and the magic formula."

Another teacher seemed to agree and stated that students completing the English courses need to be able "to write something in standard English, put their ideas together in a logical, coherent way . . . kind of what CLAST tries to do." She stated that what "the department articulates for us is that students have to get out of here writing standard English sentences and standard formula essays." However, she also made it clear that she is uncomfortable with what she sees as "a very vocational philosophy of teaching" and that she hopes "our students can get out of here with a little more than knowing how to write standard sentences."

To address the need to prepare students for the departmental exam, one teacher described how he requires students to write in-class timed essays "to familiarize them with the kind of topics that they are going to get." Despite his acceptance of this approach, he feels that the English faculty have come to teach what he "used to think might be appropriate for junior or high school level reading and writing skills" rather than what was more traditional for college composition. Another teacher expressed a similar feeling of resignation when he stated that in the early days of [illegible] Community College the English faculty had aesthetic goals for their students, but that now the most realistic goal is that students "should be able to pass the CLAST" and "should be functionally literate."

One faculty participant described how he concentrates on reading comprehension, essay organization, and "of course, on the timed essay skills because of the departmental [exam]. In addition to having students read what he considers sophisticated and complex non-fiction, he must also meet the departmental policy that requires timed in-class writings on topics he chooses that are tied in with the reading but are phrased in a CLAST type formula . . . in such a way that can be helpful to prepare for CLAST" and that are "pretty much on the same level as the CLAST."

Another teacher expressed in no unequivocal terms his feeling about the departmental exam: "I've been trying to remove this abomination, this carbuncle from the side of the English department ever since it started." Though stating his willingness to provide his students with writing experiences similar to what the CLAST requires, this teacher expressed the view that the departmental exam is "an intellectually, educationally invalid idea" that is "destructive to the course . . . a rip-off to the students, as well as the department" and is "an insult to the faculty." He also stated that the presence of the CLAST exam in the academic lives of students has forced him to use CLAST standards as "the minimal requirement for all the grading that I do . . . on the mechanical end of their paper" and to "read their papers in light of how I think they could do on the CLAST." He suggested that because this focus is shared by the English faculty, it has reinforced the

Indeed, most of the faculty participants expressed views that conflicted with the limited perspective reflected in the CLAST skills.

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perception by students that the CLAST standards are [illegible] to the extent that they become [illegible] terms that the CLAST really does control their academic lives.

Indeed, student comments seemed to support this view. For example, one student stated her feeling that students should be prepared in their English courses for what is required by the CLAST. She also stated her appreciation for a teacher who provides that preparation for students because "if they're expected to do that on the CLAST, but they haven't learned that in the classroom, then that's not fair." This student clearly sees the curriculum as preparation for the CLAST.

Another student explained how the focus in one of his English classes was specifically on preparation for the CLAST. He also described how he had completed the entire English sequence before taking a reading class, which he said he took "just to help me pass the CLAST test." One student mentioned that in one of his English classes, everything he was asked to do was all in preparation for the departmental exam. Other students mentioned the central importance of the departmental exam in the English courses. One student expressed her pride in scoring highly on the departmental exam in one of her English classes after the many essays written in class and after the "timed essays, which prepared us for the departmental."

In fact one student described how in one of her English classes she learned to write an essay, which she defined quite succinctly as of the classic five-paragraph variety, the sort held as the ideal on the CLAST and that would most certainly lead to success on the departmental exams:

> *You start with the introduction; you state the thesis in your introduction, as well as the points you're going to be talking about, and you then follow it with the body which could be two to three paragraphs, depending on how many details you stated in the thesis. Each paragraph must start with a topic sentence to be followed by details to support the topic. The body paragraphs must be in [illegible] order. And finally, you end with a conclusion, a closing statement that refers back to the thesis.*

This student has indeed learned her lessons well. And so has another student, who came to Everglades after coming up through the British educational system in Jamaica. This student had to accept that the English teachers at Everglades "graded more for your style than for your content, grammar to a certain extent" and that the "main idea must be at the beginning or the middle, that kind of thing." Similar to several other students, he described how one of his English classes had concentrated on "the basics," which for him was somewhat of a surprise after the content orientation he had become used to in Jamaica.

> **"As a faculty member myself, I argued for years in favor of CLAST-like departmental exams and have written departmental exams and practice CLAST reading tests for college-prep reading courses."**

Nevertheless, he went on to explain how he came to see the importance of this focus "in the sense that I think going back to that kind of basics helped me a lot." And once he started to write with the attention to structure and mechanics that he was being shown, he explained how there have been "A"s, and "I've had like really good comments from teachers." This same student had a similar experience in another of his English classes, which again he felt at first was focusing too much on format in the research paper, but which he came to appreciate "when I looked at it in another perspective." This "other perspective" allowed him to see that the process of writing is "all about standards" and that, as he stated, "I have to admit that I thought it was ridiculous, but after a while, I learned to appreciate that." This student has done well and has learned from his teachers at Everglades to value "standards" more than content.

These examples from participants' comments are certainly not meant to suggest that attention to grammar and

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mechanics, teaching the standard five-paragraph essay, and emphasizing format and structure in the research paper are not valuable, even necessary, aspects of an education in college composition. However, it is doubtful that many English teachers—and certainly none at Everglades—would suggest that these are the most significant goals of an English education. In fact, the descriptions by the faculty participants of what they value in such an education included much more than what most of these students suggest they have received.

Recommendations

Any discussions of the curriculum necessarily involve issues that are highly charged with pedagogical, theoretical, and political implications in any academic department. The English Department at Everglades is no exception. Indeed, the issue of the departmental exam is one that has polarized faculty and caused friction between the faculty and the administration.

Even though the legislature recently approved some alternatives to the CLAST, these alternatives will not apply to most students who are entering underprepared for college and who in some community colleges amount to a majority of the entering students.

As a faculty member myself, I argued for years in favor of CLAST-like departmental exams and have written departmental exams and practice CLAST reading tests for college-prep reading courses. I have also structured my reading courses specifically to prepare students for the CLAST skills, and for many years I conducted CLAST preparation workshops. However, I have been growing increasingly uncomfortable with such a limited focus and have felt it necessary, especially after considering the views expressed by faculty and students in my study, to reconsider an approach that limits students to these skills at the expense of more academically appropriate, intellectually challenging, and personally relevant reading and writing experiences.

In this light, I would like to offer the following suggestions for improving the teaching of reading and composition in an attempt to move closer to fulfilling the special mission of a community college—to bridge the academic gap between what students from a variety of backgrounds and levels of preparedness want and what faculty know and believe to be important.

1. State legislators should end the CLAST requirement. Even though the legislature recently approved some alternatives to the CLAST, these alternatives will not apply to most students who are entering underprepared for college and who in some community colleges amount to a majority of the entering students. Unless the state completely eliminates an assessment requirement that implicitly defines reading and writing as limited mechanical and organizational skills, it will be difficult for English departments at some community colleges to justify basing assessment on the more rhetorical, critical, and literary aspects of academic literacy that they value.

2. Community College administrators should allow English Departments to determine their own assessment process. The departmental exams at Everglades were admittedly designed to serve institutional as well pedagogical ends, including uniformity of instruction and accountability. However, the benefits of such mandated measures are perhaps less than the costs in shaping the curriculum to conform to CLAST-like concerns for grammatical correctness and organizational clarity. This is certainly not to suggest that these are undesirable or unnecessary skills; quite the contrary, but it is my opinion based on my understanding of the views expressed by the faculty participants in this study, and on my own experience, that this is not enough. Indeed, common criticisms made by others about CLAST-like essay assessments suggest that the time constraint makes it extremely difficult if not impossible for students to apply the writing-as-process approach that they have learned in their composition classes (Killings-worth, 1993; Wolcott, 1987), and that the desired five-para-

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If as far as students are concerned the ultimate goal of an English course is to master what their grades are based upon, then it is our responsibility to construct assessments that include what we know students really need and what we ourselves value.

graph structure is inconsistent with forms that actual academic writing usually takes (Coxwell, 1991; Newkirk, 1989).

3. The English faculty, including those who teach college-prep, should devise assessment processes that directly reflect what they teach and value. It seems clear that in addition to the aspects of reading and writing that involve mechanical correctness and organizational clarity, the faculty value the writing process, literature, writing based on the reading of complex ideas, critical thinking, and the use of reading and writing to explore social, political, and cultural experiences. It also seems clear that for teachers of both reading and composition, some more imaginative assessment procedures can be created that would include more of what the discipline of English offers in the way of traditional and recent innovative practices (Wolcott, 1987; Simpson & Nist, 1992). This would undoubtedly help students do more than prepare for an examination and for functional literacy tasks. Indeed, it would help initiate them into the kind of writing valued in the academic world. If as far as students are concerned the ultimate goal of an English course is to master what their grades are based upon, then it is our responsibility to construct assessments that include what we know students really need and what we ourselves value.

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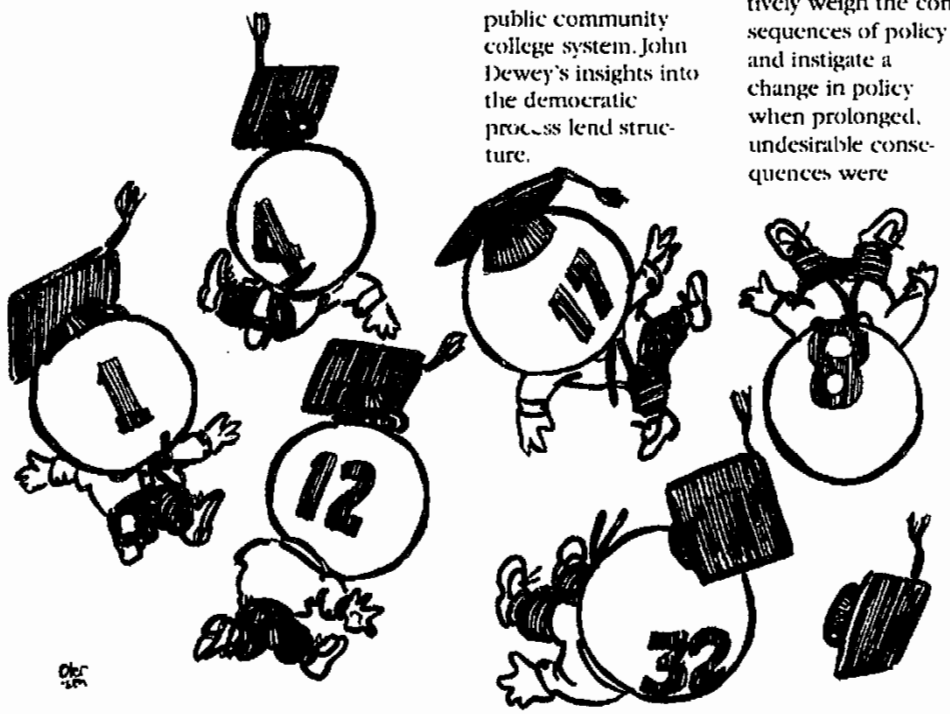
The Florida Education Lottery:

A Lotto Nonsense or a Wise Bet for Florida's Community Colleges?

Susan Robinson Summers M. David Miller
David S. Honeyman

This paper examines the fiscal impact of the Florida Lottery on community college funding. The purpose is to determine whether being earmarked to receive lottery funds resulted in greater revenues for the community colleges. The authors conclude that community colleges did not benefit from the Florida Lottery, and in two ways were clearly harmed: general revenue share was lost, while student fees rose both in dollars and in proportional share of total per-student funding. The authors propose two alternatives: either restrict the community college lottery allocation to fund student scholarships; or, remove all restrictions and use the Florida Lottery as a revenue stream for the general revenue fund.



The Florida Education Lottery has been in operation since 1987. It is time to assess whether the lottery has been a wise bet as public policy and as a method of funding education. In this paper, the lottery is assessed within the context of the financial status of one segment of education, Florida's 28-member public community college system. John Dewey's insights into the democratic process lend structure.

EFFICACY OF THE LOTTERY AS PUBLIC POLICY

Dewey's theory of democracy proposed that the scientific method of inquiry be used to assess the efficacy of public policy (Hildred, 1991; Ratner, 1939). Dewey advocated that citizens in a democratic state should objectively weigh the consequences of policy and instigate a change in policy when prolonged, undesirable consequences were observed. According to Dewey, the policy should be treated as an experimental hypothesis. The test of the hypothesis was its effectiveness in solving a public problem, as measured by observable outcomes or consequences.

Here, the social problem addressed is the critical need for better funding for the Florida community colleges (Jones & Brinkman, 1990). The experimental hypothesis is that the Florida Lottery provides enhancement funds for Florida's community colleges, as in fact it was intended to do (Fla. Const. art. X, sec. 15.c.1; Fla. Stat. sec. 24). The policy outcomes, or consequences to be measured, are changes in the level of community college funding. The conclusions are drawn from observations as to whether, and to what extent,

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Florida's community colleges experienced dramatic increases in the level of funding after the implementation of the Florida Education Lottery in 1987.

Table 1

Per-student funding from general revenue fund (GRF), lottery (LOT), and student fee sources, FY 1981 - FY 1994, expressed in current dollars.

			STU	TOTAL	EXPRESSED AS % OF TOTAL		
FY	GRF	LOT	FEES	S/FTE	GRF	LOT	STU FEES
81	2027	0	632	2659	76.2	N/A	23.8
82	2036	0	650	2685	75.8	N/A	24.2
83	2348	0	662	3010	78.0	N/A	22.0
84	2572	0	708	3280	78.4	N/A	21.6
85	2678	0	721	3398	78.8	N/A	21.2
86	2826	0	761	3587	78.8	N/A	21.2
87	2893	137	798	3829	75.6	3.6	20.8
88	2936	242	807	3984	73.7	8.2	20.2
89	2816	448	807	4071	69.2	11.0	19.8
90	2640	468	847	3956	66.7	17.7	21.4
91	2262	667	994	3924	57.6	17.0	25.3
92	2249	638	1084	3971	56.6	16.1	27.3
93	2396	645	1134	4175	57.4	15.4	27.2
94	2539	712	1134	4385	57.9	16.2	25.9

Source: State of Florida Board of Community Colleges, 1994; State of Florida Department of Education Division of Community Colleges, 1993.
Notes: All sums expressed per FTE. FY 1981-1993 represents actual data. FY 1994 represents estimated data based on the 1994-95 appropriation, with estimated lottery and student fee revenues.

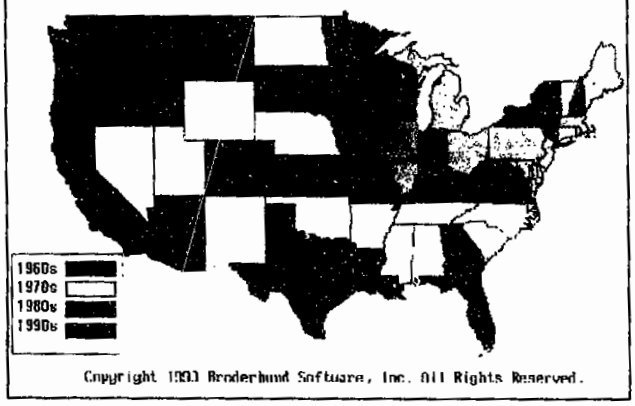
WHO BENEFITS?

Who benefits from the Florida Lottery? Answers to this question tend to fall into one of three camps: pro-lottery, anti-lottery, and what will be termed the expedient camp, which holds that the lottery is a non-tax revenue stream whose productivity outweighs any moral objections related to the method.

Lottery supporters are found across the country. 45 states and the District of Columbia currently have a lottery of some form. In fact, legalized gambling began a worldwide resurgence in the 1960's as a government revenue source that is also a form of entertainment (Clotfelter & Cook, 1991). The geographical progression of 20th-century state lotteries is shown in Figure 1.

Florida Lottery supporters argue that the lottery is a sure bet for education because it provides substantial, sorely-need enhancement funds. In fact, the Florida Lottery of the 1980's was lucrative. Florida was the only Southeastern state to operate a lottery until the 1990's, when Georgia and Louisiana joined the trend. While both Florida and Georgia lotteries are earmarked to fund public education, Georgia lottery allocations are entirely categorical. The Georgia Lottery postsecondary allocation funds student scholarships and classroom technology (Christenson, 1995; Winbush, 1995). Some of the highest-selling lottery vendors are located near the Florida state line; no doubt, some Georgia Lottery ticket sales are to erstwhile customers of the Florida Lottery. Nevertheless, lotteries are well documented as highly unstable revenue streams (Brandon, 1993; Mikesell & Zorn, 1986, 1988). In fact, the Florida Lottery peaked in FY 1989 in gross revenues awarded to education, as shown in Figure 2, and a shortfall occurred in the FY 1994 projected lottery allocation (Fullerton, 1995; Mann, 1995).

Figure 1



Opponents argue that the true beneficiary of a state lottery is the supplier of lottery hardware like computers and blank tickets (Mikesell & Zorn, 1988; Rose, 1993). Second, opponents say that education has not benefited because lottery dollars supplanted other public funds (Borg & Mason, 1988, 1990; Brandon, 1993; Fullerton, 1995; Jones & Amalfitano, 1994; Stark, Wood, & Honeyman, 1991; Thomas & Webb, 1984). Third, opponents charge that, through the lottery, the government

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promotes a model of success earned through luck rather than personal industry and instills a taste for gambling on a socioeconomically needy segment of the population (Clotfelter & Cook, 1990; Longman, 1994).

The expedient point of view argues that the worth of a lottery is its ability to generate funds. Those who take this position sometimes argue that today's state lotteries were necessitated by unfunded federal mandates and voters' opposition to new taxes (Blackley & DeBoer, 1993; Mann, 1995; Swartz & Peck, 1990). Some argue that a state lottery is non-tax revenue because consumption is voluntary and they draw an analogy between state lotteries and state liquor stores. The counter argument is that excise taxes are taxes, whether consumption of the taxable product is voluntary or not. Since the Florida Lottery returns 50 cents on every $1 ticket in prize money, the essential tax rate is a steep 50%. Second, state liquor stores minimally advertise and are not intended to promote alcohol consumption, whereas state lottery agencies are specifically charged with maximizing ticket sales and, hence, recruiting new and more vigorous players (Clotfelter & Cook, 1990, 1991; Jones & Amalfitano, 1994).

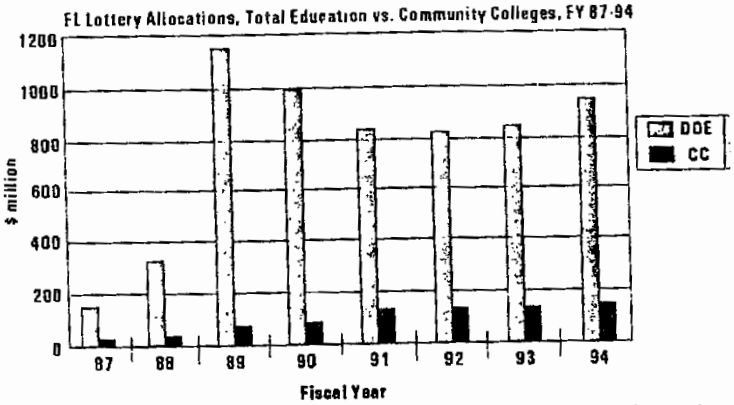

Figure 2: Florida Lottery allocations to the Department of Education and to the 28 Florida Community Colleges, FY 1987-94.
Source: State of Florida Department of Education, 1994, pp. 5-20.

THE FLORIDA COMMUNITY COLLEGES AND LOTTERY FUNDING

A recent University of Florida study shed light on the fiscal consequences the community colleges incurred after being earmarked to receive Florida Lottery funds (Summers, 1993; Summers, Honeyman, Wattenbarger, & Miller, in press). The study involved regression analysis over time of expenditure and allocation data for all 28 community colleges, for Fiscal Years 1972 through 1993. The results of the study suggested four conclusions, which taken in sum, showed that the fiscal status of the Florida community colleges declined after the lottery allocations commenced. Specifically, the results indicated that (1) as lottery dollars increased, community college year-end expenditures decreased, which was interpreted to mean that less money was available for expenditure; (2) lottery funds were not used for enhancement since they supplanted general revenue funds (GRF); (3) the proportion of community college expenditures funded by GRF declined over time at a rate that accelerated after the introduction of the Florida Lottery in FY 1987; and (4) the GRF allocation declined as local discretion increased in lottery fund expenditure, meaning that the community colleges received the largest GRF allocations when the lottery allocation was most restricted.

GRF Share

The erosion of fiscal support was not limited to the community colleges, but extended across all levels of public education. However, the community college share declined at a greater rate than for education as a whole. Figure 3 shows that the proportion of GRF awarded to the entire Florida Department of Education (DOE) declined over the past decade, as did the proportion allocated to the community colleges. In FY 1984, the DOE received 61.48% of the total GRF allocation, while the community colleges (CC) received 5.32% of the total. By FY 1994, DOE received only 50.42% of total GRF, which was a loss over 10 years of about 18%. Meanwhile,

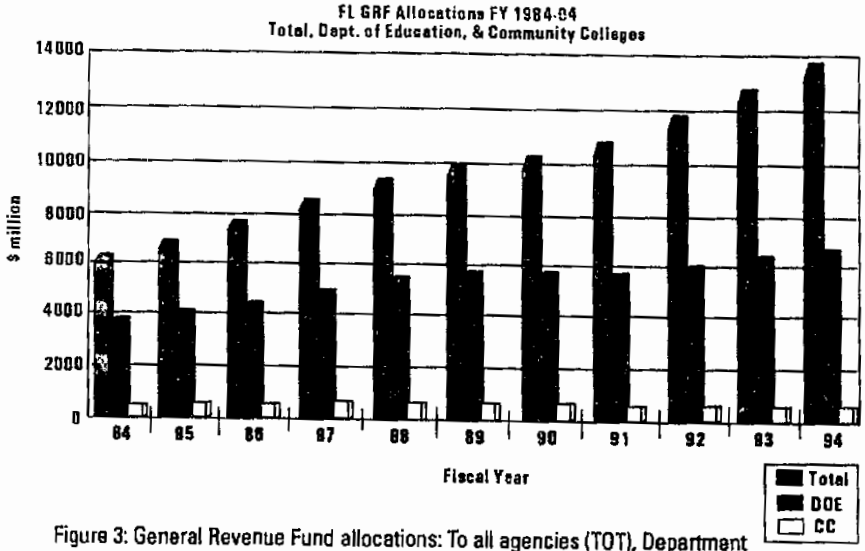

Figure 3: General Revenue Fund allocations: To all agencies (TOT), Department of Education (DOE), and the community college system (CC), FY 1984-94.
Source: State of Florida Board of Community Colleges, 1994; State of Florida Department of Education, 1994, p. 45; State of Florida Department of Education Division of Community Colleges, 1993.

(continued on page 31)

in FY 1994, the CC system received only 3.63% of all GRF, which represented a 10-year loss of GRF share of nearly 32%. Despite being earmarked to receive 15% of the lottery profits, state dollars funded the community college FTE at only half the dollar value of a freshman or sophomore FTE at the state universities (Florida State Board of Community Colleges, 1995).

LOTTERY SUPPLANTATION OF GRF

The data used in this study began with FY 1972 when all 28 members of the Florida community college system were in place. Figure 4 shows that the colleges received a larger GRF allocation each year from FY 1972 until FY 1990, without controlling for enrollment. Since FY 1991, the lottery's contribution to the state allocation to community colleges has been as great as 17% of the total funding. From one perspective, the Florida Lottery supported the community colleges at a time when GRF was eroding, for a net modest gain in total state support. In the long run, however, lottery funds supplanted GRF, causing an erosion in GRF share. Because lottery funds comprise a relatively small revenue stream, the lottery profits were too small to compensate for the supplanted GRF.

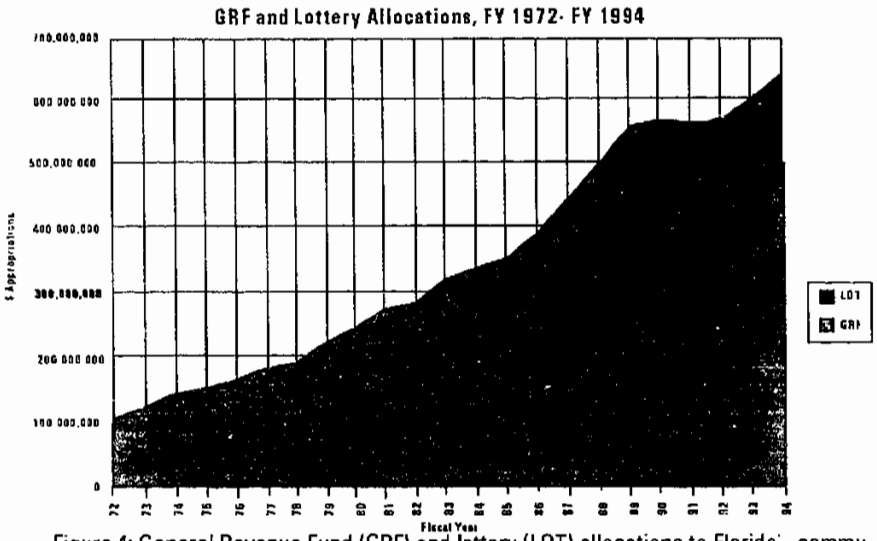

Figure 4: General Revenue Fund (GRF) and lottery (LOT) allocations to Florida's community colleges, FY 1972 - FY 1994.
Source: Summers, 1993, pp. 130-142.

STUDENT FEES AND LOTTO FUNDS

In-state fees for community college students in Florida have traditionally been low in comparison to other states. Table 1 shows that since FY 1981, fees have comprised anywhere from 19.8% to 27.3% of total funding per full-time equivalent (FTE) student. Student fees per FTE rose by 79% from FY 1981 until FY 1994, while GRF rose by only 25% during the same period; the share comprised of GRF and lottery funds combined grew by 60%. In-state tuition for community college students is intended to cover 25% of the cost of instruction. However, when enrollments exceed predictions and there is no state funding for the additional students, student fees effectively comprise more than one-fourth the total share, as has been true for each year since FY 1991. Thus, in the search for greater community college funding, student fees have risen at a rate that exceeds gains in state support, even when lottery funds are factored in.

Figure 5 graphically depicts the proportional changes in per-FTE funding comprised of student fees (STU FEES), lottery (LOT), and GRF sources. Note that from FY 1981 until FY 1989, the value of an FTE steadily increased, and the student share remained fairly steady, even though GRF declined after FY 1988. The 1990's have seen a proportional decline in state support and a rise in student fees per FTE.

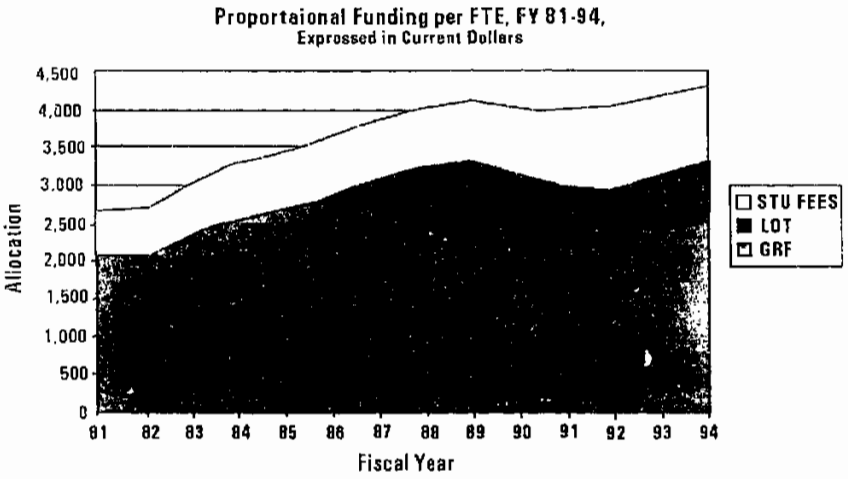

Figure 5: Proportional funding per full time equivalent, FY 1981- FY 1994, from student fees (STU FEES), lottery funds (LOT), and the general revenue fund (GRF).
Source: State of Florida Board of Community Colleges, 1994; State of Florida Department of Education Division of Community Colleges, 1993.

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CONCLUSIONS

Has the Florida Lottery improved the financial conditions at Florida's public community colleges? We think not. We concur with Fullerton (1995), that the real culprit is the method by which the State of Florida is funded, wherein the lottery trickle is just one small part of the total financial stream. However, education's loss of GRF share is of serious concern, and community colleges have lost GRF ground more rapidly than the other sectors of Florida public education. State lotteries are small sources of state revenue relative to other sources, so the Florida Lottery itself cannot be expected to fill the funding gap.

With John Dewey as our philosophical guide, we have applied the scientific method of inquiry to a public policy. We conclude that the Florida Lottery as public policy has been a lotto nonsense. It is time to modify this policy. The political climate may not support Fullerton's call for additional taxes, and we concur that a personal state income tax is unlikely to attain voter approval. We suggest two alternatives to the present lottery policy. First, we recommend following the Georgia model by making all lottery profits categorical—in particular, using the postsecondary portion for student scholarships. Alternatively, we recommend redirecting the lottery to become a GRF revenue stream, rather than earmarking it for education as is currently the case. In the short term, the community colleges might lose funds. However, in the long run, we predict that the quest for college funding would be aided if the lottery trickle ceased to muddy the waters of the revenue stream.

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Florida's Responses To Reduced Fiscal Support:

Changes in Community College Budgets

Edward M. Henn

Changes in patterns of expenditures at Florida community colleges during a period of reduced resources were examined. The changes in percentage of available funds allocated to specific categories were calculated for each of two academic years and compared. The results showed an overall consistency of responses within a highly diverse system and were calculated for individual institutions as well as for the community college system as a whole. While changes in expenditure patterns generally conformed to accepted practice, variations did exist.

Issues relating to these findings include:

- **The underlying causes of variations in expenditure patterns**
- **Possible long-term effects, and**
- **The need for flexibility in institutional responses.**

The financial scenario of community colleges in Florida in the academic year 1989/90 and the situation which existed three years later differed greatly. A lack of state revenue caused the legislature to allow a greater percentage of total costs to be recouped through student fees. This strategy had historically been implemented with little detrimental effect on enrollments, but logic suggests a threshold of tolerance beyond which higher tuition/fees would cause a decline in enrollments (Honeyman, Williamson and Wattenbarger, 1991). While a relatively new source of funding, the Florida State Lottery, had been implemented with the promise of adding to the pool of available resources, it failed to improve the overall level of state support. A recent study indicated that lottery dollars tended to supplant general revenue funding rather than enhance it, in addition to fostering other conditions which might be described as unfavorable, such as categorical funding. (Summers, Honeyman and Wattenbarger, 1994) This situation was aggravated by the fact that many colleges were experiencing continued growth in student population. As a result, the total revenues (adjusted for inflation) for each full-time equivalent student (revenues per FTE) dropped approximately twelve percent (12%) during a period when the system experienced an eleven percent (11%) increase in FTE. (Florida State Board of Community Colleges, 1992).

As is often the case when organizations are faced with budgetary con-

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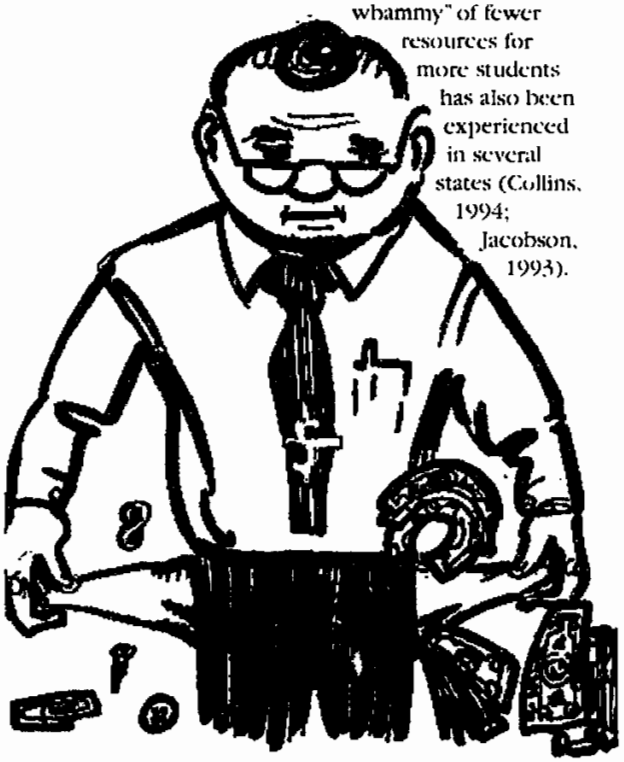
All of the possible responses to periods of financial stringency carry the risk of necessitating a review of the mission and role of the community college.

straints, many units within each community college felt burdened by an inordinate share of these budget cuts. The purpose of this study was to describe where the cuts did occur, to determine if any patterns were observable across the system, and to ascertain whether the changes in expenditures which developed from the retrenchment process matched those suggested by the literature.

Unfortunately, literature regarding responses to the problems listed above is not difficult to find. The problem of flat or declining enrollments first surfaced as a nationwide concern of community colleges in 1983 (Watkins, 1984) and had surfaced as an issue at some Florida institutions as well. Conversely, many institutions have repeatedly faced reduced budgets combined with increased enrollments. This "double whammy" of fewer resources for more students has also been experienced in several states (Collins, 1994; Jacobson, 1993).



Reduced state support is also a trend which is well documented and consistent. While actual dollar appropriations might increase, support in real terms and/or the percentage of total revenues derived from state support has been steadily decreasing. (California Community Colleges, 1993; Wattenbarger & Mercer, 1985; Honeyman, Williamson and Wattenbarger, 1991). This dictates that other sources be utilized to compensate for the loss. The limited choices seem to be:

- Increased tuition and/or student fees (Hayward, 1988; Jenkins 1984; Report for Florida's Community Colleges, 1992; Wattenbarger & Mercer, 1985;).
- Development of other sources of revenue (Catanzaro & Arnold, 1989; Kapraun & Heard, 1993.)
- Retrenchment and/or downsizing (Clagett, 1993; Hayward, 1988).

All of the possible responses to periods of financial stringency carry the risk of necessitating a review of the mission and role of the community college. One unique function identified with community colleges since their inception is the role of democratizing educational opportunities by making them available to those who might not have otherwise been able to afford higher education (Cohen & Brawer, 1982). This role clearly can be hindered by mandating increased student tuition and/or fees.

Indeed, the role of the community college itself has been called into question in response to financial constraints. These institutions have been characterized as trying to be "all things to all people" (Gleazer, 1980). Now, they may need to reevaluate their willingness to take on ever widening roles in response to not only budgetary concerns, but also the potential issue of overlapping services provided by other agencies who are dependent on state and/or other public support (O'Bannion, 1994).

Wattenbarger and Vader (1986) attempted to identify strategies that community colleges used to deal with decreased revenues. Their study drew the following conclusions:

- The most frequently employed strategies include deferring maintenance, across-the-board cuts, hiring freezes, reassignment of faculty and staff, increas-ed recruitment efforts, and increased use of part-time faculty. The possible long range negative ramifications of these strategies (particularly the first two) were noted.
- Little quantitative evidence was found to support the chosen responses, other than that they seemed expedient.
- Instructional areas were perceived as being the highest priority in terms of program preservation.
- The characteristics of chief executive officer and the institution itself were determining factors in the choice of responses.

The latter conclusion, that characteristics of individual institutions and/or the administrative teams affect the choice of strategies, was the impetus for the analysis reported on in

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this paper. Florida's community colleges are very diverse, as a result of a system structure that maintains a great deal of local autonomy. This has resulted in some of the institutions combining the vocational-technical functions with the traditional AA/AS tracks, while other community colleges either omit these types of programs or offer a substantially reduced number of them. Florida's demographics exhibit typically uneven distributions, resulting in drastically different student populations, both in ethnicity and number. As an example, the budget of the smallest community college in the system is equal to approximately 3.5% of the budget of the system's largest institution (Florida State Board of Community Colleges, b, 1992). These differing characteristics, coupled with the common thread of decreasing state revenue and funding, created the opportunity to investigate the following questions:

- What systemwide responses were chosen?
- Did patterns of responses differ among institutions when compared by geographic region and enrollment at the institution?

Method

Subjects

The institutions examined were the 28 community colleges which comprise the Florida Community College System.

Materials

The documents used to produce the majority of findings were the Annual Financial Reports submitted to the State of Florida, State Board of Community Colleges by each institution, in addition to the system-wide report produced by the Board itself. Findings derived from other sources will be identified by appropriate citation.

Procedure

Information regarding expenditures from the unrestricted and restricted current fund by general ledger code for the fiscal years 1989/90 and 1991/92 were entered into spreadsheets. While some subcategories had to be combined in order to mesh the reports from different years, the adjustments were minor and did not affect the totals in the three main categories of Personnel, Current and Capital expenditures. Once spreadsheets were developed for each of the 28 institutions and the system as a whole, the percentage of budget allocated to each category and subcategory was calculated for each of the fiscal years.

Next, each year's percentage was compared, and changes in allocation decisions were noted and compared. The decision to use percentage of current fund as opposed to dollar change allowed patterns of shifting emphasis to be compared between institutions of dissimilar characteristics. It should also be noted that the two categories of unrestricted and restricted current fund comprise approximately 72% of all funds. The categories of auxiliary current fund, scholarship restricted fund and unexpended plant which total approximately 26% of total funds were not examined. The decision not to include these funds was partially a function of lack of availability of records for 1989/90, and

Table 1
Percentage of Systemwide Expenditures by Category

	89/90	91/92
Salaries	76.19%	79.23%
Current	19.18%	17.82%
Capital	4.64%	2.95%

(errors due to rounding)

Figure 1

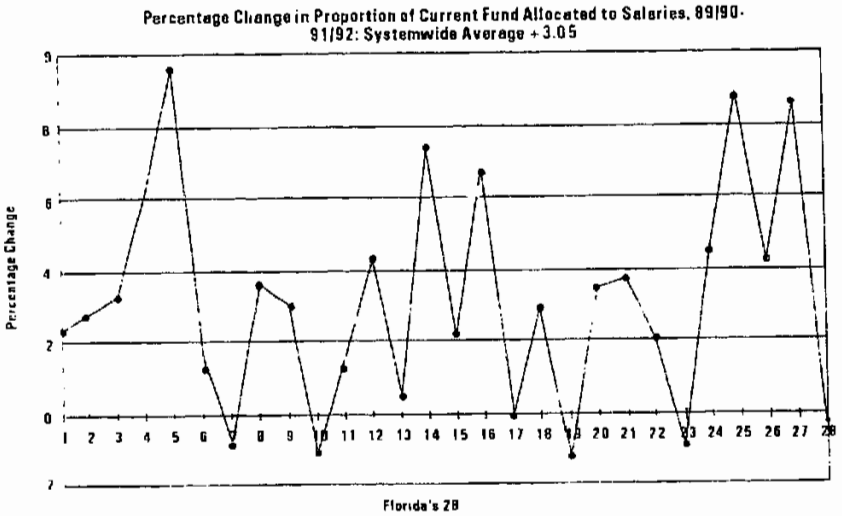

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Figure 2

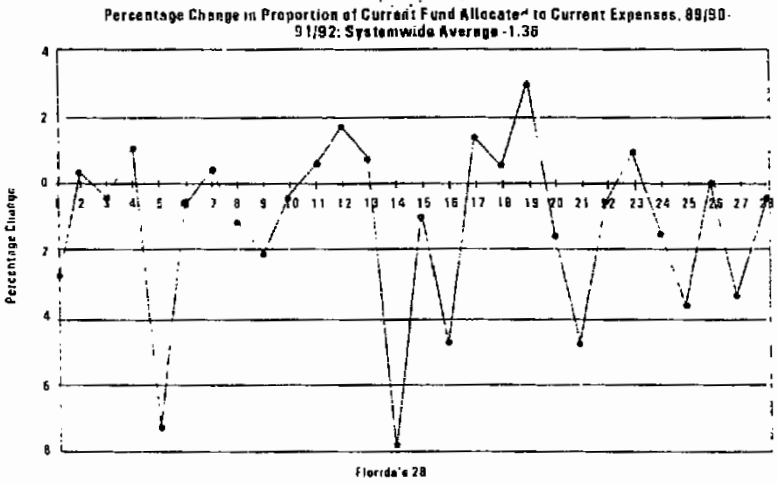


Figure 3

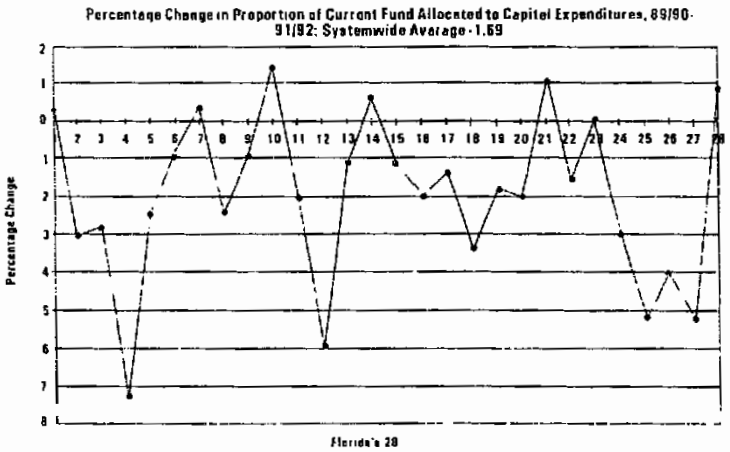
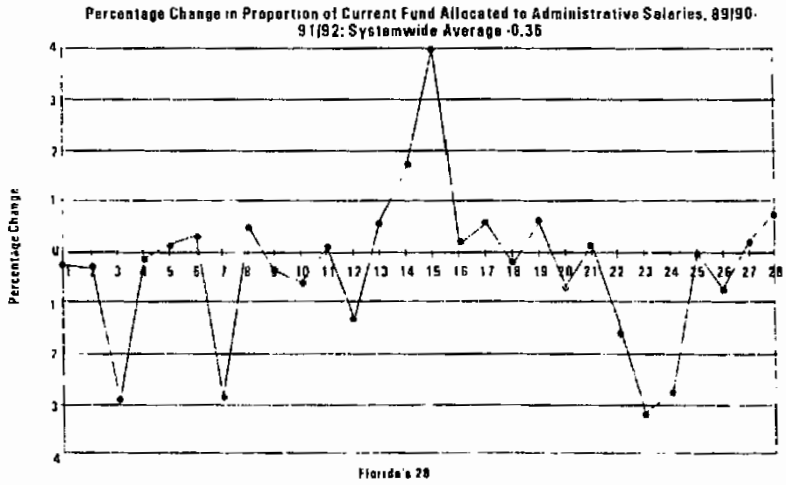


Figure 4



partly because the restricted nature of these funds did not lend themselves to an analysis of reallocation.

Results

The first comparison drawn was that of changes in overall expenditures systemwide from the year 1989/90 to 1991/92. The changes reflect the strategy of adjusting non-salary expenditures as a first resort that was generally implemented.

Next, the changes in expenditures by individual institutions were examined. The data were arranged by institutional size, then rearranged by geographic region in an attempt to find a trend of expenditure responses. While the responses were fairly consistent, there were deviations from the norm. These deviations were not observed to be predictable when examined in light of the above mentioned criteria. The results below are presented in a random order.

The change in proportion of expenditures for salaries were generally positive, with the maximum increase being 9.62% and the maximum decrease being -1.1%. The average change systemwide was an increase of 3.05%.

Conversely, the changes in proportion of expenditures for current and capital categories were generally negative. The largest decrease in current expenditures was -7.92%, and the largest increase in this category was 3.07%, with the average change systemwide being -1.36%.

The same analysis for capital expenditures yielded a systemwide average of -1.69%, the maximum observed decrease being -7.3%, the largest increase 1.4%. It should again be noted that most capital expenditures in Florida are not funded from the sources examined in this study. Nevertheless, institutions do have the option to allocate current revenue monies to support capital projects if they so desire.

As salaries showed the greatest change and comprise the lion's share of the total, further analysis yielded the following results. Administrative salaries declined an average of less than one percent (-.36%) with the largest decrease being -3.13% and the largest increase being 3.94%.

Systemwide, instructional allocations were up 1.82%. The largest increase was 7.27%, the largest decrease -

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3.35%. Trade/clerical salary allocations showed the most fluctuation, with the maximum increase being 3.79%, the largest decrease being -1.63% and the systemwide average being an increase of .27%.

Discussion

The shift of resources away from non-salary expenditures follows the pattern suggested by both the literature and conventional wisdom. The fact that the percentage of non-salary expenditures dropped from 23.81% of the total in 89/90 to 20.77% in 91/92 might seem insignificant, but further inquiry should be made into the long term ramifications, if any, of this strategy. While forgoing preventive maintenance seems highly expedient in the short run, lack of the same can cause huge problems in plant and personnel areas over an extended period.

A decrease of 3% does not necessarily result in substandard maintenance policy, however. These measures could have simply been implementation of increased control procedures, a reflection of decreased need for maintenance due to improved equipment. While this inquiry did not seek to determine this issue, it is of interest.

The variation in individual institutional responses is also intriguing. While patterns of responses which conformed to institution size or geographic/demographic patterns were suspected, none surfaced. Instead, the variations from the general trend appeared to be totally random. While no attempt was made to discern the cause of these occurrences, they very well may have resulted from simple, straightforward situations such as prior year commitments, vacillating student populations, or a myriad of other possibilities. Or, as has been suggested by others (Wattenbarger & Vader, 1986) these responses might reflect the styles and/or agendas of influential people at the institution, including, but not limited to, the chief executive officer. This issue might be particularly interesting to examine in light of the differing choices made in categories of salary expenditures.

While the variations from the general trend are interesting, the conformity of the majority of responses is surprising. It is difficult to imagine a more diverse set of institu-

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Figure 5

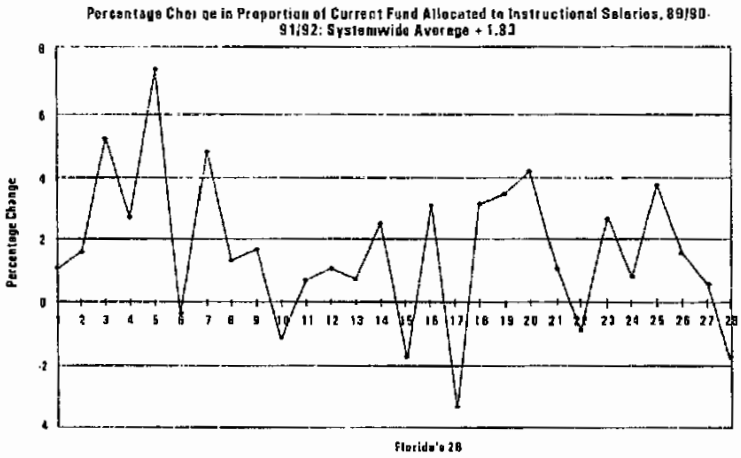
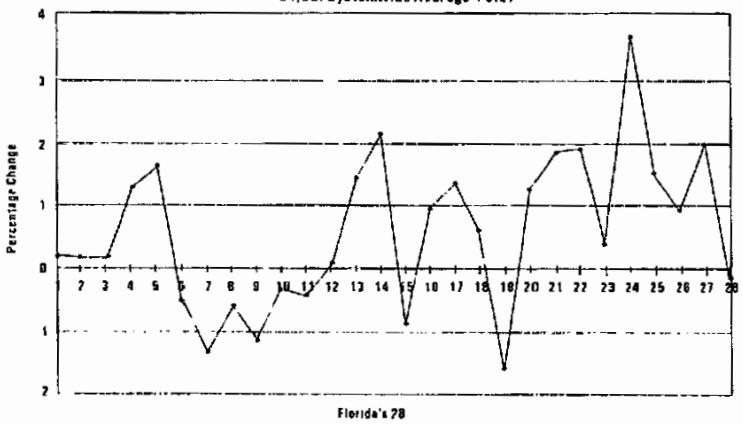


Figure 6



tions responding in a more uniform way. What still remains to be determined is whether or not these decisions were made as conscious, informed choices, supported by research. The possibility of state-mandated and/or local board mandated responses such as a ceiling on percentage of expenditures allowed for administrative salaries, etc., must also be considered. At this point, further research is planned to determine what allocation decisions will be made regarding restored funding.

Another area of inquiry into responses to budgetary crises might include the issue of whether responses were temporary (e.g. putting a freeze on unfilled positions until such time when funding was restored or employees were reclassified/reassigned) or of a more permanent nature (elimination of positions, increases in faculty load, decreased salaries). The question of state supported solutions, such as encouraging early retirement by creating windows of opportunity in the retirement system might also hold promise.

A recent issue of Perceptions, the FACC legislative newsletter (FACC, 1995) mentioned a project which could eventually have a direct impact on the ability of individual institutions to respond in a way which best fits their particular fiscal situation. The project was described as a "study of the governing boards for the community college system," with the stated purpose "to determine the feasibility of paralleling the organizational structure of the State University System by eliminating the existing structure of 28 separate Boards of Trustees." The findings in this study, particularly the few examples of institutions whose responses ran counter to the general trend, would indicate that any such consolidation should be carefully examined to insure that the flexibility which allows Florida's 28 to be responsive in meeting local needs would remain intact.

The flexibility that allows Florida's 28 to be responsive in meeting local needs must remain intact.

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Cost-Plus Budgeting's Long Term Effect on Horizontal Fiscal Equity

George W. Harrell

There are 49 different methods of financing community colleges among the fifty states, and a major concern in each state is the need to meet equity goals. While there are various definitions for various concepts of equity, this study focuses upon horizontal fiscal equity and uses a number of statistical confirmations to determine the level of equity that exists at a particular time in a specified state. While the data used in this report are from Florida, the methodology and procedures can be used with data from any state.

A major conclusion is that while there is at present a high level of horizontal fiscal equity in the Florida Community College Program Funding, the total is adversely affected by the addition of student fees and other revenues that are outside basic funding.

In the past, community colleges have concentrated on obtaining additional funding to meet existing and expanding needs. Funding has generally increased due to enrollment growth, inflation adjustments, and the selected funding of new programs. However, in recent years, this effort has included protecting existing funding. As funding has tightened and the public has demanded efficiency and accountability, the question of "fair share" has gained importance. No longer is equity being masked by annual increases to total funding. If we believe that horizontal fiscal equity is the "equal treatment of equals" or ultimately the fair share of resources available to community colleges, and if we believe that horizontal fiscal equity does not mandate absolute funding equality, then we can evaluate equity and accommodate arguments for variability due to special programs, flagship institutions, or the very nature of the educational process.

This study examines whether the Florida Community College Division has been meeting the reasonable standard of per-student horizontal fiscal equity and evaluates the horizontal fiscal equity trend of the community college system over the 10-year period 1980-81 to 1989-90. This study focused on the per-student total revenues that resulted from the distribution of the major current general fund revenue sources (state foundation funding formula, student fees, and other revenue) in the public community college system of the State of Florida.

The utilization of the equity measuring techniques, prevalent in evaluating K-12 public education per-pupil horizontal fiscal equity, to examine and analyze community college per-student horizontal fiscal equity was based on the similarities of the two systems and the need to measure the distribution of per-student revenues and revenue sources.

The purpose for evaluating horizontal equity was a response to the generally recognized equity goals for funding community colleges (Breneman & Nelson, 1981; Jones & Brinkman, 1990; Kerr, 1980; McKeown, 1986; Nelson, 1982; Wattenbarger & Mercer, 1988). Kerr (1980) indicated the need to raise "significantly the comparative level of financing of the least well-financed

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institutions" (p. xii). Breneman and Nelson (1981) in discussing community college financing stated that "equitable distribution of educational opportunities" was better served by student equity than by taxpayer equity (p. 122), and that states should "reduce the disparity in local resources available per (community college) student" (p. 125). Garms (1977) listed interdistrict equity (equivalent to intrastate equity) as one of the criteria for community college funding.

"Horizontal equity" was defined as the "equal treatment of equals" by Berne and Stiefel (1984, p. 13), Jones (1985, p. 56), Jordan and McKeown (1980, p. 102), and Wood, Jones, and Riley (1984, p. 4). The achievement of horizontal fiscal equity in community college per-student funding requires the ability to measure and evaluate the effect of funding actions on community college systems using recognizable techniques. Gurwitz (1982) said that "to determine whether expenditures have or will become more equal and by how much, we need measures of equity" (p. 179). Equity may be measured using several different indexes, but the basic concept is to compare distributions. Gurwitz (1982) further indicated the need to have a recognizable method of evaluating "movement in the direction of equality" and not to "strive for perfect expenditure equality" (p. 179). A 1991 draft recommendation by the Florida Division of Community Colleges listed "equalization of the base" as one of the objectives of a proposed funding method change for the 1991-92 fiscal year.

Overview of the Methodology

This study applied the recognized horizontal fiscal equity evaluation criteria for the purpose of examining and analyzing Florida's community college per-student revenue and revenue source horizontal fiscal equity trends over a 10-year period 1980-81 to 1989-90. The per-student revenues for each institution of the state for each year were used to calculate the range, restricted range, coefficient of variation, McLoone index, and federal range ratio.

The major components of total current revenues were the Community College Program Funding (CCPF), student fees, and other revenues; other revenues included other state revenues, other local revenues, and federal revenues (State of Florida Bureau of Information Systems, 1991).

Linear regression of the time series for each measure was used to analyze the linear relationship of each indicator over the 10-year period of this study. The algebraic sign of the slope was used to evaluate the trend of the equity measure over the 10-year period. The relative location of the time series linear regression line and the slope of the revenue source time series linear regression lines in relative to the total equity time series linear regression line for each indicator were used to evaluate the relative equity of the revenue sources.

The major components of total current revenues were the Community College Program Funding (CCPF), student fees, and other revenues...

Population of the Study

The population of this study consisted of the 28 institutions of the State of Florida Community College System; the number of institutions in the system had remained constant since 1972 (State of Florida Bureau of Information Systems, 1991).

Enrollment (FTE), expenditure, revenue, and revenues by source data were taken from the Report for Florida Community Colleges (State of Florida Department of Education Division of Community Colleges, 1979, 1980, 1981, 1982, 1983, 1984); the Report for Florida Community Colleges, Part 1 (State of Florida Department of Education Division of Community Colleges, 1985); the Report for Florida Community Colleges, The Fact Book (State of Florida Department of Education Division of Community Colleges, 1986, 1987); and the Report for Florida Community Colleges, The Fact Book (State of Florida Bureau of Information Systems, 1988, 1989, 1990, 1991).

There was an assumption made in this study that revenues closely approximated expenditures on an institutional level based on the observations of Bowen (1980). The assump-

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tion was substantiated by comparing revenues, expenditures, beginning fund balance, and ending fund balance for the period covered by this study. The effects of revenue and revenue sources on per-student expenditure horizontal equity were interpreted based on the resulting per-student revenue horizontal equity. Revenue horizontal equity and expenditure horizontal equity were considered synonymous, and due to the fungible nature of the revenue sources, the components of revenues were considered to have been the components of expenditures.

Total Revenue Equity

The trend in horizontal equity based on total per-student revenues for the 10-year period varied based on the particular indicator and the aspect of horizontal equity that the equity measure was sensitive to measuring. Table 1 lists the horizontal equity measure, the slope of the time series linear regression, and the standard error of the slope coefficient for each of the six horizontal equity measures.

Table 1: Summary of Total Per-student Revenue Equity Time Series Linear Regression Slope and Standard Error of the Estimate of the Slope by Equity Measure for 1980-81 Through 1989-90

EQUITY MEASURE	SLOPE	STD.ERROR OF THE EST.
Gini coefficient	-0.00333	0.00122
Coefficient	-0.00522	0.00151
McLoone index	0.00267	0.00213
Federal range ratio	-0.00753	0.00937
Restricted range	34.626	23.555
Range	95.177	45.964

Table 2 is a summary of the equity trends for the six horizontal equity measures based on the time series linear regression results. Three of the six measures had increasing equity trends; the fourth measure, the federal range ratio, also had an increasing trend, but the trend was statistically inconclusive. The other two range equity measures had decreasing equity trends.

Table 2: Summary of Total Per-student Revenue Equity Trend by Equity Measure for the 10-year period 1980-81 Through 1989-90

EQUITY MEASURE	EQUITY TREND
Gini coefficient	Increasing equity
Coefficient of variation	Increasing equity
McLoone index	Increasing equity
Federal range ratio	Inconclusive
Restricted range	Decreasing equity
Range	Decreasing equity

Revenue Sources Equity Trend

Table 3 is the summary of revenue source per-student equity time series linear regression slope and standard error of the estimate of the slope by equity measure for the 10-year period. With the exception of the federal range ratio slope for the Community College Program Funding (CCPF), all slopes were indicative of conclusive trends.

Table 4 is the summary of the revenue source per-student equity trend by equity measure. The analysis of the slopes indicated increasing equity for the three revenue sources except for the CCPF. The CCPF equity trend was decreasing based on the McLoone index, and the CCPF equity trend was inconclusive based on the federal range ratio.

Revenue Sources Relative Horizontal Equity

Gini Coefficient

In order by equity level, the CCPF was the most equitable revenue source followed by student fees and other revenue based on the Gini coefficient. It should be noted that the rate of change of the trend was in exactly the reverse order with other revenue becoming more equitable at a faster rate followed by student fees and the CCPF.

In relationship to the total revenue equity, CCPF was more equitable than total revenue during 5 years of the 10-year period and less equitable during 5 years. Student fees and other revenue were less equitable than total

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Table 3: Summary of Revenue Source Per-student Equity Time Series Linear Regression Slope and Standard Error of the Estimate by Equity Measure for the 10-year period 1980-81 Through 1989-90

EQUITY MEASURE	REVENUE SOURCE	SLOPE	STD.ERROR OF THE EST.
Gini coefficient	CCPF	-0.00161	0.00072
	Fees	-0.00345	0.00096
	Other	-0.01355	0.00577
Coefficient of variation	CCPF	-0.00539	0.00116
	Fees	-0.00807	0.00181
	Other	-0.01642	0.01145
McLoone index	CCPF	-0.00271	0.00188
	Fees	0.00803	0.00185
	Other	0.00714	0.00410
Federal range ratio	CCPF	-0.01154	0.01256
	Fees	-0.05832	0.01474
	Other	-0.15329	0.06162

revenue in all 10 years of this study. The results are summarized in Table 5 along with the results from the other equity measures.

Coefficient of Variation

In order by equity level, the CCPF was the most equitable revenue source followed by student fees and other revenues based on the coefficient of variation. It should be noted that the rate of change of the trend was in exactly the reverse order with other revenue becoming more equitable at a faster rate followed by student fees and the CCPF. Both of these relationships were the same as for the Gini coefficient.

Table 4: Summary of Revenue Source Per-student Equity Trend by Equity Measure for the 10-year period 1980-81 through 1989-90.

EQUITY MEASURE	EQUITY SOURCE	EQUITY TREND
Gini coefficient	CCPF	Increasing equity
	Fees	Increasing equity
	Other	Increasing equity
Coefficient of variation	CCPF	Increasing equity
	Fees	Increasing equity
	Other	Increasing equity
McLoone index	CCPF	Decreasing equity
	Fees	Increasing equity
	Other	Increasing equity
Federal range ratio	CCPF	Inconclusive
	Fees	Increasing equity
	Other	Increasing equity

In relationship to the total revenue equity, CCPF was more equitable than total revenue during 1 year of the 10-year period and less equitable during 9 years. Student fees and other revenue were less equitable than total revenue in all 10 years of this study. These results are summarized in Table 5 along with the results from the other equity measures.

McLoone Index

In order by equity level, the CCPF was the most equitable revenue source followed by other revenues and student fees based on the McLoone index. Other revenues and student fees reversed order from the order in both the Gini coefficient and coefficient of variation. For the McLoone index, the pattern of the rate of change of the trend was different than in the first two measures. The CCPF revenue source was becoming less equitable, the only case in this study of an opposite trend for a revenue source from the trend of the total revenue for the same equity measure. Student fee revenues were becoming more equitable at a faster rate than by other revenues. These relationships were considerably different than observed for either the Gini coefficient or the coefficient of variation.

Relative to total revenue equity, CCPF was more equitable than total revenue during 7 years of the 10-year period and less equitable during 3 years. Student fees and other revenue were less equitable than total revenue all years of this study. The results are summarized in Table 5 along with the results from the other equity measures.

Federal Range Ratio

In order by equity level, the CCPF was the most equitable revenue source followed by student fees and other revenues, based on the federal range ratio. This matched the order of both the Gini coefficient and coefficient of variation equity order. For the federal range ratio, the pattern of the rate of change of the trend was differ-

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Table 5 - Summary of the Revenue Sources Relative Equity, Comparison of Relative Annual Equity of Revenue Sources and Total Revenue, and Source Equity Trend Comparison by Equity Measure

Equity Measure	Revenue Sources (Relative Equity)	Revenue Source Compared to Total Revenue Equity		Revenue Source Relative Equity Trend Comparison by Equity
Measure		Nbr. Yrs. Better	Nbr. Yrs. Worse	
Gini coefficient	(1) CCPF	5	5	Least increasing
	(2) Fees	0	10	Increasing
	(3) Other	0	10	Most increasing
Coefficient of variation	(1) CCPF	1	9	Least increasing
	(2) Fees	0	10	Increasing
	(3) Other	0	10	Most increasing
McLoone index	(1) CCPF	7	3	Decreasing
	(2) Fees	0	10	Least Increasing
	(3) Other	0	10	Most increasing
Federal range ratio	(1) CCPF	6	4	Inconclusive
	(2) Fees	0	10	Least Increasing
	(3) Other	0	10	Most increasing

ent than was observed for the previously discussed three measures. Other revenue had the best rate of equity improvement followed by the CCPF and student fees. These trend relationships were considerably different than observed for the Gini coefficient, McLoone index, or the coefficient of variation.

Relative to total revenue equity, CCPF was more equitable than total revenue during 6 years of the 10-year period and less equitable during 4 years. Student fees and other revenue were less equitable than total revenue for all years of this study. The results are summarized in Table 5 along with the results from the other equity measures.

The relationships of the revenue sources were found to be varied based on the equity measure. Table 5 is a summary of three aspects of the horizontal equity relationship of the sources of revenue, relative equity order, relative equity annual performance, and the equity trend of the three revenue sources. CCPF ranked highest based on the four equity measures.

Fees ranked second in all except the McLoone index that is sensitive to the lower half of the distribution. Other revenue ranked lowest based on all measures except the McLoone index where it ranked in the middle.

The comparison of the annual equity measures for total revenues with the revenue sources yielded the following results. The only revenue source to have higher equity than the total revenue was the CCPF. The CCPF was higher during 5 years for the Gini coefficient, 1 year for the coefficient of variation, 7 years for the McLoone index and 6 years for the federal range ratio (see Table 5).

The CCPF was the revenue source with the lowest rate of change in equity during the study period based on the slope of the time series linear regression analyses. The CCPF had the least increasing slope based on the Gini coefficient, a decreasing slope based on the McLoone index, and a statistically inconclusive slope direction based on the federal range ratio

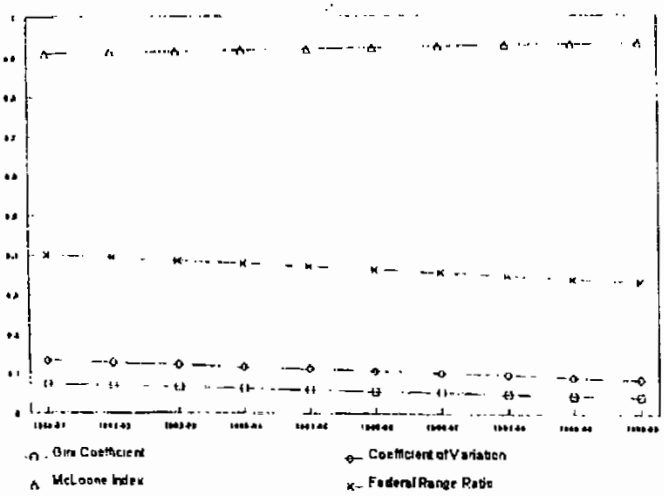

Figure 1. Graph of the Gini coefficient, coefficient of variation, McLoone index, and federal range ratio for total per-student revenues for the period 1980-81 trhough 1989-90.

horizontal equity measure. The CCPF had the least increasing slope in two cases, a decreasing slope in one case, and a statistically inconclusive slope in one case. The remaining two revenue sources, student fees and other, had slopes that indicated increasing horizontal equity at varying relative rates for all four Wood et al. (1984) criterion.

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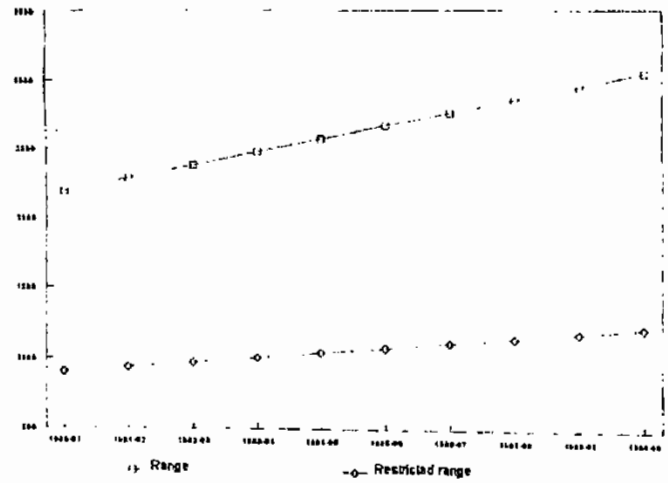

Figure 2. Graph of the range and restricted range for per-student total revenues for the period 1980-81 through 1989-90.

Total Revenue Equity Trend

The graph in Figure 1 depicts the per-student total revenue horizontal fiscal equity trend based on the slope of the time series linear regression analyses of the four horizontal fiscal equity measures: Gini coefficient, coefficient of variation, McLoone index, and federal range ratio. The four equity measures have trends that indicate increasing equity over the 10-year period; however, the federal range ratio was statistically inconclusive.

The graph in Figure 2 depicts the per-student total revenue horizontal fiscal equity trend based on the slope of the time series linear regression analyses of the range and restricted range horizontal fiscal equity measures. The two equity measures, range and restricted range, have trends that indicate decreasing equity over the 10-year period.

The three equity measures, Gini coefficient, coefficient of variation, and McLoone index, have trends that indicate improving equity for the distribution as a whole, the center of the distribution, and the lower half of the distribution respectively (see Figure 1). The three range measures, federal range ratio, range, and restricted range have equity trends that are decreasing (see Figures 1 and 2); however, the equity trend of the federal range ratio is statistically inconclusive.

Conclusions

There is a statistically significant trend in the per-student total revenue horizontal fiscal equity for the State of Florida community college system. The trend was significant for 5 of the 6 horizontal fiscal equity measures utilized in this study. For per-student total revenues, the horizontal fiscal equity trend was toward increasing equity except for range related horizontal fiscal equity. The range related horizontal equity measures are sensitive to the difference between the community colleges receiving the highest levels of per-student revenues and the community colleges receiving the lowest levels of per-student revenues. The difference is increasing both numerically and as a ratio (with the low per-student revenue levels as the denominator). This effect is mathematically inherent in a cost-plus budget approach as is utilized by the State of Florida to fund community colleges.

For revenue source relative horizontal equity and equity trend, the CCPF provided high levels of horizontal equity and an increasing equity trend with the exception of the range problem. The other two major revenue sources, student fees and other revenue, because of the considerably lower levels of horizontal equity, adversely affected the total revenue equity level and partially offset the high level of equity of the CCPF. The relatively lower percentage of revenue contributed by the two revenue sources, a certain amount of intermeshing of the various revenue components, and higher rates of change toward increased equity of the two revenue sources, contributed to the resulting total equity.

The funding methodology used by the State of Florida has resulted in a temporal trend toward increased equity in the distribution of revenues to the institutions in the system over the 10-year period with the exception of range related horizontal fiscal equity.

Analyses of the results of this study indicate that the CCPF generally exhibits high levels of horizontal per-student revenue equity with a trend toward even higher levels of equity. The CCPF should be continued but

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modified to improve the range related horizontal fiscal equity. Student fees and other current general fund revenues were found to decrease the overall level of equity provided by the CCPF. Special allocations and education enhancement funds are major components of the other revenue category. The other revenue category was the least equitable revenue source, and efforts should be made to either control or at least recognize the effect of this allocation category on the total per-student horizontal fiscal equity.

The funding methodology used by the State of Florida has resulted in a temporal trend toward increased equity in the distribution of revenues to the institutions in the system over the 10-year period with the exception of range related horizontal fiscal equity. The foundation funding methodology (approximately 65% of total revenues) used by the State of Florida is predominantly a cost-plus approach. The cost-plus approach to budget allocation inherently produces a broadening range, as was observed in this study. Increasing both extremes of a range by the same percentage, mathematically increases the range. Unless offset by some other funding action, range related horizontal equity will continue to decrease where the cost-to-continue-plus approach is utilized for annual funding. In conclusion, the findings of the study provides the following insight into the Florida Community College System:

1. Florida's Community College Program Funding (CCPF) provides a high level of horizontal fiscal equity; however, the total horizontal fiscal equity is adversely affected by the combination of the other two revenue components (student fees and other revenues).

2. The CCPF component of total revenue will decrease equity among the community colleges unless the base is revised from time to time.

3. The other revenue categories must be controlled or offset if current levels of horizontal fiscal equity are to be maintained.

4. Range related horizontal fiscal equity will continue the trend toward decreasing equity unless annual funding increases are based on additional components other than just cost-to-continue adjustments and enrollment changes.

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World Community College:

Using Technology to Provide Interactive, Comprehensive, Personal Learning

Maxwell C. King Albert Koller Steve Eskow

This is the Age of Transformation — of continual reengineering, restructuring, and reinventing organizations and institutions — with growing needs for information access and better communications. To be successful, people must remain current in key aspects of technology, commerce, and global activities. Education has become a necessity, and colleges are turning to the information superhighway — "the Net" — to provide an interactive dimension of learning. It is a new paradigm, impacting business and industry, government, and education worldwide.

World <-> Community College

To benefit from the enormous power of this new medium, a concept called World Community College (WCC) has been created. It offers the vision of a future educational process that is more inclusive, as personal as individuals prefer, and as relevant as the work to be done. It is a concept that affirms two essential roles of community colleges: looking inward to meet traditional community educational needs, and looking outward to link businesses and institutions globally.

The successful college of the future must be both a "world" college and a "community" college, developing a network to share information and concepts among contacts and partners everywhere. To be effective, these world <-> community colleges must link with others having similar goals and values. Ways must be found to provide services to one another and to the communities served (Eskow, 1981). This group of colleges comprises "World Community College," available on the network of international telecomputing services to students, faculty, businesses, and institutions of all kinds.

Inclusive Access

Any college can become a "World Community College" by adopting the interactive approaches that characterize on-line work and linking to the changing world in which all must operate. World Community College is an idea that has gradually grown from early distance learning concepts to utilization of the technology now available to a majority of Americans and a growing number of people in nearly every country of the world. Access to information is the power base of society, and bringing education to people everywhere is WCC's mission.

WCC is a consortium of colleges that offers the entire spectrum of educational programs and services "on-line" through what is called a "virtual" campus. Using computers and the telephone system, World Community College will bring the college campus to the student — on the desktop at work, the tabletop at home, or the laptop while traveling — anywhere in the world. The virtual campus will provide all the services of any "real" campus — classrooms, library, student services, financial aid, faculty offices, lecture halls, lounges — using books, tapes, computers, cd-roms, video, graphics, and the

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world-wide telephone network. It will provide access to every aspect of a traditional college, without the buildings, the classrooms, the equipment, or any of the physical plant. No longer will it be necessary to travel to one location; the campus can come to the student. WCC has turned to technology rather than brick and mortar to reinvent post-secondary institutions. Faculty and staff will learn and grow along with the students and the community using this new environment to serve educational needs better than ever before.

World Community College will also provide a host of services not readily available to students in isolated regions or areas where the number of interested people does not permit offering specialized programs.

To develop this concept, the Community Colleges for International Development (CCID) has embarked on a joint venture with the Electronic University Network (EUN) to create WCC. Founded in 1976, CCID is a consortium of seventy U.S. and Canadian community, technical and junior colleges providing economic and human resource development through international post-secondary education (Humphrys and Koller, 1994). EUN is an educational service provider that has been active in on-line work since 1987, developing and offering on-line courses and educational services. Together these organizations have developed the concept of a World Community College and are recruiting institutions that will offer non-credit courses and workshops, continuing education programs, professional development seminars, custom-designed workplace training, and transfer credit courses leading to college degrees, totally on-line and requiring no traditional campus residency.

Operational Concepts

Brevard Community College, on Florida's Space Coast — a founding member and the administrative headquarters of CCID — has initiated World Community College's on-line programs by offering courses and Associate Degree programs beginning fall, 1995. WCC is using America Online, now the largest computer information service in the U.S., to provide the telecomputing network linking campuses with students, businesses, government institutions, and educational groups worldwide (*Orlando Sentinel*, 1995). Comprising CCID members and other colleges that form an on-line network of students and telecommunicating institutions, WCC will offer educational programs and training of all types anywhere in the world where needed.

Because it is not tied to a single technology or methodology, WCC will be flexible to meet identified needs. Fundamental to World Community College are:

- An on-line network that links all members, students, and other participants.
- International Study Centers from which WCC operations can be conducted for local in-country contact and training.
- Service Learning programs that extend the reach and depth of WCC activities by providing students with opportunities to earn credit through community service anywhere in the world.
- Cooperative Education programs that link student interns to partnering organizations in work-related opportunities that encourage team building through practical experience.
- Learning Contracts that provide individualized, flexible programs of study that maintain academic quality.
- The development of partnerships for program operations as well as funding and sponsorship activities.
- Methods for establishing equivalence for transfer credits, including portfolio assessment and credit for experience.
- Techniques for articulation, including examinations to assess prior studies, and common curricula where possible and desirable.
- Administrative systems for member recruitment, member services, and maintenance of institutional participation.
- Academic research to evaluate effectiveness, maintain program databases, and initiate continuous improvements in all aspects of WCC operations.

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Expectations

"World Community College will permit participating colleges to implement a variety of programs and activities that enrich and enlarge current capabilities. WCC's effectiveness will be defined by the success of its students and its usefulness to its member institutions in providing:

- Methods for interactive teaching and learning that take full advantage of new telecommunications capabilities.
- An increased presence in the community for access to the virtual campus by the disabled, the homebound, the traveler, and the worker.
- An extensive and growing network of people dedicated to creating a common community of interest in education.
- New institutional relationships that strengthen old partnerships and create new ones, often with non-traditional organizations.
- Opportunities to develop cost effective international linkages with multinational corporations, philanthropic organizations, religious institutions, and others seeking new approaches for networking and development.

World Community College will also provide a host of services not readily available to students in isolated regions or areas where the number of interested people does not permit offering specialized programs. For example, students will find that the entire transcript of activities for every course is available at all times. Unlike the traditional classroom that depends almost entirely on the spoken word for its daily activities, the virtual classroom exists in the form of written dialog, saved on the disk drive of every participant and available at any time from the on-line service. The WCC library is never closed, and although the faculty and counselors keep business hours for "real time chat" (technical talk for synchronous communication where both people must be on-line at the same time), WCC students can leave questions whenever convenient, and return later for personal, written replies responsive to individual needs.

Participants can also enter into dialog with other students in current courses, students from other programs, other faculty, college staff and administrators, or anyone at the college with whom contact is needed. This is the most powerful aspect of this medium and the one that distinguishes it from both the traditional classroom setting and present distance learning modes. Rather than being confined to the traditional "one-to-many" delivery system, WCC can now spread the ideas spawned through education across the entire student body, fostering cross-talk and debates at sites around the world to develop the sharing of ideas and the creation of new ways of thinking.

This powerful concept of linking people through on-line dialog fosters a new level of awareness among the participants and a new appreciation for participants regardless of location. Unless one wishes to disclose information to others, no one knows the race, gender, age, or physical characteristics of the participants. Transcultural as well as personal interactions occur, and there is a real opportunity for open access and acceptance on an intellectual level often unmatched in other venues. Increasingly, the reciprocal benefits that come from such transcultural experiences and encounters are being recognized, and this venue can be significant in developing international relationships of lasting value (King and Koller, 1995).

The on-line world provides recreational opportunities that open another world of knowledge. When on-line students and teachers complete assigned studies or tire of a task, it is possible to roam beyond the college itself, into the rest of World Community College or out into the surrounding landscape of on-line services to experience everything from the Library of Congress to the latest listing of MTV. The richness of this medium and its convenience to users is unmatched.

Improvements for Education

Americans live increasingly in a global environment that demands focus and attention for survival. Linking people through on-line education extends one's ability to share information and grow in knowledge and capabilities. There are many scenarios that illustrate the power of this concept and its application to a growing number of educational programs. In terms of educational delivery, almost any place can become an education center. With even a minimal personal computer and a modem, students can log on, download an assignment, exchange messages, upload a completed project, and go on about their business. People can join any of the available WCC programs from personal home computer systems. Students in small schools with even one computer will now be able to join classes held nationwide to access subjects not available locally.

The WCC library is never closed, and although the faculty and counselors keep business hours for "real time chat," WCC students can leave questions whenever convenient, and return later for personal, written replies responsive to individual needs.

Employers will have more options, including customized workplace training that can use

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individual employee workstations or common sites where each student "logs on" at a time most convenient to those involved. The savings from educational travel that is no longer required will be enough to persuade many companies to provide tuition reimbursement through this medium for all types of study programs. Home study becomes a much more attractive option, making the most of the telecommuting policies that growing numbers of U.S. firms are implementing to permit employees to work from home.

For the college there are obvious advantages in savings for facilities and lower costs for on-line delivery of programs. For example, faculty development can now be carried out on a continuous basis, with discipline experts on one campus in touch with world experts using on-line email, private forums, public "events," or structured exchanges one-on-one. Faculty with no local colleagues with whom to discuss developments in pedagogy or the latest discipline developments can now be part of a global link with colleagues having similar interests. Programs linking colleges offering specialized programs, including internships and travel, can now be staffed and conducted more affectively and effectively.

Through World Community College, education becomes truly a life-long learning process without the costs of travel and schedule disruption that are required when students and faculty must meet together in a single place and at a pre-determined time on a regular basis. Because all the necessary educational tools are available using this approach, the student has much more control and assumes a more personal responsibility for the learning process. The expectation is that on-line learning will become a preferred mode for many more people.

Other Considerations

Clearly, on-line learning, even in a full campus environment, will not be suitable for everyone. It is not meant to replace any of the modes of learning now being offered by any institution. The user costs for on-line work include some new expenses such as videotape rental fees and monthly fees for the on-line service. However, there are expenses for traditional study that should be included in any evaluation of total cost for the program. These include the costs of gasoline and depreciation for transportation, child care costs, lost time in travel or away from the job and family, and expenses for food, entertainment, or other related costs that are incurred while the student is on campus.

From the college perspective, there will be costs in development time for faculty and staff to convert or create curricula suitable for on-line delivery, as well as the cost of training faculty and staff in the use of this medium. There will be equipment cost and additional infrastructure costs for local area networks or other arrangements to bring faculty "on-line" if that is not already possible. However, these must be evaluated in terms of the gains in skill renewal, improved morale, greater productivity, creativity, access to educational resources, and avoidance of costs that would have been required to provide similar resources through alternative means.

Shaping the Future

For those who need better access or freedom from the constraints of time and place, World Community College will provide an innovative enabling option (perhaps the only option) to participate in an ongoing program of higher education that transcends constraints of time and place at reasonable cost. It will revolutionize the way people think about education and the way people learn, in the same way the computer has revolutionized the way people work.

World Community College is a powerful and expandable set of concepts and services upon which many current and future post-secondary education programs can be built. Using interactive techniques and the virtual campus, WCC combines the best aspects of self-directed study, freedom of choice, and personal responsibility without sacrificing the quality of education, technological or pedagogical leadership. Best of all, educators can reach colleagues and students at any time, any place in the world.

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1995 Curriculum & Instruction Abstracts

Dr. Laurie Culbreth

Dr. Elena Flom
Brevard Community College

Student Tracking and Retention for Success

Brevard Community College (BCC) is a four-campus community college located in Brevard County. Despite the demand of the local industries for a well-trained, technologically competent work force, 62% of first-time college students at BCC require some sort of remediation. **Student Tracking and Retention for Success (STARS)**, a curriculum developed in accordance with a Title III grant, has increased the preparatory course retention rates as well as the reenrollment rates of the underprepared students through computer assisted learning laboratories, mentoring, and faculty development.

STARS has three objectives: (1) to implement an effective student mentoring and intervention program, (2) to establish two Computer-Aided Instruction Labs, and (3) to expand faculty and program development opportunities.

The backbone of the project is a comprehensive student data base, built to identify and track underprepared students. The data base is capable of tracking students for ten years. The at-risk students are encouraged to take SLS 1101 where they are given the opportunity to work with mentors. Mentors have access to student information and institutional programs, facilities, and policies. This information access has been accomplished by upgrading the mainframe computer. Each mentor is provided with a desktop terminal connected to the mainframe computer which can access each student's academic history, his or her current schedules, and other relevant information.

Students enrolled in preparatory courses on the Melbourne Campus may work in a sixty-station Computer-Aided Instruction Laboratory (CIA) with a myriad of educational software packages for remediation in reading, writing, math, and the CLAST. Studies related to the fall of 1993 show that preparatory course completion rates were greater for CAI students than non-CAI students. Furthermore, student-retention studies of the 1993 fall semester show that 79% of underprepared students who enrolled in SLS 1101 returned for the 1994 spring semester while only 63% of the underprepared students who did not take SLS 1101 reenrolled for the spring.

In order to provide faculty development, Title III also sponsors computer training classes and workshops for the instructors. Some on-campus workshop topics include **Enhancing Student Learning in Your Classroom, Winning at Math, Multimedia in Your Classroom, Constructing a Better Test**, and **Diversity: Today's Changing Student Population**. Title III also funds curriculum projects for faculty who wish to customized their own instructional projects. Faculty are supported in their efforts with release time or overload pay, and they are provided with a computer and the necessary software. As a result, seventeen projects in many disciplines were funded for the spring term in 1995.

For more information contact Dr. Elena Flom, Associate Vice-President, Institutional Advancement & Title III Director, Brevard Community College, 1519 Clearlake Road, Cocoa, FL 32922, (407) 632-1111 ext. 65524

Donald Maser
Miami-Dade Community College

Service Learning in Environmental Education — Conviction of the Heart

The Wolfson Campus at Miami-Dade Community College is situated in downtown Miami. Since the campus boarders the coastline and is central to many state, county, and city parks, it is ideally located for environmental education activities. As a result, **Service Learning in Environ-mental Education** has been developed which is offered to all students on campus.

The goal of Service Learning is to raise the students' awareness of the environment. Students enroll in courses which engage them in responsible and challenging actions for the common good of the community. The program identifies environmental needs within Dade County and contacts the agencies which can coordinate with the college. (Some of these agencies include the Dade County Park & Recreation Department, the Biscayne Nature Center, The Center for Marine Conservation, and Captain Dosh, a licenced coast guard captain). The students provide a variety of services. For example, they may spend the day picking up garbage along the beach, or they might work with a supervised guide from The Center for Marine Conservation tracking and marking nesting grounds of the coastal sea turtles. The students learn about the environment and its inhabitants as they work with their supervised guides.

Materials and equipment for these

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ervice learning activities are provided by the community's business organizations. No costs are incurred by ther the college or the participating udents. The businesses provide the aff and volunteers who train, supervise, and work with the students.

When students complete the program, they have a greater awareness f and appreciation for their environent; they have developed skills rough hands-on work experiences; ey are able to explore career opportnities; and they have been provided ncreased opportunities for critical inking about controversial environental issues.

This program provides a working artnership between college students nd community agencies. This coordiated effort greatly impacts the stuents, the community, and the colge. Through a process that recogizes varying regional circumstances, ervice providers can be matched vith service needs anywhere.

For more information contact Donald M. Maser, Assistant Professor, Department of Natural Sciences and Mathematics, Miami-Dade Community College — Wolfson Campus, 300 N.E. 2nd Avenue, Miami, FL 33132

Rosemary Davenport & Dr. Joseph Howell
Gulf Coast Community College

Human Anatomy and Physiology: A Visual Tour

Located in the Florida Panhandle, Gulf Coast Community College serves Bay, Gulf, and Franklin Counties as well as Tyndall Air Force Base. The college currently accounts for 8,000 credit students and 25,000 non-credit students. The college also runs one television station and two radio stations.

In the Human Anatomy and Physiology Department, the faculty members have found a balance between traditional instruction and new technology. This balance is accomplished by a network of collaborative partnerships within the institution. Academic experts (with strong backgrounds in the co tent of their chosen fields of study) are joined with technology specialists (who are knowledgeable in multimedia authoring and the pedagogy of academic computing). The result of these collaborative efforts is a new curriculum entitled **Human Anatomy and Physiology: A Visual Tour** which consists of a number of computer software packages. These software packages include an interactive video disk exercise called "The Visual Tour of Human Anatomy" — a multimedia tutorial entitled "The Urinary System" — and a drill and practice tool identified as "The Anatomy Quiz Practice Examination." Specifically, students planning careers in nursing, dental hygiene, dental assisting, emergency medical technology, paramedic respiratory therapy, and radiological technology use the programs. Pre-medical, pre-dental, pre-psychology, and pre-biology majors also are among those A.A. degree-seeking students using this instructional tool.

The development of the software packages was three-fold. First, a disk containing 54,000 slides related to human anatomy and physiology was given to the computer-based instructional specialist who built a computer program to overlay and control the video disk. The finished product was submitted to the Success Center so that students could work individually with the program. In the second phase of the program's development, numerous images from the anatomy and physiology textbook were scanned (with the publisher's permission), and a windows-based computer program was designed to serve as a tutorial. Students saw the images from the textbook along with detailed notes from previous lectures, and through hypertext (hot words) the students reviewed class lectures and assignments at their own convenience. Finally, the program coordinators created a simulation program so that students could learn how to work with a microscope. This program now allows students additional practice time without actually being in the laboratory. This program has been particularly helpful to the students since there are some students who require more time than is allotted in a designated laboratory. The availability of these computer-based materials in a central location which is open nearly seventy hours each week is convenient for virtually every science student. The curriculum is structured in an attempt to provide the students with much needed practice and repetition.

For more information contact Rosemary Davenport or Dr. Joseph Howell, Gulf Coast Community College, 5230 West Highway 98, Panama City, FL 32401, (904) 769-1551

Helen Clarke & Eileen Oswald
Valencia Community College

Strategies for Successful Writing Across the Curriculum: Here's the Beef

Valencia Community College is a comprehensive multi-campus college serving over 50,000 students in Orange and Osceola Counties. The college is dedicated to the premise that quality educational opportunities are necessary to bring together diverse social, ethnic, political and economic forces. With this in mind, Valencia Community College (VCC) offers a wide variety of programs and services which supports the students' academic and personal development.

At VCC, instructors of all disciplines are aware of the research that shows the symbiotic relationship between writing and thinking. Research also shows that when the process of writing is implemented in a specific content area, that discipline unfolds, and students understand the intricacies of a discipline through writing about it. The thinking-writing connection allows the students to define the relevant nature of the course content. Two English instructors at VCC also acknowledge these research findings and have designed a curriculum for a variety of content areas which presents classroom-tested instructional techniques and models appropriate to critical thinking and writing experiences. This program, **Strategies for Successful Writing Across the Curriculum: Here's the Beef**, helps students incorporate critical thinking skills and writing experiences in their course work. In this process, the students also develop a

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working vocabulary in context so that it becomes a part of the students' proficiencies in the subject areas.

Included in this curriculum are sample techniques to teach effective writing within specific disciplines as well as instruments which instructors can refer to when they need to evaluate the writing samples in a quick and efficient manner. Instructors can refer to the workbook, **Strategies for Successful Writing Across the Curriculum**, to select sample techniques for writing assignments. Some of these techniques include entrance/exit questions on past lectures or assignments which might take as little as two minutes of class time or span a two-hour examination period. For example, a physics instructor can refer to the workbook and develop a thought/theory question which might require the students to trace the source of power from the sun to an electric razor. Another strategy in the workbook, applicable in various content areas, suggests "A-ha" moments which allow students to crystallize concepts through discovery techniques. The workbook, also on computer disk in WordPerfect 5.1, provides a range of concrete strategiesfor instructing, utilizing, and evaluating student writing across the curriculum.

Writing across the curriculum, a buzzword in the 70's, should be reality in the 90's.

For more information contact Helen Clarke & Eileen Oswald, 701 North Econlockhatchee Trail, Orlando, FL 32825,(407) 299-5000

Deborah Askren, RN/ARPN, MSN
Central Florida Community College

Health Care Career Camp for Minority Youth

Nestled among beautiful horse farms, Central Florida Community College is located in Ocala. The population served by the campus is increasingly diverse and totals approximately 6,000 students.

Each summer, the college assists in sponsoring **Health Care Career Camp for Minority Youth**, a program developed by a committee consisting of health occupations faculty, student support services staff, Project Future representatives, ten nursing students, and the staff from the Suwannee River Area Health Education Center. The committee meets bi-monthly for three months and coordinates the entire project. Nursing students are encouraged to take leadership roles in the planning and implementation of the project. The nursing students become camp counselors, and twenty at-risk junior high students who express interest in the health field are allowed to register for the camp.

The purpose of the camp is to promote health care careers and to assist minority youths in making the connection between the sucess in their current math, science, and writing skills and in their future career choices. Camp activities on campus include CPR certification, first-aid certification, participation in a mock 911 scenario, and dissection in the anatomy and physiology laboratory. The students also observe surgery procedures at Shands Teaching Hospital in Gainesville. Off-campus transportation is provided by the Central Florida Community College vans. Local businesses such as Winn Dixie, Hardee's and Target furnish the food and supplies for the campers so expenses incurred by the college are minimal.

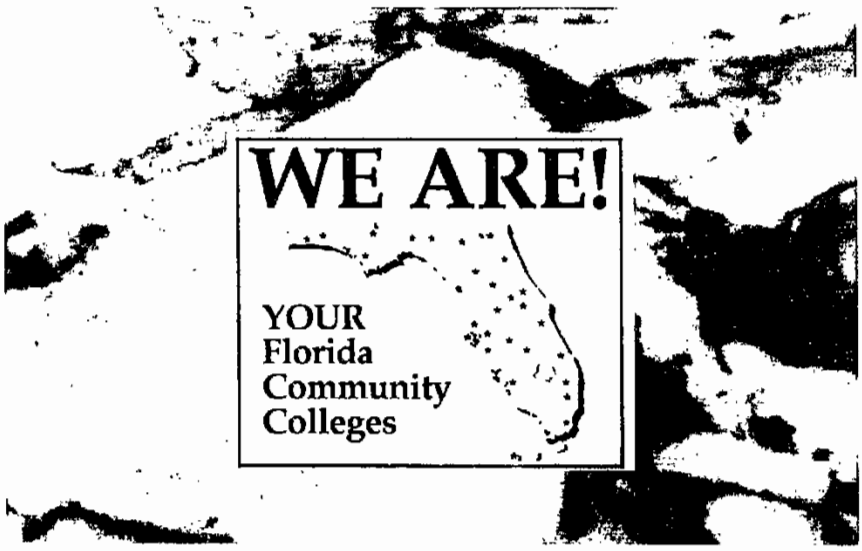
Health Care Career Camp for Minority Youth serves as a model for other colleges that want to promote the interests of at-risk junior high school students who may be interested in other careers like public safety, cosmetology, ecology, psychology, or computer science.

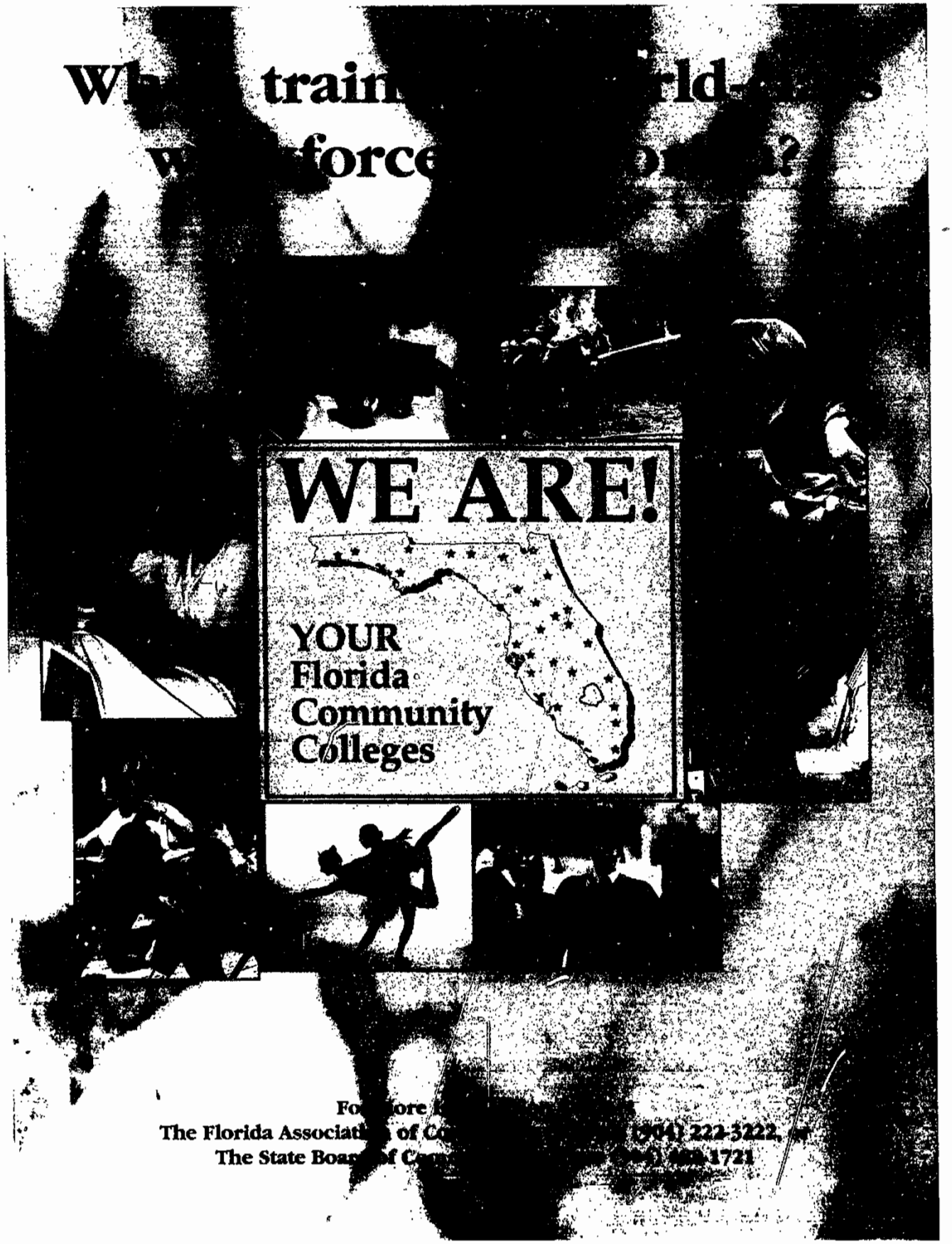
For more information contact Deborah Askren, Coordinator of Nursing Student Recruitment, Central Florida Community College, P.O. Box 1388, Ocala, FL 34478, (904) 237-2111 ext. 255.

VISIONS: The Journal of Applied Research for the Florida Association of Community Colleges is published twice annually. VISIONS reports on issues that have implications for Florida's community colleges. As such, **VISIONS** provides a professional forum for the exploration of issues endemic to Florida's community colleges; highlights research and practice in Florida's community colleges; and provides a proactive voice for the community colleges of this state..

VISIONS is published by the Florida Association of Community Colleges , 816 South Martin Luther King Blvd., Tallahassee, Florida 32301. Material intended for publication and other inquiries may be addressed to **Dr. James Wattenbarger,** Editor, **VISIONS**, Norman Hall #2403, Department of Educational Leadership, University of Florida, Gainesville, Florida 32611.

The articles and other information contained in this issue of **VISIONS** are also available through FACC-L, the internet Mailbox for the Florida Association of Community Colleges.





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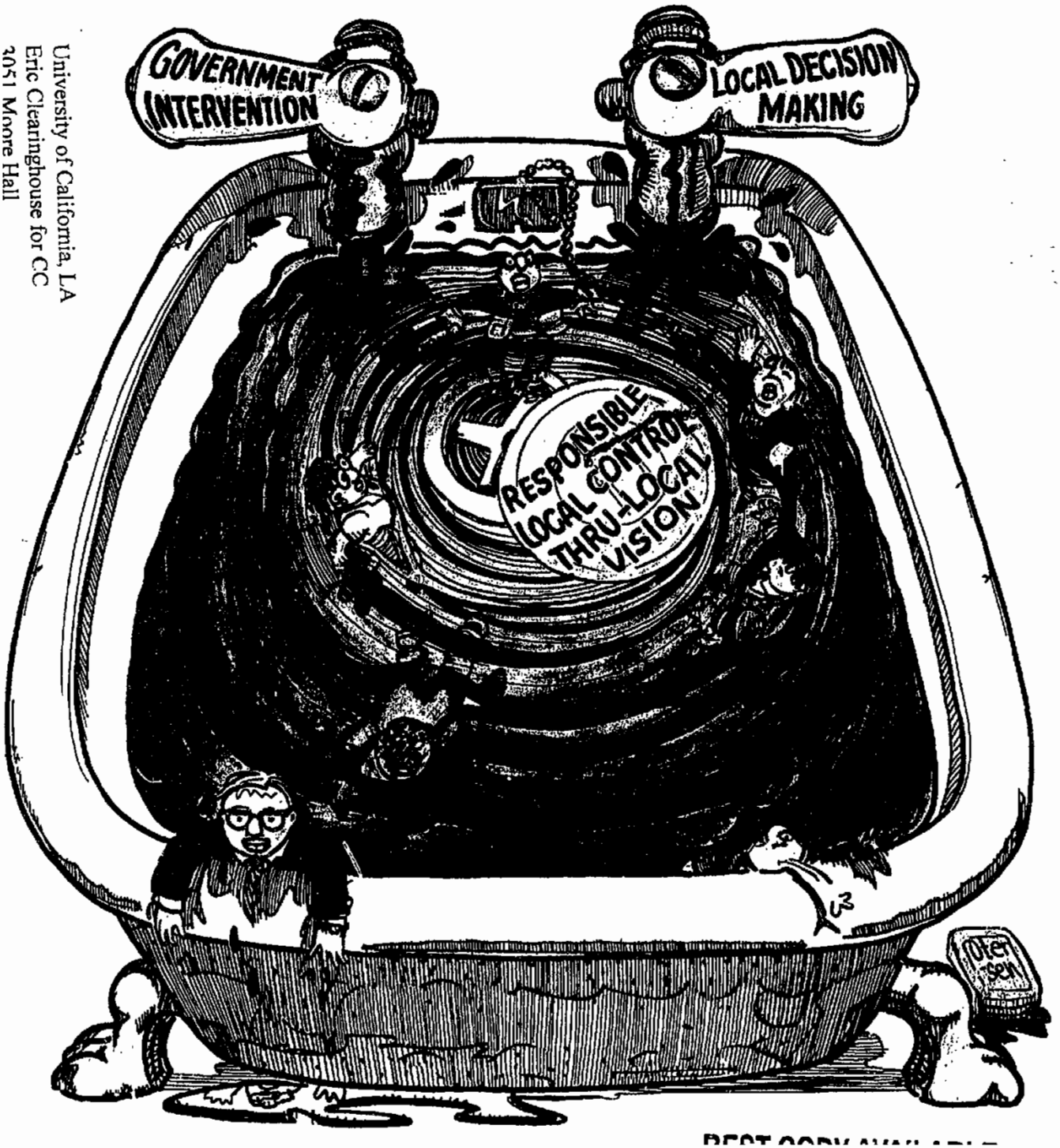

FORWARD

Gaius Bruce
1996 FACC President

This is the second issue of **VISIONS: The Journal of Applied Research for the Florida Association of Community Colleges.** The inaugural issue was published in the winter of 1995/96, and the demand for the inaugural issue far exceeded our expectations (and our budget for printed copies). Needless to say, the FACC Board of Directors is proud of this publication and extremely appreciative of those who have toiled long hours to ensure the publication's success.

Dr. James Wattenbarger, the "father" of Florida's Community College System, is the Editor of **VISIONS.** Without Jim's leadership, **VISIONS** would still be a dream. He has spent hundreds of hours reviewing and editing submissions, meeting with Editorial Board members, graphic artists and typesetters, proofing copy, and working with authors on revisions suggested by the Editorial Board. Joining Jim on the Editorial Board are FACC Executive Director Harry Albertson, David Armstrong, Howard Campbell, Tom Delanio, Burt Harres, Preston Howard, David Leslie, John Losak, Margaret Massey, Catherine Morris, Anne Mulder, Jeffery Stuckman, Larry Tyree and Theodore Wright. For Jim and the Editorial Board, the Journal has been a labor of love since their services have been donated.

Dr. Laurie Culbreth volunteered a number of Sundays to edit and proofread **VISIONS** and argued with Jim and Harry about subject/verb agreements, dangling participles, split infinitives, tenses, run-on sentences and the use of commas, semi-colons, colons, dashes, ellipses and virgules. It seems Laurie is insistent that the Journal should meet all the CLAST (College Level Academic Skills Test) Standards taught in our colleges' English programs, and Jim and Harry just don't agree with all the Standards.

Kathleen "K.T" Teague met with Kim Campbell from Graphic Visions on several occasions to help design the layout and illustrations. Preston Howard performed computer magic when one of the authors submitted a disk with a virus that went undetected when loaded into the Association's computers for conversion to a compatible format (whew!). Mary Lou Proctor spent four days formatting and correcting copy and stripping incompatible software codes from the disks submitted by the authors.

Lastly, I want to recognize the authors who submitted manuscripts for this issue of **VISIONS.** No doubt, each author spent countless hours doing research, formulating hypotheses, analyzing data, and preparing the manuscript for submission. Without their efforts, **VISIONS** would serve no purpose, and we hope that each author is rewarded by the publication of his or her manuscript.

Succinctly, **VISIONS** is a "TEAM FACC" effort, and the entire Association is grateful for each FACC Team member who contributed to the publication of this second issue of **VISIONS.** Enjoy!

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VISIONS

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THE FLORIDA ASSOCIATION OF COMMUNITY COLLEGES

The **Florida Association of Community Colleges (FACC)** is the professional association of Florida's 28 public community colleges, the Division of Community Colleges, their boards, employees, retirees, and associates. The mission of the Association is to promote actively, to represent democratically, and to support and serve the individual members and institutions in their endeavors to provide their students and the citizens of Florida the best possible comprehensive community college educational system.

FACC is governed by a 31 member Board of Directors, and the Association's administrative offices are located in Tallahassee, Florida. For additional information about FACC, inquiries should be addressed to:

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CONTENTS

A WORD FROM THE EDITOR

This is the second issue of VISIONS, and we hope the reactions will he as favorable to this issue as they were to the first issue. Several areas of research are included herein as well as some observations on the "state of being." We do need your attention, however, to a basic need for more research activities in the GREAT 28 and more reporting on the research that goes on in our institutions. We also need to describe the services that each college contributes to its community.

The historic mission of higher education has traditionally included the three functions of Teaching, Research, and Service. This has been true not only in the early European universities of the eleventh and twelfth centuries but also in the early American pre-Revolutionary colleges. It is even more true in present day higher education.

Teaching and Service

A great amount of emphasis has been placed upon the teaching function in the community colleges, and we have in some measure neglected the other functions as a result of this emphasis. However, recent attention placing an accent upon the services that are provided through the community colleges has resulted in an increasing attention to this function in colleges all over the nation. During the 1990s some leaders have envisioned an expanding responsibility for a multitude of service functions to he provided through the nation's community colleges. One example will be in the anticipated block grant programs that each state will administer. Florida's colleges will no doubt be a part of this emphasis since we are well prepared. President Clinton's recent emphasis upon attending a community college as a normal expectation for all citizens also adds emphasis to the responsibility

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FROM THE EDITOR CONTINUED

of community colleges to do a thorough job in the areas assigned to them.

Research

Of equal importance but often not as well identified are the research programs in the community colleges. Some elements of a research program have been carried out since the early establishment of these colleges. Leonard V. Koos provided attention to research in the community colleges with his studies in the 1920s, and a California research program was developed at Stanford in cooperation with the first junior colleges in that state with Walter Crosby Eells providing both state and national leadership. Our own Doak S. Campbell, President of FSCW and later FSU, encouraged research studies during his tenure as Executive Secretary of the American Association of Junior Colleges in the 1920s. C. C. Colvert and his colleague, James W. Reynolds, not only carried out research projects of great value to the junior and community colleges in Texas but to a number of other southern states as well. (Florida was among these.) When the *Junior College Journal* was edited by Koos and later Reynolds, a continuous flow of reports on research studies was authored not only by university faculty but also by community college faculty members.

Several national junior and community colleges' studies formed the basis for federal legislation and assisted in formulating the increasing emphasis upon the community colleges during President Truman's term of office and also under President Eisenhower's leadership. A notable researcher during these years was George F. Zook who chaired the Truman Report. Early state planning studies were carried out in research conducted under the leadership of George Stoddard and George Strayer. The attention given to state-level planning after World War II was characterized by the highly successful Florida Master Plan, a research study presented to the 1957 Legislature by the Community College Council that became the model for a number of other states as well as the blueprint for Florida. Research has been a major basis for improved practices in the community colleges.

Suggested Areas

There are many areas that need the continued attention of those who work in Florida's community colleges, areas which should receive the careful analysis and the professional examination that solid research provides. Let me suggest a few for your consideration.

1. Compare the student profile of your college in 1985 with a similar profile for 1996. What implications do these differences have for programs?
2. What percentage of entering students complete programs? What percentage take only one or two courses? What percentage transfer? To which institutions do your students transfer?
3. Reports on evaluation studies of various segments of the college operation.

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CONTRIBUTING AUTHORS

Dr. R. Bruce Judd has been associated with the Florida community college system since 1974. He served as a faculty member in the biological sciences for over 20 years at several Florida community colleges. In 1989 he completed his doctoral studies at the University of Florida, and since that time he has worked closely with both the Division of Community Colleges and Edison Community College to develop a local research capacity which focuses on the data available in state-mandated reports and databases. He has been employed by Edison Community College as a faculty member from 1980 to 1990 and from 1990 until the beginning of the 1995-96 academic year, he served as Director of Management Information Systems and Director of Planning and Institutional Research. Dr. Judd was awarded the "Dissertation of the Year" in 1989 by the Council on Universities and Colleges for his dissertation research. His research has focused on the economic impact of education on students and the application of technology in an academic setting. He currently is Instructional Technology and Distance Learning Officer at Mission College in Santa Clara, California.

The data for this study were graciously submitted by the Institutional Research staff at three Florida community colleges strategically located across the state. Special thanks are extended to Mr. Jerry Mock and Dr. David Hellmich for their assistance with this project.

Tyree

Dr. Lawrence W. Tyree has served as the President of Santa Fe Community College in Gainesville, Florida since 1990. He was formerly the chancellor of the Dallas County Community College District and President of Gulf Coast Community College in Panama City, Florida. In addition to a long list of community college national leadership roles, Dr. Tyree served as President of the League for Innovation in the Community College in 1995 and Chair of the Board of Directors of the American Association of Community Colleges in 1987-88. Dr. Tyree has published articles in the *Community College Journal*, *ACCT Trustees Quarterly*, *The Community Services Catalyst*, and the *Florida Vocational Journal* and also serves as a member of the graduate faculty at the University of Florida.

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Chappell

Dr. Susan Chappell is the Vice President for Student Affairs at South Arkansas Community College in El Dorado, Arkansas. She earned a Ph.D. in Higher Education in August, 1995, from the University of Florida where she was the second recipient of the Information Systems of Florida James L. Wattenbarger Community College Leadership Award. She has eighteen years experience in Florida's community college system, both in academic and student affairs. She is a lifetime member of the Florida Association of Community Colleges and has served on the FACC Board of Directors in various capacities, including membership chair and legislative committee chair. In 1989, Dr. Chappell participated in the National Institute of Leadership Development (NILD) LEADERS Program. She is also a member of the National Council on Student Development (NCSD), the American Association of Women in Community Colleges (AAWCC), and Phi Delta Kappa (PDK).

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Dr. David Marzak earned his baccalaureate degree at the University of Notre Dame with emphasis in social philosophy. He spent seven years as a middle and high school teacher of social studies and English in public, private, and parochial schools. Dr. Marzak earned his Master's Degree in political science education at the University of Florida where he also earned a doctoral degree in education with an emphasis on community col-

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CONTRIBUTING AUTHORS

lege planning and development at the Institute of Higher Education. Since earning his doctorate, Dr. Marzak has formed an international consortium of higher educational institutions in the United States and in Poland interested in community college development in Eastern Europe. He is currently an adjunct professor of political science at Durham Technical Community College and a full-time Director of the Institute for Democracy and Higher Education located in Durham, North Carolina.

Dr. Marshall W. McLeod is the Director of Institutional Research and Effectiveness at Pensacola Junior College and teaches American history. Previously, Dr. McLeod served Pensacola Junior College as Warrington Campus Academic Dean and Provost; he served as Dean of Instruction and North Campus Provost at Rappahannock Community College; he served as Assistant Dean of the Rockford School of Medicine of the University of Illinois; he has taught in the graduate school of Appalachian State University; and he has worked in Arkansas state government.

Dr. James L. Wattenharger is regarded by most historians as the "father" of Florida's Community College System. During his long and meritorious career in education, he has served as a high school teacher, an assistant principal, and as a university professor in Florida and several other states. From 1955-1957, he was the Director of the Florida Community College Council and during the following decade, he served as the Director of Florida's Division of Community Colleges and the Assistant State Superintendent of Education. More recently, Dr. Wattenbarger retired from the University of Florida after twenty-four years of service as a tenured professor and director of several of the universities higher education programs. Dr. Wattenbarger has authored several hooks on community college issues, is widely puhlished in educational journals and was recently bestowed the title **Distinguished Service Professor Emeritus** by the University of Florida and the Florida Board of Regents.

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Dr. Kamala Anandam is the head of the Division of Educational Technologies at Miami-Dade Community College. She has broad experience working with educators in the design and implementation of technological applications, with particular emphasis on the teaching/learning process and evaluation of outcomes. She has written several articles about the role of faculty, administrators, and staff in technological innovations and about the institutional environment that facilitates these innovations. She directs Project SYNERGY, a multi-institutional endeavor that focuses on technological support for underprepared college students in reading, writing, math, English as a second language, and study/critical thinking skills. Dr. Anandam holds a B.A. in chemistry and a B.T. in education from the University of Madras, India as well as an M.S. in child development and an Ed.D. in educational psychology from the University of Tennessee. She taught in the College of Education at Maryville College, Tennessee and Bethune Cookman College, Florida. She joined Miami-Dade Community College as a research specialist in 1974, was appointed Director of Computer-Based Instructional Development and Research in 1977, and became Associate Dean, Educational Technologies in 1987.

Dr. Maxwell C. King, District President of Brevard Community College in Cocoa, Florida since 1968, received his Bachelor's Degree from Auburn University and Master's and Doctorate Degrees from the University of Florida. Dr. King began his career in education as a teacher in Ft. Pierce, Florida. Active in many community, state, and national associations, he is currently Chairman of the Florida Presidents' Council Community College Technology Task Force, a charter member of the Board of Directors of the Public Postsecondary Distance Learning Institute, Charter Chairman of the Economic Development Commission, to name a few.

King

Dr. Tace Crouse received her Bachelor's and Master's Degrees in Mathematics from Shippensburg University of Pennsylvania and Ed. D. in Educational Leadership from the University of Central Florida. Having taught sixteen years in public schools and the community college, she has served the last six years as Dean of Instruction and Cocoa Campus President at Brevard Community College,

Crouse

Dr. Bernard R. Gifford is founder, Chair, and Chief Instructional Officer of Academic Systems, a four-year old Silicon Valley developer of learner-centered, faculty-guided and discipline-based, networked, interactive, multimedia, instructional materials for higher education. Former Vice President of Education at Apple Computer, Dr. Gifford served for six years as Dean of the Graduate School of Education at the University of California at Berkeley where he continues to teach as a member of the faculty in the Division of Education in Mathematics, Science and Technology Education. Dr. Gifford received his Ph.D. in Biophysics from the University of Rochester Medical School and did his post-doctoral studies at Harvard University.

Gifford

EXECUTIVE DIRECTOR'S COMMENTS

The Association began publishing **VISIONS** a year ago for three purposes: First, to provide a professional forum for the exploration of issues endemic to Florida's community colleges; second, to highlight research and practice in Florida's community colleges; and, third, to provide a proactive voice for Florida's twenty-eight community colleges. While all three purposes are viable and important aspects of **VISIONS**, only the first two are indigenous to most professional journals and publications. As a result, it is not surprising that the vast majority of submissions the **VISIONS'** Editorial Board has reviewed have been related to these first two purposes.

It is the third purpose, however, that separates **VISIONS** from most other professional journals and publications: that of providing a proactive voice for Florida's community colleges. Indeed, in the academic community we tend to view our research, practices, philosophies and theories as sacred endeavors that are not, can not and should not be influenced by the political processes that ultimately fund our institutions and provide the laws, rules and regulations under which each of our institutions must operate. Thus, a professional journal or publication that includes advocacy (proactivity) as a purpose is somewhat of an anomaly to the more traditional professional publications which are "free" from the pressures and concerns of political reality.

Unfortunately, behind every major legislative initiative there is some kind of research, theory or philosophy that is driving the initiative. Even more unfortunate, frequently the research, theories and philosophies that are driving these major legislative initiatives have not been subjected to the rigors of scientific thought that we would expect in an academic community. In fact, oftentimes these legislative initiatives are founded in the proclivities of individual legislators who have directed legislative staff (who may or may not have a background in research) toward very biased, and perhaps, false or suspect conclusions.

For example, the most common argument related to the "Time to Degree Bill" passed by the 1995 legislature was based on the fact that if some of the most prestigious universities in the nation could deliver a Baccalaureate Degree in 120 credit hours, there is no reason Florida's system of higher education can't deliver a Baccalaureate Degree in 120 credit hours. The second argument that pushed the passage of the "Time to Degree Bill" related to the fact that no significant differences could be found in the passing rate on certain licensure exams between students who enrolled in identical degree programs of varying credit hour requirements. While very appealing arguments on the surface, both of these arguments contain numerous "false positives" which were never brought forward during the debate on the bill because adequate research was not available to "uncover" or "unmask" the "false positives."

No doubt, most of the provisions contained in the "Time to Degree Bill" were positive for Florida's community college students. That does not negate the fact that the bill passed as a result of arguments that contained "false positives" that were not sufficiently challenged. We can do better! However, to do better we must be prepared with adequate research on issues which we know the legislature will address. For example, there is an assumption on the part of many legislators that distance learning technologies will ultimately save the state money in the delivery of postsecondary education. Another concern is the role of the community colleges in remediation which will continue to be an issue because of the costs associated with remediation, but only a few are asking about the costs to the state of Florida if the colleges do not provide remediation. On a related issue, some legislators argue that if Florida's colleges raise admission standards, high school students will automatically strive to achieve the new standards which will reduce the need for remediation. In terms of funding, Florida's community colleges are now provided with "incentive dollars" for each degree or certificate awarded; however, at least some legislators are concerned that no quality measures have been established under performance-based incentive funding to ensure the colleges do not become "diploma mills."

Ultimately, we can sit back and rely on the research, theories, philosophies and the proclivities of individual legislators and their staff to direct future policy decisions, or we can become proactive and advocate policy decisions that are based in research, theories and philosophies which we have subjected to rigorous scientific thought. The editors of **VISIONS** are hopeful of the latter and encourage submissions that are based in scientific thought and advocate positions that will enhance the ability of our colleges to serve their students and the citizens of Florida.

Local Control Through Local Vision

Lawrence W. Tyree with introduction by David M. Hellmich

Remember as a child watching the water drain from the bathtub; remember seeing the tiny whirlpool form over the metallic drain cover and grow stronger and stronger as the last few inches of water disappeared; remember wondering what would happen if you stayed in the tub too long — what if that tiny whirlpool grabbed your toe and sucked you down the drain, never again to see the light of day?

Over the years, most of us have overcome our fear of an emptying bath . . . or, at least, have switched to taking showers. Either way, this is one childhood fear we have put behind us. That is, perhaps, unless we are educators at one of Florida's 28 community colleges.

State mandates like performance-based program budgeting, redirection of non-instructional funds, and program efficiency measures are increasingly perceived on our community college campuses as a growing whirlpool of government intervention sucking local control down the drain. It is not that some of these mandates are without merit; it is more that the imposition of some of these mandates threatens to undercut a cornerstone upon which community college success has been built — the local community being empowered to work together to define its needs and to implement educational solutions to these needs.

Increasingly, community college faculty, staff, and students are turning their energies toward Tallahassee to keep legislators from imposing faulty mandates. As noble as these efforts are, they risk depleting community colleges of the local vitality essential for defining community needs and for enacting community solutions. As such, they risk contributing to the loss of community college local control. Efforts to influence Tallahassee must not eclipse local

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Last term I did something that was a true joy for me — on Monday mornings, I spent a few minutes reading to a class of kindergartners at Hidden Oak Elementary School. The first book I read to them, and their perennial favorite, was Dr. Suess' Green Eggs and Ham — you know the story: "I do not like green eggs and ham. I do not like them, Sam-I-am."

I'm sure some of you with young children or grandchildren or nephews and nieces can imagine the scene of 20 to 25 highly spirited 5-year-olds being read to by an old, gray-haired guy like me. Yes, there was some of the raucous behavior you might expect — Bobby pulling Jimmy's hair and Jimmy punching Bobby in retaliation. But, much more often there was innocence and expectation. The look of wonderment in their eyes! The excitement in their voices as they read along: "I do not like them in a house. I do not like them with a mouse. I do not like them here or there. I do not like them anywhere."

These children reminded me why I became an educator; they have helped sustain in me the genuine sense that what I am doing, what we are doing, is important, valuable, and wholesome and is worthy of our life's commitment.

These children also made me wonder

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ffforts to define, redefine, and implement local mission and ocal vision.

Santa Fe Community College is in the midst of a local ffort to define and redefine local mission and vision. The theoretical underpinnings of this effort can be found in the works f Margaret Wheatley and Peter Senge and have been captured at Santa Fe in the term "shared governence." Wheatley naintains that "tha best way to build ownership is to give over he creation process to those who will be charged with its mplementation" (1994, p. 66). Over the past year, academic ind support divisions, departments, and individuals have been isked to create (define or redefine) their missions and goals ind the relationship of these missions and goals to the larger urpose of the institution. Efforts are also underwey to link hese missions and goals to personal and institutional accountabilities.

At the same time, several College Forums have been held where faculty, staff, students, and the community have been invited to learn basics about the college's educational programs, support services, and operating budget; they have also been invited to share ideas and concerns on any topic. Such open sharing is consistent with Senge's contention that "visions that are genuinely shared require ongoing conversations where individuals not only feel free to express their dreams, but [also] learn to listen to [others'] dreams" (1990, pp. 217-218). Dialogue at early College Forums focused largely on the college's need to influence Tallahassee. Dialogue at more recent College Forums has shifted to local solutions to local problems. Initiatives in professional development, technology innovations, and distance learning have emerged as constructive strides Santa Fe must take to effect its future. It is hoped that Santa Fe's efforts toward "shared governence" are creating a synergy that Stephen Covey sees as "the essence of principle-centered leadership. . . . [which] catalyzes, unifies, and unleashes the greatest powers within people (1989, p. 262).

At the January, 1996, Faculty Planning Day Convocation, President Larry Tyree directed his remarks toward Santa Fe's efforts to define, redefine, and implament local mission and local vision. President Tyree delivered a similar address later in the term at the Career Service Planning Day Convocation. These following remarks reflect one institution's efforts to channel local energy inward so that the tremendous potential of this energy can reinforce local control through local vision.

The ideal Santa Fe, to me, is a true community of earners who work collectively [and] collaboratively to educate and train every student who walks through our doors — he it the actual doors of our classrooms and offices or the figurative doors of tomorrow's cyber classrooms and offices.

how Santa Fe will fit into their lives a mere 12 or 13 years down the road — what will they need from us — what will they expect from us — will we, will Santa Fe, be able to meet these needs and expectations?

I say all this because we have a responsibility today to prepare for these kindergartners, for these future Santa Fe students; I say all this because the essence of Green Eggs and Ham is experiencing change — how do we, how does this college, create and experience change so that we are, so that this college is, prepared for students next term, for students 12 or 13 years from now?

The protagonist liked the green eggs and ham once he tried them; all he had to do was try them to learn that he actually liked them. In this case, once he availed himself to the possibility, change was easy and good — albeit high in fat, cholesterol, and food coloring.

While rarely easy, change is a part of our lives at Santa Fe. Take the opening of the state-of-the-art technology building and the Institute of Public Safety — the difference those buildings have already made in the lives of our students; the difference those buildings have already made in our lives as professionals.

Take the soon-to-be completed James L. Wattenbarger Student Services building — what a beautiful and functional addition to this college; the difference that building will make in the lives of our students and in all of our lives.

Take the Board's interest in investing 80% of the college's Capital Improvement Fees in technology. This investment will enable us to acquire roughly 300 computers and network connections, giving more faculty access to e-mail and the network and upgrading more of our student labs; (I must add here that these faculty will also have access to the Internet!) — the difference all that will make in the lives of our students and in so many of our lives.

We know all too well, of course, that we are not delighted with all change. On the most profound and solemn level, take the loss of loved and valued colleagues — Ted Krsul, Richard Rosen, Nan Ward, John Dykes — the difference they made while with us and the void we feel in their absence.

On a much different level, although still an important level, take the reduced general education hours — the difference we are seeing in the enrollment in health and exercise courses and some humanities courses — the difference we may see in our graduates being truly educated citizens.

Take the state mandated new "College Preparatory Third Attempt Fee" where students are assessed as much as an additional $75.00 for having to attempt a preparatory course for the third time — the difference we are seeing in some of our neediest students being willing and able to continue on with their preparatory work.

Take the tightening of the purse strings by the state and the prospects that

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the tightening has only just begun — the difference that has made in faculty and staff moral.

We do not like these changes Sam-I-am; I know, I do not like them Sam-I-am!

Nevertheless, they are changes that we are dealing with at Santa Fe. They must not be changes that keep us from serving our students and our community.

How do we handle these changes? How do we handle "change" in general, the concept of "change"? How do we as a community of learners come together to be proactive in changing, evolving, transforming ourselves?

These questions are at the heart of the dialogue that began last term, a dialogue that will continue this term and one I hope will always be a part of us at Santa Fe. This dialogue took place at the College Forums, at Coordinating Council and Cabinet meetings, at Board of Trustees meetings and the annual Board Retreat, at College Senate and Career Service Council meetings, and at department and staff meetings. It took place through old fashioned face-to-face meetings and through networked computer-to-computer meetings. Via this dialogue, we are endeavoring to define who we are, what we value, and where we are going.

Yes, but — isn't this dialogue pointless since it is Tallahassee, not us, [which] is defining what we are and where we are going — regardless of what we may value?

No, this dialogue is not pointless. Tallahassee defines our legislative purpose very broadly; it designates some resource parameters; it restricts some of the strategic choices we would like to make — but to a large degree it is you and I, it is those of us here along with our students and the people of Alachua and Bradford counties who define who we are and what we value and where we are going. I applaud the efforts of the College Senate and Career Service Council in working to put forth a unified and proactive college voice. The dialogue in question will help our voice resonate clearly and crisply so that it can be heard above the clamor of so many other voices.

Before I try to capture where we are in this dialogue and where we go from here, I need to digress for a moment.

More than a few people have told me, some rather bluntly and others more tactfully, that defining who we are, what we value, and where we are going is my job — that all of this dialogue about mission, values, and vision is an inefficient use of everyone's time — that I am the President, and it is time for me to stand up and take charge.

Well, if I were inclined to be a Nikita Khrushchev, I would take my shoe off and start pounding on the podium, "We will bury student ignorance and apathy; we will bury legislative . . . whatever."

Anyone who knows me knows that is not my style, and I suspect that really very few would want that, or anything like that, to be my style. Still, for some, being a leader does translate into proclamations of vision. Briefly this morning, I want to share with you my vision for Santa Fe, and I want to tie this vision into the college's ongoing dialogue.

A vision statement is inherently utopic — it is an ideal toward which we constantly strive. We don't measure ourselves by how far we have fallen short of this ideal, but by whether we are doing the best we can to achieve it. I like to think that the ideal Santa Fe in my mind is quite similar to the ideal Santa Fe that was in the minds of everyone here that first day our doors opened in 1966.

The ideal Santa Fe, to me, is a true community of learners who work collectively, collaboratively to educate and train every student who walks through our doors — be it the actual doors of our classrooms and offices or the figurative doors of tomorrow's cyber classrooms and offices. We respect and trust each member of this community. Each of us devotes every ounce of our professional selves to uphold our responsibility to contribute to this community, and each of us is rewarded for our professional commitment. As such, fissures do not exist between faculty, staff, and administration [or] between different groups of faculty. As such, our students take with them our collective best and use this to improve society.

Idealistic, yes. Are we making progress toward this ideal? Again yes — which leads me back to the dialogue of who we are, what we value, and where we are going, and why this

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A vision statement is inherently utopic — it is an ideal toward which we constantly strive.

Meaningful dialogue is the only way we can come together to create and share a collective vision for Santa Fe — not my vision — our vision.

dialogue is so important to us as well as to those kindergartners I mentioned earlier.

Please note that this dialogue is in every way consistent with my vision for Santa Fe. How can we possibly work collectively, collaboratively without everyone having genuine input into the process of defining who we are, what we value, and where we are going? How can we possibly respect and trust each other if we don't talk to one another and don't listen to one another? How can we bridge fissures if we don't know how what each other does contributes to the greater good of Santa Fe Community College? Meaningful dialogue is the foundation upon which my vision is built. Meaningful dialogue is the only way we can come together to create and share a collective vision for Santa Fe — not my vision — our vision.

Yes, but — isn't this dialogue in reality pointless since it is really no different than past so-called dialogues where widespread input was gathered only to have the long-held agendas of a few dictate policy and practice?

No, this dialogue is not pointless. The term "shared governance" emerged from the College Forums as an initiative we must pursue. In my mind, shared governance means that everyone has the opportunity to provide genuine input; this input, in fact, is used in decision making; and everyone has the opportunity to learn why decisions turn out as they do. It is my responsibility to make sure this dialogue is legitimate; it is everyone's responsibility to contribute his or her voice to this dialogue and to make this voice as informed as possible; it is everyone's responsibility to try to see how the particulars of this dialogue advance the good of the college as a whole — to see how the good of the individual, of the department, [and] of the division contributes to our ability to educate and train every student who walks through our doors.

Idealist, yes. But, again, we don't measure ourselves by how far we have fallen short of this ideal, but by whether we are doing the best we can to achieve it.

Okay then where are we in this dialogue?

The College Mission Committee is currently working to incorporate last term's dialogue into a concise vision statement; their current draft, a draft everyone will have a chance to respond to, recognizes Santa Fe as a student-centered college continually exploring how best to serve our students and communities. Note the ideal of being "student-centered." This has always been a part of Santa Fe; it needs always to be a part of us.

Also note the ideal of "continually exploring how best to serve our students and communities." This has also always been a part of Santa Fe. I propose, however, that now is the time for us to rededicate ourselves to this ideal of "continually exploring" with a conviction perhaps like never before.

We must anticipate and meet the needs of those kindergartens, of the poverty-stricken residents of Alachua and Bradford counties, of local business, of students seeking 20th and 21st century modes of instruction. Yes, we will need to focus our resources; yes, we will need to have the fiscal savvy and level-headedness that will keep us financially strong so that we will always be able to anticipate and meet these needs. Yes, we will need to ask continually: "Is this the best way the cumulative resources of Santa Fe can be used to serve our students and community?" Yes, we will need to embrace our responsibility to seek continual professional and institutional growth.

In so doing, I have no doubt that some of these kindergartners and others will want and need exactly what we are offering today, exactly as we are offering it. I have no doubt of this because we do a darn good job! But I also have no doubt that some of those children and others will have needs that we cannot currently meet — that maybe some of our students or potential students this term, next term, have needs we are not meeting. We must accept the challenge of continually exploring how to position ourselves to meet these needs, of continually exploring what we can do and what we cannot do. We must accept the challenge of transforming ourselves.

Okay, where do we go from here?

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The College Mission Committee will be distributing revised statements of mission, values, and vision in the next week or two so everyone can have yet another opportunity to provide feedback. My hope is that a final, revised set of statements will go to the Board of Trustees in March so that during the ongoing dialogue we can use these statements as a compass to help keep us on course.

Often during the College Forums, people spoke about the need for professional development and technological innovation. Barbara Sloan is chairing a task force charged with developing a comprehensive professional development blueprint; Tim Nesler is chairing another task force, this one charged with developing a comprehensive update to the technology blueprint. Barbara and Tim will have forums to get input from everyone; they are also getting input directly from departments. These task forces have profoundly important jobs — my true hope is that when they have completed their work, every single person at Santa Fe will have had his or her say in regards to professional development and technology and that every single person knows where we are heading as a college and why this direction is consistent with our mission, values, and vision. No small task. No small reward if we are successful.

Other ad hoc task forces will be formed as needed to give us an effective and efficient means of continually exploring — of continually transforming ourselves so that when those kindergartners need Santa Fe, we will be ready to serve them.

In closing, there is such an abundance of creativity and dedication in this room — that is why Santa Fe has always been so good. The more we can come together and direct our energies toward a focused vision, the more we can come together as a community of learners and seek to change, evolve, [and] transform with this focused vision in mind. the more likely Santa Fe's "golden age" is before us, not behind us. I truly believe that, Sam-I-am; I hope that we truly believe that, Sam-I-am.

The more we can come together and direct our energies toward a focused vision, the more we can come together as a community of learners and seek to change, evolve, [and] transform with this focused vision in mind, the more likely Santa Fe's "golden age" is before us, not behind us.

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The Responsibility for Selecting a President

James L. Wattenbarger with an introduction by Harry Albertson

The evolution of Florida's Community College System began in 1933 with the establishment of Palm Beach Junior College as a public, two-year college. Palm Beach Junior College remained the only public, two-year college until 1947 when the status of St. Petersburg Junior College was changed from private to public and the Florida Minimum Foundation Program was enacted by the legislature which combined state and local support for public, two-year colleges. Subsequently, Pensacola Junior College was established in 1948 and Chipola Junior College, founded in 1947 as a private, two-year college, changed its status to a public, two-year college.

In 1955 the Florida Legislature established the Community College Council to study the development of a community college system in Florida which could be integrated with the state's secondary and postsecondary systems. The council published its report in 1957 under the title "*The Community Junior College in Florida's Future.*" The report was in large part based on the dissertation of a doctoral student at the University of Florida, James L. Wattenbarger, and it called for a system of thirty-one community colleges that would provide post-high-school education within commuting distance of 99% of the state's population. After approval by the State Board of Education and the appropriation of funds by the 1957 Florida Legislature to begin implementing the recommendations in the report, it became the blueprint or "master plan" for Florida's system of locally controlled community colleges. In 1972, with the opening of Pasco-Hernando Community College as the state's twenty-eighth community college (the original plan calling for thirty-one colleges which was revised when several districts were combined), the "master plan" was fully implemented.

Since the development of the "master plan" almost forty

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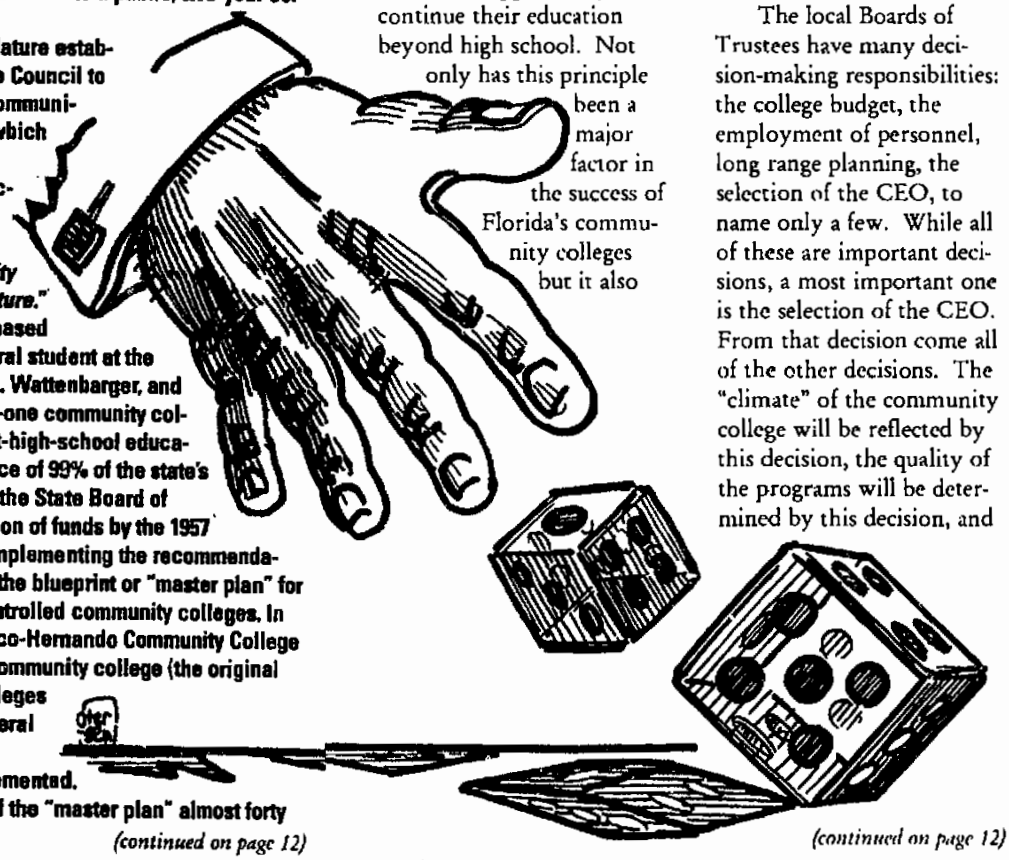

When Florida began the development of a community college system in the 1950s, one of the basic commitments built into the plan was the principle of local control with coordination at the state level that would assure all of the citizens of Florida an opportunity to continue their education beyond high school. Not only has this principle been a major factor in the success of Florida's community colleges but it also has been a notable contribution Florida has made to other states as a model: a system of community colleges, locally controlled and operated by local Boards of Trustees coordinated at the state level by a Board that provides leadership as well as assistance with the legislature.

The local Boards of Trustees have many decision-making responsibilities: the college budget, the employment of personnel, long range planning, the selection of the CEO, to name only a few. While all of these are important decisions, a most important one is the selection of the CEO. From that decision come all of the other decisions. The "climate" of the community college will be reflected by this decision, the quality of the programs will be determined by this decision, and

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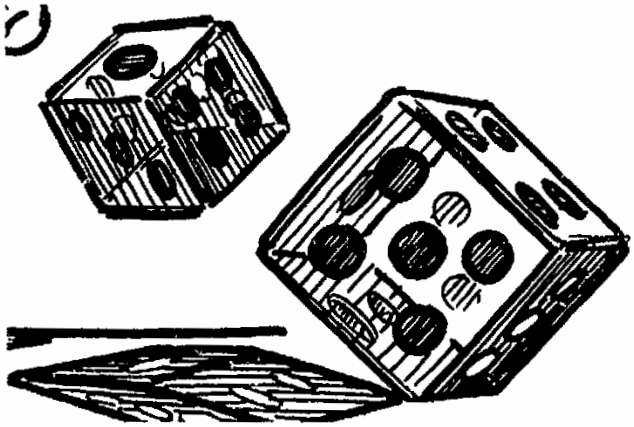
years ago, Florida's community colleges have enjoyed relatively little turnover in the system's leadership. In fact, the system has had only three executive directors (and one interim) since 1957 and most of the system's twenty-eight community college presidents have served ten or more years as college presidents, much longer than the national average of approximately five years.

There is no doubt that this reletively constant and stable leadership has contributed to the system's achievements, continuity and recognition as the "very best community college system in the nation." Nevertheless and largely as a result of a significant number of retirements during the past two years, six community college district boards of trustees in Florida have just completed searches for new presidents, and four are in the process of searches for new presidents. In addition, two presidents in the state have just announced their retirement effective during the next year and at least five more are eligible for retirement. Thus, over a three-year period, more than one-half of the system's leadership will change, and between six and ten individual collage district boards of trustees will be engaged in simultaneous presidential search processes.

This is an alarming turnover of leadership especially in a system that has enjoyed continuity and stability for nearly two decades. It also presents a new challenge for district boards of trustees in Florida who are unaccustomed to the presidential search process. To aid these boards who will be engaged in a presidential search, Jim Wattenbarger has prepared this "primer" on the presidential search process. His insight is based on his collective experience as a consultant to numerous boards of trustees engaged in the presidential search process; however, considered by most historians as the "father" of Florida's community college system, his insight is offered not without prejudice for the continued continuity of a system whose most important governing aspect is local control.

Some will want to "make the choice without interference" while others will prefer to be told what is "best."



the public image of the college itself will be based upon this decision.

Since the Board is usually comprised of a variety of individuals who were selected to represent the community, there will he a real diversity of experience in making this type of a decision. Some will be accustomed to selecting personnel while others will have little or no experience in the employment of personnel. Some will have a clear understanding of qualities needed for leadership in an educational institution while others will want to impose "business" principles into this decision-making process. Some will want to "make the choice without interference" while others will prefer to be told what is "best." Throughout all of this, many Board members will not find the process very enjoyable or entertaining.

Fortunately, most Boards are not faced with this decision more than once during a member's tenure unless the Board member is appointed over several terms. Even then, Florida's community college presidents have normally remained in their positions much longer than the national average which is around five years.

GUIDELINES TO ASSIST BOARDS

It is still very worthwhile, however, to consider some important guidelines to assist Boards in selecting a CEO for their colleges.

- The primary consideration is to define what the institutional needs may be and the leadership that is appropriate when a new president is required.
- A reasonable budget should be determined. An investment in a search is an investment in the future of the institution, and an adequate expenditure at the time of the search will cost the college less over the long run.
- Consultant help may be used, but the Board should never relinquish control of the process.
- A reasonable time frame should be established and followed, giving this process the highest priority.
- There should be a clearly stated understanding of procedures and organization structure that will be used.
- A process that assures a broad participation of those who are concerned is needed.
- A process that assures requisite confidentiality should be established.
- A process that assures timely, adequate, and honest communication must be established from the beginning.
- There is a basic principle for decision-making that should be followed in all the business activities of the Board. Decisions are always made by the Board acting as a operational body and never made by individual members acting alone. This decision is not an exception to that rule.

These guidelines are not very different from those which Boards usually should follow in their operational decision-making procedures, but they are focused upon this important activity — the selection of the president. Since this selection provides a Board with an opportunity to

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examine the college in a way that is seldom afforded, the initial activity should be to examine critically and carefully the "needs" and long-range plans of the college. A fresh vision, a clarified mission, a renewal of energy, a reaffirmed perspective: the opportunity for all of these presents itself at this point. Word from the outgoing president about dreams that he or she was not able to complete may be a place to start. A report from the college research office, consultations with the various constituencies of the college community—faculty, students, other administrators, staff, community representatives, local employers—all of these should be examined with staff help and/or with assistance of an outside consultant. From these conclusions should come a definition of the person who may be needed to provide leadership at this time.

A fresh vision, a clarified mission, a renewal of energy, a reaffirmed perspective: the opportunity for all of these presents itself at this point.

USING CONSULTANTS

There are for most Board members few opportunities to gain experience in the process of selecting a president. Most Board members feel ill-prepared for this important responsibility, and the tendency to turn to an outside consultant group to "take over and tell us who we want" may be very strong. And there are a number of consultant groups who will do this, for a fee. These groups often have a "stable" of applicants whom they know and whom they encourage to apply. These may include a number of outstanding potential presidents, but the consultant group has a built-in empathy for these candidates that includes a tendency to push them over others that they may not know as well.

Rather than employ a consultant group to "conduct a search" for the Board, consideration may be given to employing a single or a pair of consultants who will assist the Board in defining the needs of the college, verbalizing the presidential qualifications desired, and recommending the procedures to be used, the time frame to be established, and the assistance required at each stage of the process, especially the day-to-day activities to be followed. The Board should not expect the consultant(s) to carry out the search and to present them with a short list of potential candidates. The Board needs to be knowledgeable of all who are applying. If consultants are used, clearly stated agreements that define the consultants' responsibilities should be developed prior to employing the consultant.

THE SEARCH COMMITTEE

The composition of the "search committee" is a primary consideration. Adequate representation from all of the various groups in the college community is essential. The committee should not be unwieldy; broad representation but a controlled number of persons is desirable. The Board itself should appoint this committee and should also clarify the procedures, the responsibilities, and the report that is expected from the committee. Proper staff assistance to the committee will be expected with a budget to cover the specific costs of their work. Faculty and staff members should be relieved of other responsibilities as may be needed for this activity. Students should be selected on a basis that each one selected is willing and able to serve. Community representatives should be volunteers who are willing to serve. This committee is a critical element in the search process.

MEDIA RELATIONSHIPS

It is important that the Board anticipate relationships with the media and establish procedures for working with them. It may be impossible to close down the rumor mills, but providing information that is correct and timely in a fair and equitable manner will impair circulation of such rumors. A single spokesperson (it could be the Board Chair) should be selected, and discussions with the media representatives well in advance of any pertinent news should be carried out. Careful attention to these details should prevent later problem situations.

EVALUATION OF A PRESIDENT

If the Board has not adopted an evaluation process for the Chief Executive Officer, this task will provide a great opportunity to do so. A formal procedure for periodic evaluation of the president will assist in defining the criteria that may be used in the selection process, and it will

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assist the candidates in understanding what the Board expects from the college president. The review of the established procedure will refresh the Board members in their examination of potential candidates, or if no procedure has been established, the development of a new procedure will provide opportunities for Board members to clarify their responsibilities in their relationships with the new CEO.

INTERVIEWS

An essential part of the search process is the development of the list of those who will be provided an opportunity for personal contact with the Board. The written application provides information concerning education and experience that enables a screening process to be established, one that will hopefully provide a list of those who are the best qualified persons for the position. Background checks with personal contacts in those communities where the presidential candidate has demonstrated leadership are the next essential activity. The screening committee must not shortchange this part of the process. Often a visit to the community where the person is currently located is a necessary and essential part of screening activities. Prior to beginning their work, instructions to the committee as to the time for such visits is necessary as well as a suggested limit on the number of individuals who should receive this attention.

Interviews with the candidates are also essential. These, however, should be limited to a few finalists and should be carried out at the expense of the college. The Board, however, would be well advised to approach the interview process with some clear expectations. Some candidates through personal interviews have been able to convince their prospective employers in the past that they have the "best" potential but have failed to provide the required leadership in the position when called upon which may be the reason they are coming in for an interview at another college. Contacts with individual Board members in either formal or informal situations should be discouraged unless the Board itself makes arrangements for such contacts. The interview should be an opportunity for the candidate to determine whether or not this position is a good one for him or her as well, and ample opportunity for the visiting candidate to assess the community as well as the college must be provided. This means that interview schedules should be flexible enough as well as long enough to provide these opportunities.

THE FINAL DECISION

When careful procedures as discussed above have been followed and an individual has been selected, the final steps include the negotiations that will define the terms of employment. These include items related to finance such as salary, pension provisions, insurance, moving expenses, housing expenses, automobile expenses, travel expenses, and any provisions for entertainment responsibilities; items related to personal activities and vacation time, leaves of absence, and professional improvements; and items related to contractual agreements such as the starting date, length of appointment, conditions of termination, criteria of performance, and provisions for evaluation and review, as well as procedures for announcement of the appointment. The new chief executive will need time to inform those whom he needs to inform and the Board will need time to inform the other candidates of the final appointment.

SUMMARY

This brief discussion has pointed out a few of the considerations that Boards should understand when beginning the search for a new college president. Readers are encouraged to refer to the criteria that are outlined above. Board members, screening committees, and others who become involved in the process of presidential selection may want to examine some of the literature on this selection process and the attached reference list will provide a number of suggestions.

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The Expanding Role of Community Colleges in the Transfer of Technology to Their Districts

R. Bruce Judd

Florida community colleges were thrust into the Information Age during the late 1980's and the early 1990's. Since then each college has stretched its limited financial resources in an attempt to keep pace with the increased demand for "cutting edge" microcomputer training. A significant proportion of the cost is associated with providing the herdware and software platforms required to offer "cutting edge" training. This study is an analysis of over 13,800 registrations in introductory microcomputer skills courses at three participating Florida community collages. It attempts to determine if the population served by this type of course has changad due to the increased popularity of the microcomputer. In the past, the transfer of technology by Florida community collages was usually associated with one-year and two-year technical degree programs, short non-credit courses, and contract training. The results of this investigation indicate that over 75% of the students taking microcomputer skills courses are not enrolled in any of the traditional programs. These students are taking introductory microcomputer skills courses primarily to acquire or improve their overall microcomputer skills. The students in this group are pradominantly older than the average studant, enrolled part-time, and either non-degree seeking or pursuing a major in a field not requiring a formal computer skills course. The total number of enrollments in microcomputer skills courses at the participating institutions has grown dramatically (more than 18%) during the last three years while overall enrollments have grown at less than half that rate. The remarkable increase in the popularity and use of the microcomputer in business and acadamic programs have undoubtedly had a significant impact on the demand for microcomputer skills courses. Additional pressures have been placad on Florida community colleges from the recently expanded computer literacy requirements instituted by SACS, the regional accrediting agency for all Florida educational institutions. If the past three years are indicative of the rate of change in the level of demand for microcomputer training, Florida community colleges should be recognized for their role in transferring this economically vital technology to both their own student body and the local work force in general.

Historically, community colleges have been closely aligned with the formal and informal transfer of technology to the residents and businesses in their districts. The literature is replete with examples of community colleges serving as business incubators, sources of customized employee training, and sources for upgrading the skills of aspiring or employed workers. Katsinas (1994) provides an excellent overview of the literature pertaining to the role of community colleges in the economic development of their districts. Citing an earlier publication, Katsinas states:

> Katsinas and Lacey (1989) distinguished between traditional and nontraditional economic development community college initiatives. They characterized *traditional initiatives* as the vocational and occupational curriculums at community colleges designed to produce technicians to support a largely manufacturing-based economy....Katsinas and Lacey found *nontraditional initiatives* to be of a more directive nature, typically aimed at the jobs of an information age. (p. 68)

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The State of Florida provides funding for community colleges to offer traditional transfer programs, two-year vocational programs, remedial courses, and supplemental vocational courses through continuing education programs. Some community colleges also receive state funds for the delivery of postsecondary adult vocational and adult basic education programs in districts where the colleges have elected to provide these programs. With the exception of the continuing education courses, the majority of the state-funded technical programs at community colleges would be categorized by Katsinas as traditional. Many non-traditional initiatives at Florida community colleges are supported by state or federal grants (i.e. Institute of Government and Small Business Development Grants) and provide contract training for local businesses and government agencies.

These programs are popular and are expanding at most institutions due to the increasing rate of change in technology, especially in the area of general computer literacy. Several employer opinion surveys sponsored by FETPIP (Florida Education and Training Placement Information Program) indicated that employers were more likely to be satisfied with the job-related or "technical" skills rather than the basic skills brought to the workplace by employees who are recent postsecondary education graduates (Florida Employer Opinion Survey, Annual Report). Another employer survey in the greater Orlando metropolitan area (Occupational Needs Survey, June 1994) indicated that employers rated improved computer skills fourth when asked "what additional skills" are most needed by current employees. Twenty-one percent of the employers in the same survey stated a preference for training programs that are linked to college credit courses.

The vast majority of students at community colleges are employed within their community colleges' districts. Through their employment experiences they quickly become aware of the skills required by the service industry jobs which dominate Florida's economy. Changing faculty expectations of students' computer skills require students to keep pace with technology in order to succeed in the academic environment. As businesses and educational institutions implement ambitious plans to change existing computing platforms in response to the rapid pace of technological change, students, faculty, and employees of local businesses will be required to intermittently upgrade their microcomputer skills to keep pace with changes in technology.

Historically, community colleges have been closely aligned with the formal and informal transfer of technology to the residents and businesses in their districts.

PURPOSE

The purpose of this study was to determine if technology transfer via community colleges has had an additional component which is currently being overlooked. Are students who are not required to take a computer skills course taking these courses as a hedge against technological change? Are the investments that community colleges are making to maintain "state of the art" computer hardware and software in student computer labs paying off in new ways? Is the return on this investment in technology resulting in a more computer literate student and hence a more computer literate work force? This study examined the changes in the diversity of student demographics and majors within an introductory computer skills course over the last three academic years. It attempted to determine if microcomputer skills courses are being used by students, other than those students who are required to take the course. This investigation was initiated as a pilot project using data from three Florida community colleges. In order to establish the

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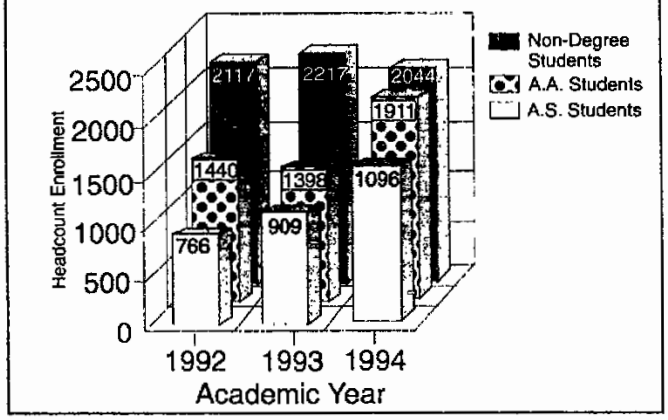
Table 1 - Total Student Enrollment by Program

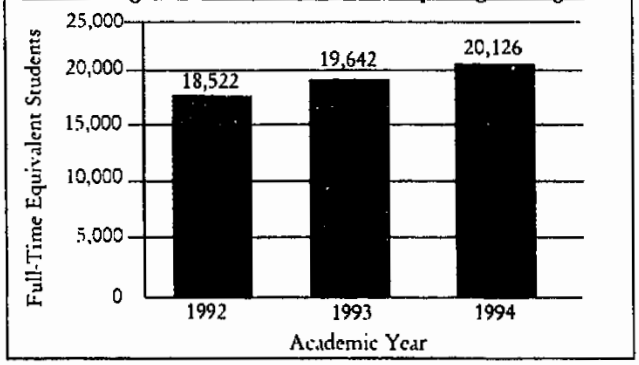


magnitude of any new relationship between technology transfer and all community colleges in Florida, a broader cross-section of community colleges may be required.

METHODOLOGY

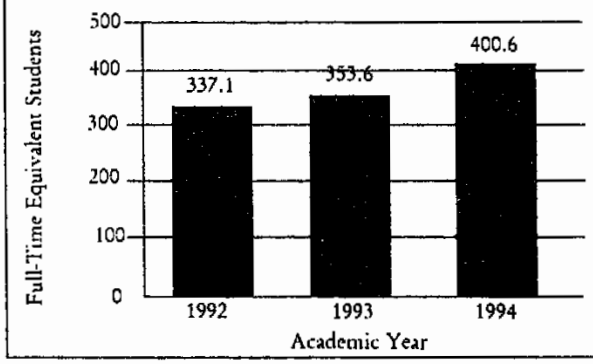
The data used for this study were extracted from nine semesters of course level data retained by the participating colleges in the format of the End-of-Semester Student Data Base required by the Division of Community Colleges. Course and student data were extracted from the Type 1, Type 4 and Type 6 records reported for all semesters beginning with Summer 1992 and continuing through Spring 1995. A total of 13,898 student course records were assembled and analyzed by year.

Figure 1
Total Assigned FTE for Three Participating Colleges



In order to determine if there had been a change in diversity of the types of majors pursued by the students enrolled in each college's introductory microcomputer skills course(s), it was necessary to borrow an analytical tool from the biological sciences. Biologists frequently use a calculation referred to as Simpson's Diversity Index to compare the diversity of species in different populations. For biologists, Simpson's Diversity Index quantifies the probability of selecting two individuals of differing species when randomly sampling the entire community. When applied to the population of students taking introductory microcomputer skills courses, the index reflects the probability of drawing two individuals with different majors randomly from the total population of students who have taken the course in any single year. The index value also reflects changes in the total number of students in each major area enrolled in the microcomputer skills courses.

Figure 2
Total FTE's Generated by Students Enrolled in Microcomputer Courses at All Three Colleges



RESULTS

This analysis tracked several characteristics of the cohort of students enrolled at the participating colleges in the microcomputer skills courses. The individual student's major (or lack of a declared major), student age, the total number of semester hours attempted by each student, and the total FTE's generated annually by all microcomputer skills courses were utilized as the principal tools for this analysis. These data are summarized in the graphs and tables included in this section. The total number of students enrolled in all microcomputer skills courses is displayed in Table 1. The data indicate a dramatic increase in the number of stu-

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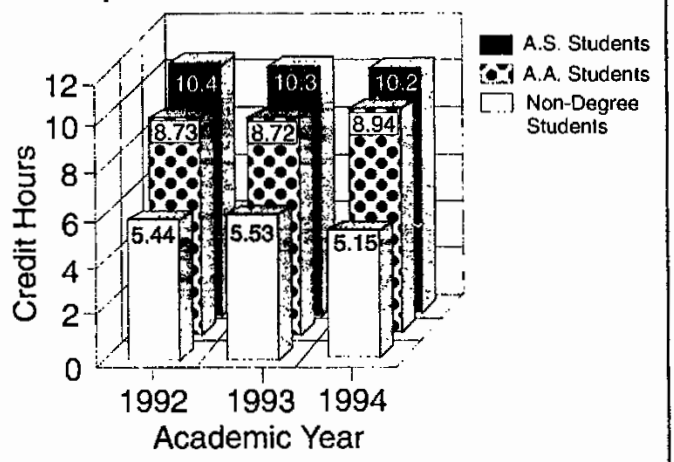
Figure 3
Average Course Load During the Term the Students Took a Microcomputer Skills Course



dents enrolled in A.S. degree programs as well as a dramatic increase in students enrolled in A.A. degree programs. The student cohort with the greatest number of enrollments annually were the non-degree seeking students whose numbers remained relatively constant during the three years examined in this investigation.

Figure 1 displays the sum of the total assigned FTE annually for all three participating colleges. Figure 2 displays the total number of FTE generated by all students taking introductory microcomputer skills courses. A direct comparison of these two graphs indicates a three-year growth rate for the microcomputer skills courses which is double the total growth for the participating institutions. Figure 3 and Figure 4 display the mean ages and average credit hour loads carried by each category of student enrolled in microcomputer skills courses. Note that the non-degree seeking students have the highest average age of all categories of students and the lowest average number of credit hours carried during the semester the students enrolled in microcomputer skills courses.

Finally, Figure 5 tracks the Simpson's Diversity Indices for each year of the study for both the A.A. and A.S. degree-seeking students. It should be noted that the diversity of A.S. degree students has remained relatively constant while the diversity is increasing slightly among the students pursuing A.A. degrees.

Figure 4
Average Ages for Students Taking Microcomputer Skills Courses

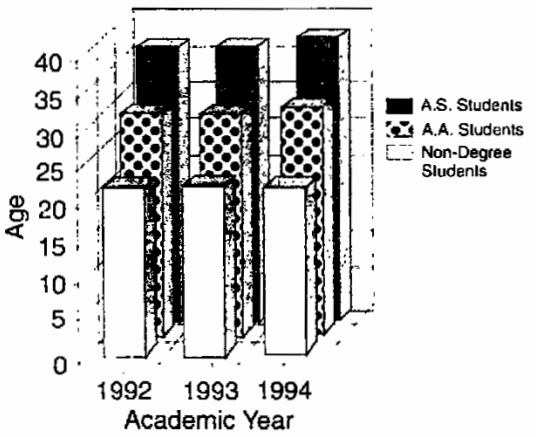
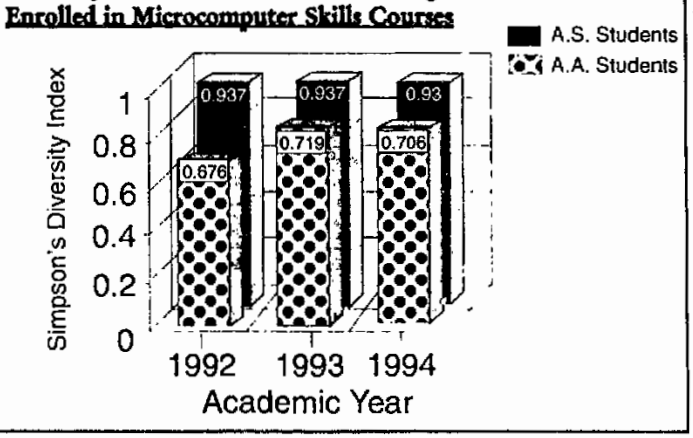


Figure 5
Diversity Indicies for A.A. and A.S. Degree Students Enrolled in Microcomputer Skills Courses



DISCUSSION

The investment component of postsecondary education has been widely recognized since the 1960's when Weisbrod (1964) enumerated an array of direct benefits which education provides to the student. He stated that one of the principal benefits was that education acts as a hedge against the "vicissitudes of technological change" (p. 17) and that "education may be viewed as a type of private (and social) hedge against technological displacement of skills.....New technology often requires new skills and knowledge;

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and those persons having more education are likely to be in a position to adjust more easily than those with less education" (p. 23). Community colleges have historically been one of the key components in the training and upgrading of skills in technical academic areas. Typically, some formal combination of courses directed at a specific academic goal has been the source for initial training in a technical field. A.S. degree programs and client-centered continuing education courses have been the principal means of transferring technical skills to the local work force. During the last 8-10 years, numerous changes in technology have impacted the skills required to obtain office jobs and technical positions in business, legal, and health care industries. The changes have placed increasing pressures on employees to retrain continuously and upgrade those skills which, in many instances, were initially obtained through the completion of community college degree programs.

Funding for the colleges is "flat" or declining while costs of maintaining appropriate microcomputer hardware and software are increasing.

The introduction of the microprocessor in equipment from personal computers to automobiles has increased the need for highly specialized skills even in entry level positions. In the academic environment, students are now required to utilize the resources made available through networks, electronic library card catalogs, wordprocessors, bulletin boards, or the internet. Access to many of these resources requires skills which demand extensive training to master even simple tasks. To make the situation even more intimidating, the tools needed in both the business and academic environments are in an evolutionary stage of development that is changing so fast that the skills gained on personal computers using DOS and a text-based interface are no longer applicable on a computer which uses Windows 3.1, Windows 95, or OS/2 Warp. This transition from text-based user interfaces to a graphical user interface (GUI) is only the first of many changes imposed on today's skilled worker and student. There is no apparent point of stability in an environment where the only constant is change! Workers in many skilled fields and students at all levels will need to intermittently upgrade their computer skills in order to just maintain a minimal level of productivity. Community colleges have always been a major contributor to the array of options from which most individuals have to choose in order to maintain their computer skills. Recently, community colleges have had a surge in the demand for microcomputer skills courses from all components of their institutions. Although some of the increased demand has come from students enrolled in technical degree programs, most of the increased demand has come from two other cohorts of enrollees in community colleges — A.A. degree students and non-degree students. Figures 1 and 2 indicate that total annual assigned FTE's for the three participating institutions have increased by 8.65% in the three years included in this investigation, and the number of FTE's produced annually by just microcomputer skills courses has increased by 18.84%. Microcomputer skills course enrollments are growing at a rate which more than doubles that of the institutions' total enrollments.

Enrollments in microcomputer skills courses have been increasing, especially among A.A. and A.S. degree-seeking students, at rates well above the overall increase in total enrollments.

It is not surprising that enrolling in introductory microcomputer skills courses would appeal to students in technical programs. Much of the numerical increase in A.S. degree majors (Table 1) enrolled in microcomputer skills courses can be attributed to changing priorities in the set of courses required for each specific technical degree. It is not surprising to see students in accounting, technology, business administration, computer science, or legal assisting programs taking microcomputer skills courses. Other programs are now requiring at least one microcomputer skills course prior to graduation. The accrediting agency for radiologic technology programs has recently changed its accreditation standards to

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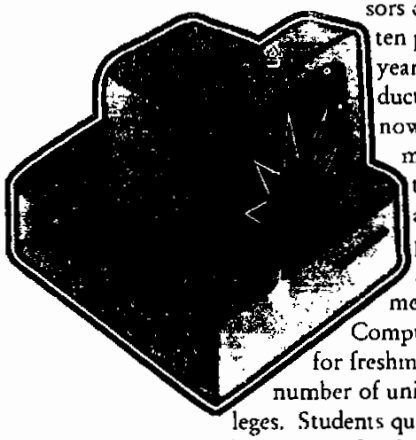
require a microcomputer skills course in every program. Even with changing degree and accreditation requirements, only approximately 20% of the total enrollments in microcomputer skills courses can be attributed to A.S. degree students. Figure 5 indicates a very diverse but stable set of majors is enrolling in these courses.

Students pursuing A.A. degrees who plan to transfer to a baccalaureate degree-granting institution also perceive microcomputer skills courses as being directly beneficial. Approximately 30-35% of the students enrolled in microcomputer skills courses (Table 1) are pursuing A.A. degrees. This stands as mute evidence of the importance of microcomputer skills to that cohort. These students are required to take a minimum number of "writing intensive" courses by state statute. Each of these courses requires 6000 words of written assignments during the semester. Documents created by students frequently include graphics, calculations, or tabular data. Faculty today expect documents created on word processors even more often than their predecessors expected typewritten papers just ten years ago. Even introductory science courses now commonly use microcomputers in the laboratory to analyze data and perform experiments using multimedia technology. Computers are required for freshmen at an increasing number of universities and colleges. Students quickly recognize that their current level of skills are not appropriate for today's academic environment. Therefore, the increase in the diversity (Figure 5) and the numbers of A.A. students taking microcomputer skills courses are not surprising.



Katsinas (1994) points out that "it appears that the most prominent role suburban community colleges play is to provide continuing education and skill upgrading for workers currently employed" (p. 72). One would expect that individuals who are seeking an upgrade of specific skills would take only those courses at community colleges that would provide them with a competitive edge in the work place. Other characteristics of this cohort would be that they are predominantly part-time students and older than the typical community college student. Figures 3 and 4 support these assertions. The age of the individuals categorized as non-degree seeking students in this analysis has a mean age twelve to thirteen years older than the mean age of those students pursuing A.A. degrees (see Figure 4). The average load for this cohort of students has been relatively constant or dropping during the period covered by this study (see Figure 3).

The headcount of the non-degree seeking students has been relatively constant for the same period of time (see Table 1). It is important to note that the number of seats in computer skills courses can be severely limited by fiscal constraints caused by a "leveling off" of total state funding to Florida community colleges that occurred during the 1991-94 academic years. The fluctuation of state funding will invariably impact the level of funds available to maintain high cost programs such as microcomputer skills courses. Another factor affecting the enrollment of non-degree seeking students would be the availability of open seats at the time they register. The students enrolled in the current semester have an opportunity to register first for the next semester. Students who enroll for just one course and did not take courses in the previous semester can register only for those seats left vacant after all currently enrolled students have completed registration. This practice tends to limit the number of seats available to non-degree seeking students attempting to enroll in popular courses such as the microcomputer skills courses.

CONCLUSIONS

The data used for this analysis highlight several important points which heretofore have not been previously recognized.

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First, enrollments in microcomputer skills courses have been increasing, especially among A.A. and A.S. degree-seeking students, at rates well above the overall increase in total enrollments. A consistently large proportion of the total enrollment in microcomputer skills courses (approximately 40-50%) can be attributed to older, part-time, non-degree seeking students. In all probability, this later group enrolls in these courses primarily as a hedge against the "vicissitudes of technological change." Many of these students undoubtedly utilize their newly-acquired microcomputer skills in the work place.

Second, the increasing diversity of the number and types of A.A. degree majors strongly suggests that students in fields not related to technology are recognizing the benefits of increased microcomputer proficiency simply to complete their education.

Finally, the rapid rate of change in both the microcomputer user interface and the sophistication of the software require additional training for students and workers alike. A large proportion of these individuals choose to acquire the necessary skills through the completion of college credit microcomputer skills courses. Florida community colleges are struggling to maintain pace with the changes in technology and increasing student demand. Concurrently, funding for the colleges is "flat" or declining while costs of maintaining appropriate microcomputer hardware and software are increasing. The increased cost can be attributed to a combination of increased demand and the additional costs associated with upgrading existing equipment and software.

Florida community colleges should be recognized for their significant contribution to the overall Florida economy through their transfer of technology to both future workers (A.A. and A.S. degree-seeking students) and current workers (non-degree seeking students). A fiscal mechanism designed to offset the required capital expenditures for technology should be available to the colleges. Florida community colleges should not be expected to shoulder much of the responsibility for maintaining a computer literate work force without the capital funding needed to meet employer expectations.

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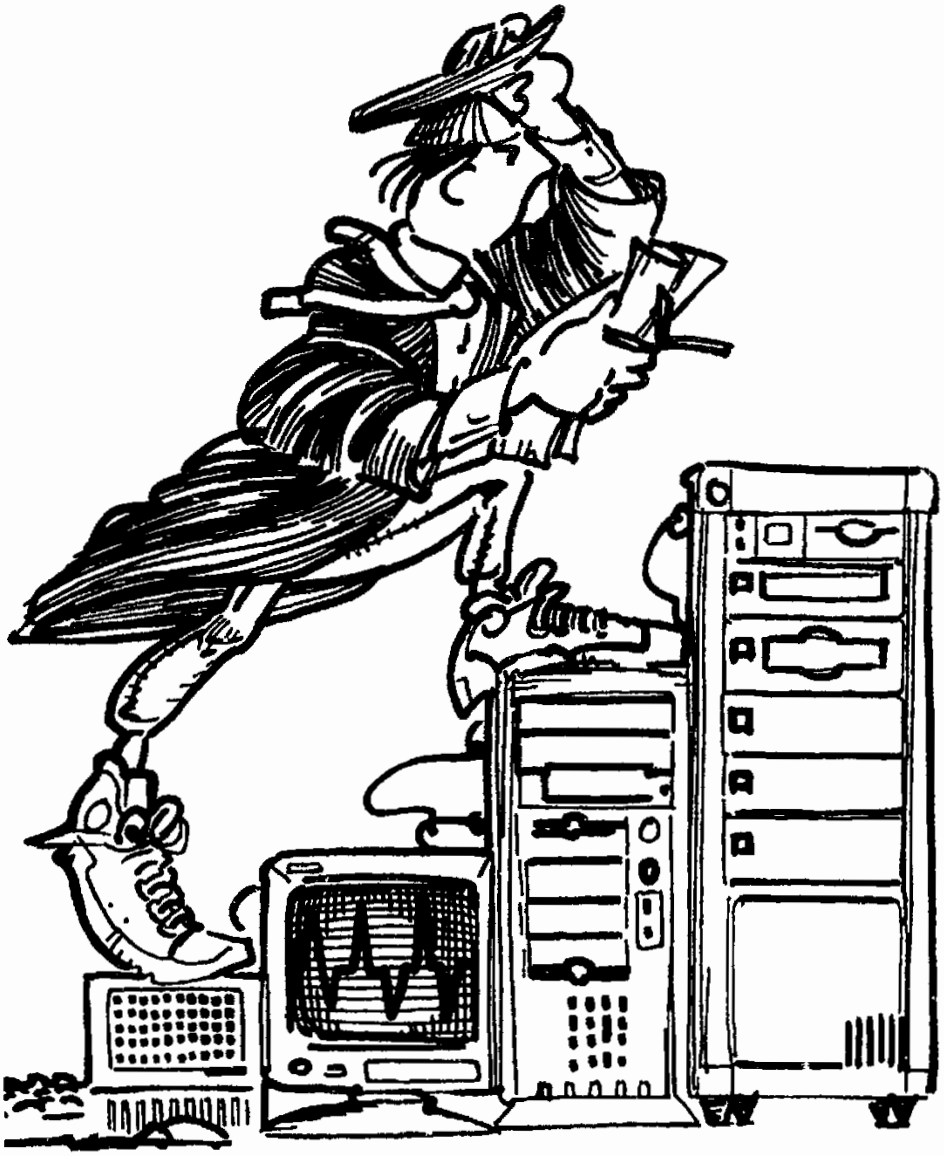
Students' Success: Does Technology Have a Place?

Kamala Anadam



Let me begin by explaining *why* I ask, "Does technology have a place in students' success?" From my perspective, the primary responsibility for students' success rests squarely on the students. An institution's responsibility lies in establishing an environment conducive to learning. And faculty members' responsibility lies in facilitating student learning. Herein lies the need for education to shift the focus from an instructional to a learning model. If in the past, faculty assumed the primary responsibility for student learning because they were the principal (and perhaps the only) disseminators of information, it was understandable. That assumption is no longer tenable with the advent of technological innovations such as cable television, Internet, and the World Wide Web.

More recently, institutions are being usurped by other agencies entering the arena. Yet educational institutions continue to conduct business as usual scheduling

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classes, contact hours, and semester boundaries. Legislators who insist on institutional accountability do not seem to recognize the need for variable funding based on variable situations. Under these circumstances, technology's potential to play a vital role in students' success is marginalized. Needless to say, the impact of technology on education is disappointing. Some might even say dismal. When we consider, on the one hand, the investment in large, computer-based, instructional systems and, on the other hand, the small modules produced by individuals (mostly faculty), as well as everything in between, we realize that millions of dollars have been spent to revolutionize education with technology. The outcomes in the teaching/learning process, however, are not anywhere close to our expectations.

The add-on cost of technology in the context of a financial crunch has prompted some educators to question its value; others are motivated to pursue an economic model which would reach out to masses (Distance Learning) through technology. Neither posture fully recognizes the role of faculty in transforming education with technology. Faculty hold the key to actualizing the potentials of technology. Relentless effort of the **pioneers** among faculty has brought us to where we are today. What we need now are the **settlers** who will establish the infrastructure in which the use of technology will become widespread. The **settlers** are what I call the mainstream faculty.

If the mainstream faculty hold the key but have not embraced technology for one reason or another, what should institutions do? Project SYNERGY has attempted to answer this question. The goal was to arrive at a comprehensive technological solution to address the needs of underprepared college students. Launched in 1990, the project has involved 500+ faculty in 32 institutions to participate in various activities: compiling a list of comprehensive learning objectives in reading, writing, math, ESL, and study skills/critical thinking; reviewing existing instructional software using these objectives; writing test questions to match these objectives; using software and evaluating the outcomes; helping in the design of an adaptive instructional management system, PSI, and pilot testing it. Each of these activities has contributed to faculty development and has helped the faculty understand better the potentials of technology. I refer the reader to the faculty case studies in Project SYNERGY's annual reports.

In this article, I would like to present what we have learned about using software and evaluate the outcomes. We recognized early on that technology has had a definite role to play in a comprehensive solution to address the issue of underprepared college students, but rather than focus on technology alone, the primary question we chose to address was "What combination of human and technological resources yields the best results?" Having examined several programs which include technology for remedial education, Cartwright (1996) observes that "none of these technology approaches is a magic antidote that will cure all the problems facing underprepared students. Still needed are assorted doses of human intervention in the form of guidance, counseling, and tutoring" (pp. 60-62).

Thus far, 33 faculty on M-DCC campuses, 5 faculty at three other Florida community colleges (Brevard, Indian River, and Okaloosa-Walton) and 10 faculty at other colleges (Richland College, TX; Bakersfield College, CA; and the University of Tennessee at Martin) have participated in evaluation studies. Our interest was to help faculty recognize their own internal frames of reference for using technology and consider evaluation as an instrument for change and not as a litmus test of good teaching. To this end, we followed Bloom's (Bloom, et al, 1971) formative evaluation mode. "Formative evaluation is for us the use of systematic evaluation in the process of curriculum construction, teaching, and learning for the purpose of improving any of these three processes. Since formative evaluation takes place during the formation stage, every effort should be made to use it to improve the process" (p. 117).

What combination of human and technological resources yields the best results?

The faculty who participated in the studies have expressed their beliefs in the potential of technology to help their students, but the faculty have also expressed

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their disappointments at the outcomes which do not match their expectations. In spite of their disappointments, some continue to explore better ways to incorporate technology in the teaching/learning process; others repeat what they did; and still others quit using technology. The dangers of quitting too soon because the results are not spectacular are real dangers in action research.

My observations over the last three years in conducting evaluation studies, include the following:

- It is the students' enthusiasm and motivation that win the faculty over to stay with the implementation of technology.

- Initially, the teacher-controlled classroom style is carried over to the SYNERGY Centers, but as faculty progress through several semesters, they seem to let go of the classroom style and let the students use the software and progress at their own rates.

- The more complex the software (as opposed to straightforward drill-and-practice), the longer it takes for the faculty to understand it fully and use it appropriately. As one faculty member put it, "Teaching a section of the same course as an overload requires less effort compared to exploring new software and integrating it with my curriculum." This additional effort could deter faculty involvement.

- Evaluation of student outcomes is perceived by some faculty as demanding, unnecessary, and in some instances, dictating the curriculum.

- Attempting to improve students' retention and success rate at the same time has yielded unexpected results. In some studies, it was observed that when retention rates were improved, the reverse was true for success rates. This result challenges the practice of having term boundaries for a course because some students may require less time while others may require more time to succeed.

- Students coming to college are different from one term to another, a phenomenon that warrants adjustments in the use of technology; otherwise, results tend to be inconsistent from one semester to another.

- Scheduling specific hours for the students to use the SYNERGY Center when a tutor is also present seems to hold promise for reducing the dropout rates and increasing the success rates. In this situation, each student is able to work with his/her own computerized personal tutor and also to receive the personal touch and encouragement from a human tutor when necessary.

- Training and support for integrating technology in the learning environment need to be provided on a long-term basis at the departmental level, and they should be discipline-based. I refer the reader to Project SYNERGY's annual reports for more information on faculty development.

- The individual who provides the training and support needs to possess good interpersonal skills, especially listening skills; to understand curricular requirements and faculty goals; to be knowledgeable about how the hardware/software

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Table 1
End-of-Term Grades for a Writing Course - ENC0020

Year Term	Campus	Group	N	Grade as Percent S	P	U	W	O
[illegible]	North	All	1031	42	30	8	14	[illegible]
92-1		Synergy	166	48	27	8	14	4
		Other	923	42	28	[illegible]	13	[illegible]
93-1		Synergy	188	50	29	8	12	1
		Other	867	48	28	[illegible]	13	2
94-1		Synergy	331	51	25	13	10	1
		Other	933	46	32	11	10	1
92-1	Wolfson	All	729	50	28	4	13	5
[illegible]		Synergy	51	61	27	—	8	4
		Other	651	50	31	6	9	4
[illegible]		Synergy	32	56	31	—	13	—
		Other	608	56	26	7	9	2

N = Number of Students
S = Satisfactory
P = Progress
U = Unsatisfactory
W = Student Withdrawal
O = Other Withdrawal

Table 2
End-of-Term Grades for a Reading Course - REA0002

Year Term	Campus	Group	N	Grade as Percent S	P	U	W	O
[illegible]	North	All	734	54	28	5	11	2
92-1		Synergy	43	40	26	12	23	—
		Other	921	52	29	9	10	2
93-1		Synergy	176	48	36	5	11	<1
		Other	933	48	31	8	11	2
94-1		Synergy	275	52	32	5	11	—
		Other	757	54	29	[illegible]	8	3

works; and to be skillful in conducting evaluation studies. We call this individual a Software Implementation Designer.

From an institutional perspective, we also compared the baseline data prior to incorporating technology with successive terms using technology at M-DCC. The results are presented in Tables 1 and 2 for writing (ENC 0020) and reading (REA 0002) respectively.

As can be seen in Tables 1 and 2, the results were positive for writing and not for reading. A variety of factors (faculty commitment to evaluate outcomes, availability of software, human assistance, curricular changes, administrative support, and the interplay between and among them) have, no doubt, contributed to the success. As Bloom (Bloom, et al, 1971) has said, "For research purposes, it may be important to disentangle this great variety of processes and experiences in order to determine what has influenced each student. We are interested in evaluation, however, as an attempt to describe, appraise, and in part influence the changes which take place rather than to analyze all the processes which bring them about" (p. 8).

Some of the faculty included in the SYNERGY group in Table 2 used the software **but did not engage in evaluation studies.** When we compared the data for those faculty who conducted the evaluation studies with other sections taught by the same faculty, the results were positive (see Table 3). This supports my contention earlier that formative evaluation is an instrument for improvement.

Table 3
End-of-Term Grades for REA0020

Year/Term	Campus	Instructor	Group	N	Grade as Percent S	P	U	W	O
93-1	North	A	Synergy	23	48	43	—	9	—
			Other	25	20	60	—	16	4
94-1		A	Synergy	24	42	46	—	8	4
			Other	27	37	30	—	22	11
		B	Synergy 1	26	42	54	—	4	—
			Synergy 2	27	37	52	—	11	—
			Other	27	33	63	—	4	—
		C	Synergy 1	27	56	33	—	11	—
			Synergy 2	29	59	28	3	6	3
			Other	25	48	20	8	8	16

N = Number of Students
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In conclusion, let me attempt to answer the question raised in my title, "Students' Success: Does Technology Have a Place?" My answer is a qualified "Yes," and here is why. First, my response stems from our work in developmental education, and it may or may not be relevant to other areas. Second, technological applications are tools, albeit complex ones, and a tool is as good as the individual who uses it, in this case faculty. Third, faculty need the time and support to understand the various technological applications as well as (and perhaps more importantly) the nature and ingredients of a learning model in order to use the tool proficiently and effectively. Fourth, faculty and administrators need to identify the traditional practices associated with the instructional models that are detrimental to realizing the benefits of technology and find ways to minimize or eradicate those practices. Kemp and McBeath (1994) present some questions along this line:

Are there courses that can be shortened to less than a normal 15-week semester length, while still providing the necessary instruction at present or even improved learning levels?

Are there courses that can serve a significantly greater student enrollment with the same or slightly increased instructional staff by modifying instructional techniques and using technological resources?

Are there courses, or parts of a course, in which students can take major responsibility for their own self-directed learning in a flexible manner with human assistance on demand, by using carefully designed learning modules?

Are there courses in which the instructor's role can be changed to that of a facilitator, guide, tutor, mentor, and evaluator of learning while working with students individually and in groups?

Unless the institutional aspects which lie outside of technology are addressed,

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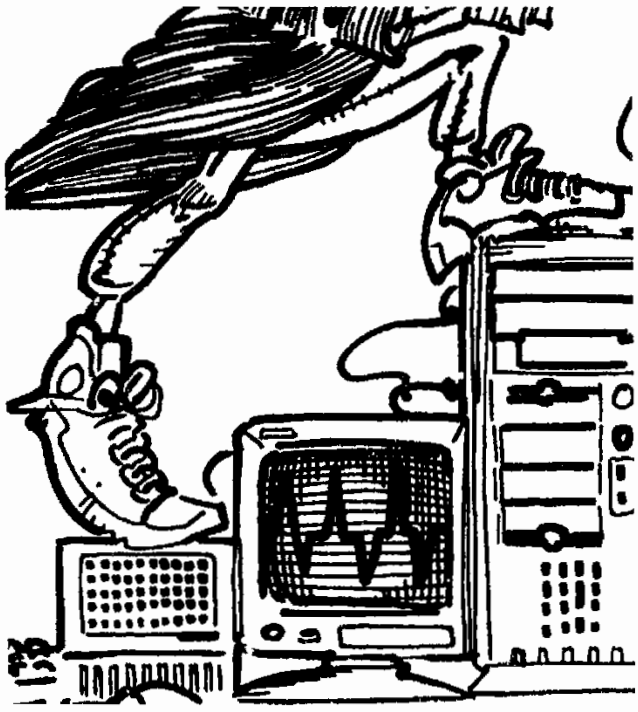
the benefits of technology will remain limited. A recent meta-analysis of 184 studies (Ely, 1993) that examined the effects of computer-assisted instruction (CAI), computer-managed instruction (CMI), and computer-enriched instruction (CEI) reports a small "overall effect...for the learning technologies over traditional instruction. While this is positive evidence in favor of computers in education, it does not realize the potential long promised by commercial interests and other proponents of computer-based instruction" (p. 53). Zemsky, the convener of the Pew Higher Education Roundtable, has claimed that institutions participating in the Roundtable are making a very important discovery, namely: "Technology is inherently expensive. Technology is not going to save them lots of money; technology is going to cost them money. And they're going to have to essentially change the way they do business to take advantage of the technology." We can hope to make the changes **only** if we remain engaged in using technology and help it to take its rightful place alongside faculty to contribute to students' success. Project SYNERGY has taken the first few steps in this direction.



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Why Do Many High School Graduates Require Basic Skills Remediation in College?

Pat Smittle

This research study was prompted by legislators who frequently asked, "Why do so many recent high school graduates need basic skills remediation when they enroll in college?" In an attempt to answer that question, the study analyzed academic records of recent high school graduates who enrolled in Santa Fe Community College. Specifically, high school courses and grades were analyzed to determine their impact on the need for remediation.

The findings show that many high school graduates with minimal graduation requirements are attending college. Moreover, most of the high school graduates with minimal requirements are placed into remedial work when they enroll in college.

The legislators may have only four choices if Florida is to maintain the commitment to provide postsecondary opportunities to all Florida citizens with high school diplomas. They can (1) raise high school graduation requirements to enhance college and workplace readiness, or (2) acknowledge that many students will graduate from high school with minimal skills, and the college preparatory courses in community colleges will fill the gap between high school graduation and college-level course work, or (3) provide no remediation and allow students to "sink or swim" in their college course work, or (4) lower college academic requirements to the level of underprepared students.

The American Higher Education System recognizes the diversity of the American population; therefore, the extensive system provides postsecondary education opportunities for students at all levels of preparedness. Universities with selective admission policies admit students with specific academic credentials while the community college system, with the open-door admission policy, provides access for any student with a high school diploma or GED, regardless of his or her level of academic skills.

The issue of college readiness of recent high school graduates who are accepted into college through the open-door admission policy and lack basic skills necessary to begin college-level work has become a major concern to Florida legislators, college leaders, and high school educators. These underprepared students require remediation at the community college before they can enroll in regular college-level courses. The *Readiness for College, A Postsecondary Feedback Report to Florida's Public High Schools and School Districts* (1995) showed that 42.6% of the 1994-95 college freshmen who graduated from Florida high schools the previous year failed to meet the state minimum requirements when they enrolled in college. On a local level, 63% of all 1995 Florida high school graduates who enrolled at Santa Fe Community College (SFCC) immediately after graduation failed to reach SFCC minimum requirements which were higher than the state minimum level. This number was slightly larger than the previous year (61%), reflecting a trend toward declining college readiness for this population of students. This problem supports the strong opinion of Morante (1989) who declared that a high school diploma does not necessarily assure basic skills competency.

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The problem of underpreparedness and the need for extensive remediation is causing Florida leaders to examine current educational policies and practices. This study was conducted to provide an objective overview of the current situation and to explore possibilities to maximize resources while providing access and quality education for Florida citizens. The study focused on the Florida high school graduation requirements, specifically on required courses and grades, and their impact on the need for remediation when students enrolled in the community college.

The situation regarding underprepared students enrolling in college is not unique to Florida. According to Abraham (1991) 93% of the public institutions in his Southern Region Education Board (SREB) study had developmental or remedial programs, and the highest percentage of the programs were located in two-year colleges. The New York City Board of Education recently attacked the problem of underprepared high school graduates by imposing higher graduation requirements for students planning to enroll at a CUNY College. Bernstein (1995) reported that ninth-grade students may no longer choose between algebra and consumer math. Students are no longer allowed to plan their own high school curriculum. Subsequently, 10% fewer students were taking remedial courses in the CUNY colleges in the fall (p. 49).

PURPOSE

This study was prompted by legislators and educators who frequently asked, "Why do so many recent high school graduates need basic skills remediation when they enroll in community college?" The purpose of this study was to attempt to answer that question by determining the impact of students' high school courses and grades on placement into remedial courses when they enrolled in community college.

BACKGROUND INFORMATION

Three major Florida statutes provided the foundation for this study: General Requirements for High School Graduation, High School Grading System, and Common Placement Testing for Public Postsecondary Education.

Florida Statute 232.246, General Requirements for High School Graduation sets forth the following requirements for high school graduation:

(1) Successful completion of a minimum of 24 academic credits in grades 9 through 12 shall be required for graduation. The 24 credits shall be distributed as follows:

(a) Four credits in English, with major concentration in composition and literature
(b) Three credits in mathematics
(c) Three credits in science
(d) One credit in American history
(e) One credit in world history
(f) One-half credit in economics
(g) One-half credit in American government
(h) One credit in practical arts career education or exploratory career education

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(i) One-half credit in physical education
(j) Nine elective credits. (p. 560)

(2) Remedial and compensatory courses taken in grades 9 through 12 may only be counted as elective credit as provided in subsection (1).

Florida Statute 232.2463, High School Grading System provides the following grading system and interpretation of letter grades used in public high schools:

(1) Grade of "A" equals 94 percent through 100 percent, has a grade point average value of 4, and is defined as "outstanding progress."
(2) Grade of "B" equals 85 percent through 93 percent, has a grade point average value of 3, and is defined as "above average progress."
(3) Grade of "C" equals 75 percent through 84 percent, has a grade point average value of 2, and is defined as "average progress."
(4) Grade of "D" equals 65 percent through 74 percent, has a grade point average value of 1, and is defined as "lowest acceptable progress."
(5) Grade of "F" equals zero percent through 64 percent, has a grade point average value of zero, and is defined as "failure."
(6) Grade of "I" equals zero percent, has a grade point average of zero, and is defined as "incomplete." (p. 1890)

Table 1 - Placement Scores

Subject Area	State Placement Scores	SFCC Placement Scores
Reading	72	81
English	78	83
Mathematics		
Arithmetic	—	86
Elementary Algebra	51	72

Table 2 - Mathematics

Low	Medium	High
Basic Skills	Liberal Arts Math	Trigonometry
Fundamental Math	Algebra I	Analytic Geometry
General Math I	Informal Geometry	Math Analysis
General Math II	Technical/Applied Math I	Pre Calculus
Explorations in Math I	Technical/Applied Math II	Algebra I Honors
Explorations in Math II	Algebra II	Algebra II Honors
Consumer Math	Geometry	Geometry Honors
Pre Algebra	Integrated Math III	Trigonometry Honors
		Analytic Geometry Special
		Calculus
		AP Calculus
		Math Studies IB

Additionally, Florida legislation mandates basic skills assessment and placement into appropriate college preparatory (remedial) courses prior to college level course work if test scores are below designated levels. Florida Statute 240.117, Common Placement Testing for Puhlic Postsecondary Education addresses this issue:

(1) The State Board of Education shall develop and implement a common placement test for the purpose of assessing the basic computation and communication skills of students who intend to enter a degree program at any public community college or state university.
(4)(a) . . . Community college or state university students who

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Table 3 - English

Low	Medium	High
English Skills I	English I	English I Honors
English Skills II	English II	English II Honors
English Skills III	English III	English III Honors
English Skills IV	English IV	English IV Honors
	Contemporary Literature	English I Pre IB
	Applied Communication I	English II Pre IB
	Applied Communication II	English III IB
		English IV IB
		AP English Literature
		AP English Language

have been identified as requiring additional preparation pursuant to subsection (1) shall enroll in college preparatory adult education pursuant to s. 239.301 in community colleges to develop needed college-entry skills. . ." (p. 52)

Students who score below specified levels on the Computerized Placement Tests (CPTS) or equivalent SAT or E-ACT tests are placed into remediation. SFCC uses the CPTs as their on-site assessment instrument. The CPTs are basic skills tests designed primarily to assess entry-level skills to provide appropriate placement (College Entrance Examination Board, 1995). The SFCC CPTs scores, which were adopted in 1989 to accommodate the college curriculum, are higher than the state minimum scores which are shown in Table 1. The SFCC CPTS scores, which were adopted to accommodate the SFCC curriculum, are higher than the state minimum scores which also are shown in Table 1.

DATA SOURCES AND METHODOLOGY

The 1995 SFCC High School Graduate Report shows that 398 students who graduated from Alachua and Bradford County School Districts in June, 1995 enrolled at SFCC as first-time-in-college students in the fall semester of 1995. Complete records that included high school transcripts and college-entry test scores were on file in the Office of Records and Admissions for 279 of those students when data for this study were collected early in the fall semester of 1995. These students provided the population for this research.

High school transcripts on file in the SFCC Office of Records and Admissions provided student demographic information, course names, grades, and unit of credit earned. SFCC student records provided college entry test scores that were used to determine whether students were placed into remedial course work prior to taking college-level courses.

The following variables were entered into a database for analysis: name, social security number, race, gender, names of high school mathematics and English courses attempted, grades and units earned in each course, and college-entry test scores. The subject area GPAs were calculated by averaging all grades for courses taken in that area. The Statistical Analysis System (SAS) was used to analyze the data, and significance was determined at the .05 level. By definition, significant results at the .05 level could occur by chance no more than five times out of 100.

To study course levels, courses in mathematics and English were assigned to difficulty levels. These levels were classified as low, medium, and high.

For purposes of this study, the term "college readiness" was used to denote absence of the need for remediation. The term "college preparatory" was used interchangeably with "remedial."

STUDENT DEMOGRAPHICS

This study consisted of 279 students who graduated from Alachua and Bradford County High Schools in June, 1995 and enrolled at SFCC in the fall semester of 1995. The student population in this study is shown in Table 4. In comparison to the total SFCC freshmen class in 1995, the ethnic composition of this student population included 13% more Black students and 6% fewer White students. The gender composition of this study included 4% fewer males and 4% more females than

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Table 4 - Demographics and Remediation

Student Demographics			Total Tested into Remediation		
Race	#	%	Subject	#	%
White	200	72	Reading	105	38
Black	63	23	English	88	32
Other	16	6	Math	136	49
Gender			Arithmetic	112	40
Male	129	46	Elem. Al	24	9
Female	150	54			

the overall freshman class. Regarding the need for remediation, while only 57% of this group needed remediation in at least 1 area, 63% of all recent high school graduates who enrolled in SFCC in the 1995 fall semester needed remediation.

Findings

Data analysis showed that the mathematics and English courses students attempted and the grades they earned in high school did have a significant impact on the need for remediation when the students entered the community college.

Table 5 - Relationship Between High School Mathematics GPA and Percent of Students Tested into Remedial Mathematics (Arithmetic or Elementary Algebra)

High School Math GPA	Students at Level		Tested into Remediation	
	#	%	#	%
< 1.0	2	1	2	100
1.0 - 1.9	91	33	66	73
2.0 - 2.9	121	43	58	48
3.0 - 3.9	62	22	10	16
4.0	3	1	0	0

Mathematics

In the area of mathematics, three independent variables were studied to determine their impact on the dependent variable, the need for remediation in college mathematics: (1) number of mathematics units earned in high school, (2) grades earned in high school mathematics courses, and (3) level of high school mathematics courses. Regression analysis, using an Ordinary Least Squares Model, showed that the relationships between each of those independent variables and the need for remediation were significant at the .05 level.

Table 6 - Relationship Between High School Mathematics Earned and Percent of Students Tested into Remedial Mathematics (Arithmetic and Elementary Algebra)

Units of High School Mathmatics	Students at Level		Tested into Remediation	
	#	%	#	%
3.0	58	21	44	76
3.5	60	22	29	48
4.0	128	46	51	40
More than 4.0	33	12	12	36

Table 7 - Relationship Between Levels of High School Mathematics Courses Taken and Percent of Students Tested into Remedial Mathematics (Arithmetic and Elementary Algebra)

Level of Course	Students at Level		Tested into Remediation	
	#	%	#	%
Med/Low	161	58	127	79
High	118	42	9	8

Regression analysis, using an Ordinary Least Squares Model, revealed that math GPA was the most significant independent variable affecting the need for remediation. In Table 5 one may see that 73% of the students who earned an average grade of "D" in all high school mathematics courses required remediation when they entered college. According to Florida Statute 232.2463, a "D" is defined as the lowest acceptable grade for

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Table 8 - Relationship Between Highest Attempted Mathematics Course and Percent of Students Tested into Remediation

Highest Course	Students at Level	Tested into Remediation	
	#	#	%
Algebra I	22	21	95
Algebra 2	10	9	90
Geometry	68	50	73
Trigonometry	15	4	27

Table 9 - Relationship Between High School English GPA and Percent of Students Tested into Remedial English.

High School English GPA	Students at Level		Tested into Remediation	
	#	%	#	%
1.0 - 1.9	38	14	21	55
2.0 - 2.9	124	44	50	40
3.0 - 3.9	111	40	17	15
4.0	6	2	0	0

Table 10 - Relationship Between Levels of High School English Courses and Percent of Students Tested into Remedial English

Level of Course	Students at Level		Tested into Remediation	
	#	%	#	%
Med/Low	139	50	66	47
High	140	50	22	16

progress. On the other hand, only 37% of the students with an average grade of "C" or better needed remediation. This difference was even greater for those students who earned a "B" average, where only 16% needed remediation. Moreover, none of the students with an "A" average needed remediation.

Regression analysis, using an Ordinary Least Squares Model, showed that the number of high school mathematics units earned also had a significant impact on college readiness. In Table 6 one may note that 76% of the students who earned three units of high school mathematics tested into mathematics remediation while only 39% of those who earned four or more units needed remediation. According to Florida Statute 232.246, the high school graduation requirement is satisfied with three units of mathematics.

Additionally, regression analysis using an Ordinary Least Squares Model showed that the level of mathematics courses had a significant impact on college readiness. In Table 7 one may note that only 8% of the students who attempted at least one course from the high level category needed remediation, while 79% of the students who attempted courses only from the low and/or medium levels needed remediation. Obviously, this did not indicate that any one course had such a dramatic impact. More likely, it indicated that students in the high-level courses had completed the prerequisite courses and earned satisfactory grades to advance to the high-level courses that were analyzed in this study.

It was interesting to note that in this sample, only 33 students (12%) did not take a mathematics course during their senior year in high school. Of the students who did not take a mathematics course in their senior year, 76% tested into remediation.

There is a great deal of speculation regarding the n mum level high school course that prepares a student for college-level mathematics. In Table 8 the relationship between the highest math course attempted and the percent of students who tested into remedial mathematics is shown. For this group of students, generally those who attempted trigonometry as their highest level high school mathematics course were most successful in testing into college-level work. Given the small sample size, it would he premature to draw a conclusion from these data. It is likely that this observation is a result of the interaction with math units and grades, as opposed to the course itself. One can assume that students who attempted trigonometry as their highest course had satisfied all the prerequisites, and this could be the significant factor. Further research is needed to verify this assumption.

Since the current high school graduation requirements include four years of English, the questions relating to the need for remediation in English and reading referenced only grades and levels of high school English courses. Therefore, the independent variables were (1) grades, and (2) level of high school English courses, and the dependent variable was the performance on college-level entry tests.

Regression showed that grades earned in high school English courses did have a significant impact on the need for remediation in English. In Table 9 one sees that 55% of the students who had a "D" average in high school English courses tested into remedial English when they entered the community college. On the other hand, only 28% of those with a "C" average or better needed remediation. The greatest difference was seen for those students with an "A" or "B" average, where none of the students with an "A" average needed remediation and only 15% of those with a "B" average tested into remediation

About 50% of the students in this

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study attempted at least one course from the high-level category and only 16% of those students needed remediation in English. In Table 10 one may note that 47% of the students who attempted courses only from the low and/or medium categories needed remediation.

Table 11 - Relationship Between High School English GPA and Percent of Students Tested into Remedial English.

High School English GPA	Students at Level		Tested into Remediation	
	#	%	#	%
1.0 - 1.9	38	14	27	71
2.0 - 2.9	124	44	58	47
3.0 - 3.9	111	40	20	18
4.0	6	2	0	0

Reading

The Florida high school graduation requirements do not include any formal reading courses; however, reading is one of the skills tested when students enroll in the community college. To determine high school academic work that impacted the need for remediation in reading, this study analyzed grades and levels of courses for both high school English and mathematics. In relation to high school English perfor-

Table 12 - Relationship Between Levels of High School English Courses and Percent of Students Tested into Remedial English

Level of Course	Students at Level		Tested into Remediation	
	#	%	#	%
Med/Low	139	50	77	55
High	140	50	28	20

mance and the need for reading remediation, one sees in Table 11 that 71% of the students who earned a "D" average in high school English courses needed reading remediation while only 32% of those with a "C" average or better needed reading remediation. Only 18% of those with a "B" average needed reading remediation. Moreover, none of the students with an "A" average tested into reading remediation.

Table 13 - Relationship Between High School Mathematics GPA and Percent of Students Tested into Remedial Reading.

High School English GPA	Students at Level		Tested into Remediation	
	#	%	#	%
1.0 - 1.9	38	14	21	55
2.0 - 2.9	124	44	50	40
3.0 - 3.9	111	40	17	15
4.0	6	2	0	0

Additionally, the level of high school English courses impacted the need for reading remediation. In Table 12 one may note that about 50% of the students attempted at least one course from the high-level category of English courses and only 20% of them needed remediation in reading while 55% of those students who attempted courses from only the low and/or medium categories needed reading remediation when they enrolled in the community college.

It was interesting to note the relationship between student performance in high school mathematics courses and the need for reading remediation. In Table 13 one sees that 62% of the students who earned a "D" average grade in mathematics needed reading remediation while only 26% of those with average grades of "C" or better needed reading remediation. Again, the greatest difference was at the "A" and "B" levels. None of the students with an "A" average in mathematics needed reading remediation, and only 11% of those with "B" averages needed reading remediation.

Table 14 - Relationship Between Levels of High School Mathematics Courses and Percent of Students Tested into Remedial Reading.

Level of Course	Students at Level		Tested into Remediation	
	#	%	#	%
Med/Low	161	58	93	58
High	118	42	12	10

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The relationship between the level of high school mathematics courses and college reading remediation was apparent. In Table 14 one may note that 42% of the students in this study attempted at least one mathematics course from the high-level category of mathematics courses, and only 10% of those students needed reading remediation while 58% of the students who attempted courses from the low and/or medium level courses needed reading remediation.

The high school courses students attempted and the grades they earned appear to be related directly to the need for remediation when they entered the community college.

Implications for Practice

This study showed that the high school courses students attempted and the grades they earned appear to be related directly to the need for remediation when they entered the community college. The most obvious finding was that the majority of the students who attempted the minimal high school courses and achieved minimal grades needed remediation when they entered the community college. This is an indication that the Florida high school graduation requirements for the standard diploma have been too low for the community college curriculum.

Based on the results of this study, the following recommendations are offered for consideration.

1. Revise Florida Statute 232.2463, High School Grading System, to require a minimum grade of "C" in all high school mathematics and English courses. Although this may be a major change in the high school system, it is consistent with the community college grading system for all College Preparatory (Remedial) and Gordon Rule courses.

2. Revise Florida Statute 232.246, General Requirements for High School Graduation, to require four units of mathematics for high school graduation. This is consistent with the English high school graduation requirement.

3. Encourage high school students to begin their high school mathematics sequence with Algebra I or higher in the 9th grade and advance to higher level mathematics courses each year. If students are unable to keep this pace, remedial and academic support programs should intervene.

4. Encourage high school students to begin their high school English sequence with English I or higher in the 9th grade and advance to a higher level English course each year. If students are unable to keep this pace, remedial and support programs should intervene.

5. Do not allow students to advance to a higher level of mathematics or English courses until they have successfully completed the level in which they are enrolled with a "C" or better. This is consistent with the college preparatory program in the community college system.

6. Emphasize reading and reasoning skills in both high school mathematics and English courses.

7. Require students who have less than a "B" average in English to take a reading course that focuses on critical reading skills.

8. Use elective high school credit to remediate mathematics, English, or reading skills when students fall behind. That means that students will have the privilege of taking elective courses only if they are progressing in English and mathematics.

...it is apparent that there is a gap between skills required for high school graduation and college entry.

9. Examine the purpose and effectiveness of all of the mathematics and English courses listed in the low categories in this study and use appropriately.

10. Enforce Florida Statute 240.117(3), Common Placement Testing for Public Postsecondary Education, which offers the Florida College Entry-Level Placement Test to all students enrolled in the 10th grade. This will provide students, parents, and high schools with information regarding the students' basic skills in relation to college readiness. This information can be used for advisement regarding the students' academic programs for the last two years of high school, preparing them to compete successfully in both

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college and the workplace.

11. Encourage the high schools and the community colleges to maintain close working relationships to enhance the college readiness of high school graduates.

CONCLUSION

"Why do many recent high school graduates need basic skills remediation when they enroll in college?" Based on the findings of this study, it is apparent that there is a gap between skills required for high school graduation and college entry. Moreover, it indicates that many high school teachers' grades are consistent with college-entry assessment results. This indicates that those teachers recognize minimal skills competencies when they assign the grade of "D," but the students are allowed to move on because they have achieved the minimal passing grade. Some argue that all high school graduates do not plan to go to college so they should not be held to college-entry standards. There are two counterpoints to that argument: (1) Businesses and industries are demanding higher levels of skills for the workplace. (2) Many of the high school graduates are enrolling in college, even if they have not taken the high school curriculum to prepare them for college.

This study presents a strong argument for raising high school graduation requirements. In summary, legislators have four choices if Florida is to maintain the commitment to provide postsecondary opportunities to all Florida citizens with high school diplomas. They can (1) raise high school graduation requirements to enhance college and workplace readiness, or (2) acknowledge that many students will graduate from high school with minimal skills and the college preparatory courses in community colleges will fill the gap between high school graduation and college-level course work, or (3) provide no remediation and allow students to "sink or swim" in the rigorous college coursework, or (4) lower college academic standards to the level of underprepared students.

Based on the premise that "Awareness is the first step toward remediation," it is imperative that community colleges and high schools work together to ensure that high school students are aware of the skills they need for college and the workplace. This awareness, supported by a challenging curriculum that is required for high school graduation, should have a significant impact on the Florida Education System and reduce the need for remediation when students enroll in postsecondary education. The ultimate challenge is to maximize resources to provide meaningful high school experiences and higher education opportunities for all high school graduates who seek such opportunities.

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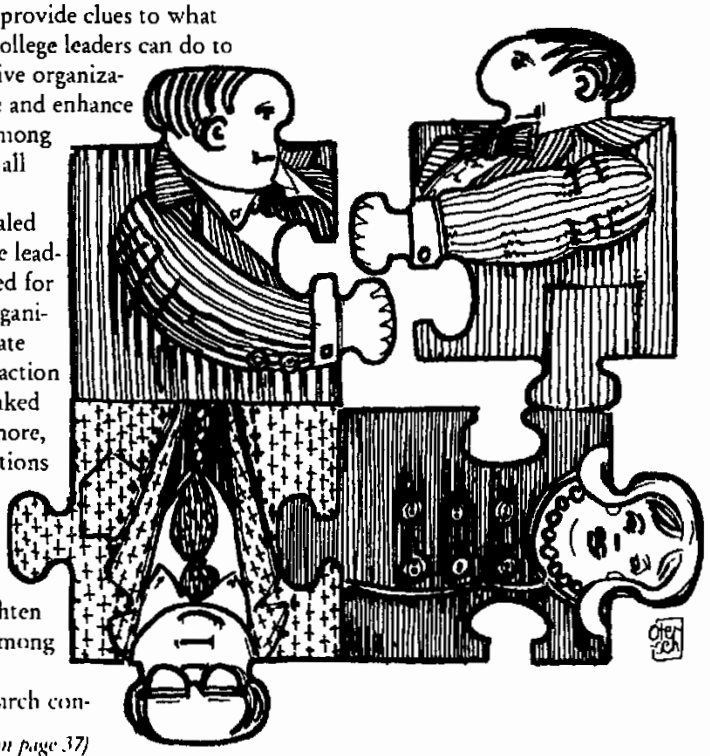
Organizational Climate and Job Satisfaction: *What's the Connection?*

Susan K. Chappell and David S. Honeyman

For decades, researchers have pondered the questions of motivation and job satisfaction. More recently, the notion that people, jobs, and organizations must be "right" for each other in order to produce optimal results for all concerned has also been closely examined. How can prospective employees know that a given career opportunity will offer a rewarding and productive experience? Likewise, how can an employer know that a given candidate is truly the "best" person for the job? These questions are becoming increasingly important to those who view institutional effectiveness as a challenge for all employees, and not just for the few who gather at executive council meetings. What aspects of an organization affect employees' performance the most? What can an organization do to really foster satisfaction among employees? Finally, can these questions be answered empirically?

Community colleges are dynamic organizations that have profound potential for affecting the lives of not only their immediate service districts, but also their states, the nation, and even the global marketplace. There is a certain thrill that comes with recognizing this potential, but at the same time, it is problematic. The challenges of doing more with less have reached every level of the community college operation, and Florida's community colleges are excellent examples of institutions that must find ways to respond to increased needs in the face of diminishing public support. A recent national study may provide clues to what community college leaders can do to create a positive organizational climate and enhance satisfaction among employees at all levels. The research revealed what intuitive leaders have sensed for years: that organizational climate and job satisfaction are clearly linked and, furthermore, that organizations can consciously work to create a climate that can heighten satisfaction among employees.



The research con-

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. . .salary, benefits, and autonomy/ power/control proved to be less important to community college chief instructional officers than participation in decision-making, relationships with colleagues, and professional effectiveness.

ducted at the University of Florida's Institute of Higher Education yielded several important findings. First, those who are interested in creating a positive organizational climate and building satisfaction among employees should recognize that it is most important to consider employees' perceptions of and satisfaction with the organization's (a) demonstration of a regard for employees' personal concerns, (b) opportunities for professional development, (c) internal communication, and (d) evaluation system. Second, perceptions of and satisfaction with the organization's political climate have potential for affecting job satisfaction in employees. Finally, given the organizational structure (and implicitly, the leadership style of the chief executive officer), employees who "fit" within the structure of their organization are more likely to be satisfied with their positions than are those who do not "fit" in their organizations.

The study used community college chief instructional officers as its targeted population. In addition to revealing some important information about how climate affects satisfaction in general, the data provided some of the most specific demographic information available about chief instructional officers. As a group, community college chief instructional officers are predominately white and male; this lack of diversity has a limiting effect on the future leadership of community colleges because historically, community college presidents have been selected from the pool of chief instructional officers. According to Vaughan (1990), this is a trend that is not expected to change. Although women have made gradual inroads into upper-level administration in community colleges via the chief instructional officer rank, very few ethnic minorities hold this position in community colleges. Every effort should be made to support talented and capable women and minorities in academe and to encourage them to pursue career paths that might lead them to opportunities to become chief instructional officers. Executive leadership is essential in order to make this happen.

The research also revealed significant differences in satisfaction among community college chief instructional officers according to Katsinas' (1993) proposed community college classification system; this finding served to document the need for a clear and well-defined system for classifying community colleges. Katsinas' system for classifying community colleges identified fourteen categories, some that were associated with size of the institution, some that were associated with the type of degree(s) offered, and some that were related to ethnic origin, such as tribal colleges and historically Black two-year colleges. In addition, distinctions were made in public and private community colleges. The many classifications, while helpful in some ways, made it difficult for some respondents to classify appropriately their respective institutions for this research. In the final analysis of the data, only categories related to size of the institution were included since these were the categories most commonly identified by respondents. Although Katsinas' system was cumbersome in this initial form, the quality of future research on community colleges will be enhanced tremendously with Katsinas' final form of the classification system when this system is adopted and implemented.

Purpose, Significance, and Methodology

The purpose of this study was to investigate the relationship between measures of organizational climate and measures of job satisfaction as applied to chief instructional officers in community colleges. A secondary purpose was to determine if there were significant differences in means for job satisfaction within the context of organizational climate when controlling for gender, ethnicity, classification of the community college by size, number of years experience as a college administrator, and collective bargaining status of the community college. The research is significant for several reasons, most notably because of the changing demographics, needs, and values of the workplace (Flynn, 1994; Katzell, 1979; Katzell & Thompson, 1990), the pivotal role played by community college chief instructional officers in delivering quality programming (Perkins, 1991; Vaughan, 1990), and an excessively high rate of turnover among chief instructional officers (Glick, 1992). The seven organizational climate factors included a) internal

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communication, b) organizational structure, c) political climate, d) professional development opportunities, e) evaluation, f) promotion, and g) regard for personal concern. The eight job satisfaction variables included a) participation in decision-making, b)autonomy/ power/control, c) relationships with peers, d) relationships with subordinates, e) relationship with supervisor, f) salary, g) benefits, and h) professional effectiveness. Questions one through three were descriptive in nature; questions four and five were answered using multiple regression analysis.

The Research Sample

All chief instructional officers from member institutions of the American Association of Community Colleges (AACC) were invited to participate in the study. This population included 1060 chief instructional officers in community colleges in the United States. A total of 539 useable surveys were returned, rendering a 51% response rate. A small proportion of surveys were returned with some responses missing; however, all recorded responses were used in the analysis of data.

Findings

Profile of the Community Colleges' Chief Instructional Officers

A majority of the community colleges' chief instructional officers were white males who had been college administrators for 15 years or more. Most of the officers also worked at rural community colleges, in accordance with Katsinas' proposed classification system. Almost half of the community colleges' chief instructional officers who participated in this research worked in colleges with faculty collective bargaining.

Perceptions of and Satisfaction with Organizational Climate

In assessing perceptions of organizational climate, it was found that community college chief instructional officers generally perceived their colleges to have a high regard for their personal concern, ample opportunities for professional development, and a strong system of internal communication, as indicated by the high ratings in these organizational climate categories. Accordingly, community college chief instructional officers were generally most satisfied with these same three aspects of organizational climate, as indicated by the high satisfaction ratings in the same categories. The satisfaction scores for regard for personal concern and professional development opportunities were almost identical to the perception scores; however, the satisfaction rating for internal communication was slightly lower than the corresponding perception score. It is possible to infer that although community college chief instructional officers perceived strong internal communication in general, they also felt that there was room for improvement with this aspect of organizational climate. Findings regarding the perception of and satisfaction with organizational climate supported conclusions by Deas (1994), Ginsberg (1994), Kelly (1988), Thor (1993 & 1994), and Vroom (1982), that significant relationships existed between job satisfaction and (a) regard for personal concern, (b) professional development opportunities, and (c) internal communication.

Importance of Job Satisfaction

The research also revealed that community college chief instructional officers reported that all eight job satisfaction variables were important in their jobs. Nevertheless, salary, benefits, and autonomy/power/control proved to be less important to community college chief instructional officers than participation in decision-making, relationships with colleagues and professional effectiveness. These findings were consistent with the previous research conducted by Groseth (1978) and Levy (1989) which also indicated that salary and benefits were less important to managers and administrators in educational settings. Additionally, these findings validated and supported Herzberg's et al. (1959) two-factor theory of job satisfaction.

Although Glasser placed control at the center of his theory of quality work, the results of this research indicated that autonomy/ power/control was less important than most other identified job satisfaction variables. However, the mean score for autonomy/ power/control was still sufficiently high to support Glasser's theory. It is possible that the lower mean score recorded for this job satis-

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. . .organizational structure was found to be related significantly to relationships with supervisors.

faction variable was related to community college chief instructional officers' strong perceptions of and high satisfaction with regard for personal concern and internal communication at their colleges. In other words, as long as the chief instructional officer works in an environment where he or she believes that his or her interests are considered important, and where there is a strong system of internal communication, the community college chief instructional officer is likely to be less concerned with issues regarding autonomy, power, and control.

The Relationship Between Measures of Organizational Climate and Measures of Job Satisfaction

In evaluating the relationships between measures of organizational climate and measures of job satisfaction for community college chief instructional officers, internal communication was found to be significantly related to participation in decision-making, relationships with subordinates, and salary. Regard for personal concern was found to be related significantly to autonomy/ power/control, salary, benefits, and professional effectiveness. These findings reinforced the research that began with Mayo (1933) and has continued through Deal and Jenkins (1994) which stresses the importance of human relations perspectives in leadership. The greater the college's demonstration of regard for personal concern, the more satisfied the chief instructional officer will be with autonomy/power/control, salary, benefits, and professional effectiveness. Likewise, the more a college exhibits a commitment to strong internal communication, the more likely the chief instructional officer is to be satisfied with participation in decision-making, relationships with subordinates, and salary. This finding is similar to Milosheff's (1992) conclusion that contented coworkers contribute to a healthy work environment; however, this research did not attempt to identify a causal relationship between satisfaction and climate.

In addition to these significant relationships, evaluation was found to be related significantly to autonomy/power/control. Further research is needed to understand why this relationship is significant. Finally, organizational structure was found to be related significantly to relationships with supervisors. This finding suggests that if the chief instructional officer is satisfied with the organizational structure of his or her college, then a positive relationship between the chief instructional officer and his or her supervisor is likely to exist. It is important to note, however, that this finding is not an endorsement of any specific type of organizational structure. Unlike Twombley and Amey (1994), who cautioned that rigid structure and hierarchy was a model that worked well in military settings but had no place in the education arena, this finding supports the research by Blix et al. (1994), Bretz and Judge (1994), Caplan (1993), and Chatman (1991) that emphasized the importance of a good fit between the person and the organization. It is likely that regardless of whether a college is characterized by a high level of hierarchy or a more flat organizational structure, chief instructional officers will be satisfied with their relationships with their supervisors if they are also satisfied with the organizational structure of the college.

Table 1 - Significant Relationships Between Organizational Climate and Job Satisfaction

Organizational Climate Factor	Significantly Associated with Job Satisfaction Variable
• Internal Communication	• Participation in Decision-making • Relationships with Subordinates • Salary
• Regard for Personal Concerns	• Autonomy/Power/Control • Salary • Benefits • Professional Effectiveness
• Evaluation	• Autonomy/Power/Control
• Organizational Structure	• Relationships with Supervisor

. . .chief instructional officers will be satisfied with their relationships with their supervisors if they are also satisfied with the organizational structure of the college.

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Significant Differences in Measures of Job Satisfaction When Controlling for Demographic Variables

When comparing the mean job satisfaction ratings within the context of organizational climate while controlling for demographic variables, it was found that chief instructional officers who worked at community colleges that were a combination of any of five geographic classifications (rural, suburban, metropolitan, urban, and community college adjacent to a residential university) or that were mixed colleges as described by Katsinas' proposed classification system were more satisfied with their participation in decision-making than were their counterparts at rural community colleges.

Chief instructional officers who worked at community colleges adjacent to residential universities were found to be slightly less satisfied with autonomy/power/control than were their counterparts at rural community colleges.

Females were more satisfied in their relationships with peers than were male chief instructional officers.

Chief instructional officers who had been college administrators for less than one year were less satisfied than those who had been administrators for 15 years or more.

Five distinctions among demographic variables were found in satisfaction with salary, and the same distinctions were found in satisfaction with benefits.

Black chief instructional officers tended to be more satisfied with salary and benefits than were Whites.

Chief instructional officers from mixed community colleges tended to be more satisfied with salary and benefits than were their counterparts from rural community colleges.

Chief instructional officers who had been administrators for less than one year, or for 6 to 10 years, tended to be less satisfied with salary and benefits than were chief instructional officers who had been college administrators for 15 years or more.

Finally, chief instructional officers from colleges with faculty collective bargaining tended to be less satisfied with salary and benefits than were their counterparts from colleges without faculty collective bargaining.

Satisfaction with professional effectiveness varied by gender and by classification of community college. Female chief instructional officers tended to be more satisfied with their professional effectiveness than were males, and chief instructional officers from suburban community colleges tended to be more satisfied with professional effectiveness than were their counterparts from rural community colleges.

Table 2 - Significant Differences in Satisfaction When Accounting for Demographic Variables

Job Satisfaction Categories	Typology Variable	Satisfaction > or <	Bases Type Colleges
Decision-making	Mixed Colleges	greater	Rural Colleges
Autonomy/ Power/Control	CC Adjacent to Residential Univ.	less	Rural Colleges
Relationships w/Peers	Females	greater	Males
Relationships w/Supervisor	Less than 1 year	less	15 years or more
Salary	Black	greater	White
	Mixed Colleges	greater	Rural Colleges
	Less than 1 year	less	15 years or more
	6-10 years	less	15 years or more
	Faculty w/Coll. Barg.	less	Faculty w/o Coll. Barg.
Benefits	Black	greater	White
	Mixed Colleges	greater	Rural Colleges
	Less than 1 year	less	15 years or more
	6-10 years	less	15 years or more
	Faculty w/Coll. Barg.	less	Faculty w/o Coll. Barg.
	Females	greater	Males
Professional Effectiveness	Suburban Colleges	greater	Rural Colleges

**Note: Differences that were not statistically significant are not reported.*

Conclusions

A national study that examined the relationship between organizational climate and job satisfaction among community college chief instructional officers revealed that four specific organizational climate factors were significantly related to job satisfaction. These included a) regard for personal concerns, b) internal communication, c) organizational structure, and d) evaluation. Furthermore, significant differences in satisfaction were found when results were compared by a) classification of community college, b) gender, c) ethnici-

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ty, d) the number of years experience as a college administrator, and e) faculty collective bargaining status.

Boards of Trustees, presidents and faculty should be aware that changes in organizational climate can be beneficial tc the entire college community.

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Leadership Principles for America's Future and for America's Community Colleges

Marshall W. McLeod

Numerous and serious problems continue to confront America's community colleges. Many of these are from external sources. Legislatures continue to cut the state revenue pie into much thinner pieces which frequently results in fewer dollars for the community colleges as increased pressures dictate the redistribution of inelastic tax money to welfare, health care, and crime. Legislators no longer accept the assurances of community college leaders with respect to pro-college policy: institutional accountability is the order of the day and long-cherished parts of the curriculum such as developmental education are under question. Local tax initiatives are under the threat of current anti-tax voter sentiment. Even the basic mission of the community college: low tuition, open door, comprehensive curriculum, high student-focus, and teaching-intensive attributes are all in question and may be subject to disabling change.

As we face these problems and seek guidance in the leadership of our institutions, it is surprising where we might find such guidance. While reading in my academic discipline (history) and possibly looking for distractions from the above problems, an article by University of Rochester political science professor John Mueller (Mueller 1996) poses five general principles for post-cold war American foreign policy. An interesting parallel can be drawn between Mueller's goals and what may be the proper ordering of a community college leadership focus to the twenty-first century.

1.Confront major, immediate problems with determination and dispatch.

2.Seek wealth.

3.Chip away judiciously at major, long-term problems.

4.When a less-developed country gets its act together and is likely to be able to make a constructive contribution, work to facilitate its transition into the developed world.

5.Seek cooperatively to alleviate troubles in other parts of the world if this can be done at a low cost, particularly in lives, but seek to isolate and control troubles if they cannot be alleviated at low cost.

These, according to Mueller, constitute the essential and overriding elements of American foreign policy in the post-cold war era. And he implies that these are somewhat hierarchial and sequential in order of importance, with the

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Even the basic mission of the community college: low tuition, open door, comprehensive curriculum, high student-focus, and teaching-intensive attributes are all in question and may be subject to disabling change.

most immediate problems deserving first attention.

Not only does this view help make some sense of current American foreign relations, but it also suggests a philosophy for leadership priorities in other areas. Accordingly, applications can be found in the domain of community college leadership. Action expresses leadership, and for action to be effective it must be ordered and economical. Knowledgeable community college leaders are fully aware that their institutions cannot effectively respond to every good idea and participate in every good cause. Likewise, these institutions cannot be everything to everyone. Instead they must present a comprehensive curriculum that addresses a specific and intelligently limited set of community needs. Resources are limited. Thus, responses must be judiciously used. To attempt to do everything for everyone tends to produce nonproductive dilution of resources, unnecessary duplication of effort, and a general sense of an ineffectual institutional purpose.

First, the community college must deal in a timely manner with major immediate external challenges and internal threats that now appear with increasing frequency.

If Mueller's principles are appropriated and modified for our own purposes, they may produce a set of goals for action in the community colleges that may be helpful in dealing with the challenges of the next century.

1.First, the community college must deal in a timely manner with major immediate external challenges and internal threats that now appear with increasing frequency.

Although the international scene has immeasurably improved since the end of the cold war, America continues to strive in a world of accelerating change and of fresh new problems of which atomic proliferation is not the least of them. America must "confront major immediate problems with determination and dispatch."

Accordingly, the first order of action for individual community colleges and for state systems is to be ready to be constantly vigilant to proposed changes in the core and essential attributes of these institutions by external authorities. This means that they are willing to take on these challenges in a forceful and appropriately determined manner and that they are free of other constraints to respond rapidly. Failure to deal effectively with major immediate external challenges, failure to "confront major problems with determination and dispatch," may well undermine the integrity of what society has come to expect of community colleges.

A similar argument can be made for freedom to deal with all of the numerous internal threats that are prone to materialize within the institution. All administrators, faculties, and staffs are familiar with the many things that can go wrong within an institution, and there is no need to enumerate the possibilities here. What is important under this principle is that the college needs to have the resources (fiscal and brainpower) free at any given time to react quickly to internal problems. The organization whose resources are totally engaged to the very limits of their capacity cannot hope to respond effectively to new crises in time or to the degree necessary.

2.The community college must understand and faithfully fulfill its basic mission.

It is a major object of nations to "seek wealth"; this is a good and even noble objective because it is difficult for a poor nation to maintain independence, reduce poverty, establish democratic government, educate its people, and foster the arts without it.

Public community colleges as public service organizations do not seek to accumulate wealth or produce profits but do seek to spend effectively appropriated revenues in the most effective manner. The community college has as its prime aim to accomplish and "faithfully fulfill its basic mission," to "build wealth" through building capital. This is also good. If the mission has been thoughtfully drawn, the effective education of students and the production of beneficial public service and economic development activities will occur.

The obvious questions must now be asked— "Why is this second principle not the first?" "Why then is not the mission of the college of first concern?" The answer to both questions is that it is indeed of first concern. The effective execution of the mission of the public comprehensive community junior college, in all of its general aspects and for all of its special local attributes, must be the first and enduring concern of college leadership. Yet to ensure that the mission is continuously fulfilled at a high level, it is not sufficient that it be

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given first attention and continuous support. It is also essential that the mission be protected from either internal or external attack and degradation, thus, the importance of the first principle. The first principle is the knight that must be sacrificed on the community college chessboard for the preservation of the king which is its mission. The game is lost if the king is lost: the comprehensive community college ceases to exist by definition if its mission is unfulfilled. Community colleges cannot continue to do good work if the essential scope and depth of their basic mission is diminished. At least these core functions must be maintained:

1. Open door admissions
2. Low tuition .sts to students
3. Comprehensive curriculum
4. Student development services
5. Excellence of teaching
6. Economic development
7. Response to unique local needs and norms

For these colleges to be less is for them to do less for the public they presently serve.

3.Community colleges must continue to seek to resolve major, long-term problems.

It is recognized by Mueller that America cannot ignore the difficult and persistent problems that continue to plague the world. Efforts must be made to "chip away" at these over time. Although these are worthy of our effort and must have our attention, they must not consume all of our energies.

With the core mission of the college fully secured and productive and with the capacity to effectively react to both internal and external sudden crises, the institution must also "seek to resolve its own major, long-term problems" and to "chip away" at them. No organization in any field of endeavor is immune to the continuing, nagging problems that while they do not immediately threaten institutional integrity do tend to reduce long-term effectiveness. The two routine issues of remediation of underprepared students and the attrition of unsuccessful students from colleges are common problems, problems that seem perennial. Institutions must identify their major long-term problems and systematically seek to deal with them. All problems cannot be dealt with immediately and completely. It must be the rare institution that is free of all problems. Colleges must choose those issues that can best be corrected and do so in a reasonable time. To attempt to resolve quickly all known issues can only lead to institutional frustration and dissipation of resources. It is important not to attempt to correct problems that are only perceived and not real. Yet it is important that at least a part of total leadership attention and institutional resources be allocated to the reduction of long-term problems.

4.When an external or internal constituency has developed an argument for feasibility of a specific educational program or student support service, the college should consider its inclusion with the core mission—to "facilitate its transition."

America has a duty to help weaker nations and advance them. This policy is obviously good for the weaker nations. Less obvious is the fact that it is good for America and for the world. To "facilitate its [a third world nation] transition into the developed world," is a win-win transition.

Likewise, community colleges must be ready to accommodate change, "to facilitate the transition of" new community needs into college programs. In recognizing the economic realities in which community colleges now exist, the consideration of new programs must be assigned to the fourth level of action. This is because these colleges now exist in an era of reduced resources, though also in an e.a of increasing needs and expectations. Although it is not yet a zero-sum game, in many situations the action of adding a new program or service may well require the reduction or elimination of others which are currently a part of the mission. Yet community colleges cannot become static and unchanged as their larger environments change (often radical change). These realities are harsh because often it may mean that cherished programs and individuals must be replaced or be forced to adapt to new programs and roles dictated by the new realities.

Leadership may now be forced to be satisfied with steady-state existence rather than needed growth. New institutions and new campuses have become increasingly rare. New programs will become increasingly difficult to mount without

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It is also essential that the mission be protected from either internal or external attack and degradation. .

the elimination of something elsewhere within the college. This is an unfortunate fact of life in the new era.

5.Seek cooperatively to alleviate troubles in other parts of the community (state, region, nation, world) if this can be done without jeopardizing institutional fiscal and organizational integrity, particularly in areas that are associated with the mission and the students of the institution.

America in the next century may well need to select more carefully which among the vast number of world intermediate problems it seeks to resolve because obviously it cannot resolve them all; it must "seek cooperatively" achievable solutions among world problems by working with other nations in coalitions.

When an external or internal constituency has developed an argument for feasibility of a specific educational program or student support service, the college should consider its inclusion with the core mission — to "facilitate its transition."

Local community colleges have often assumed the role of a kind of community conscience, that is to identify and "seek cooperatively" with others the solutions to community problems. The accepted core mission of the community college movement over the last half century has reflected this sense of conscience and cooperative spirit. As both an institution and a social movement, the object was to do educationally those things that were or were not being done in sufficient numbers or done well enough by other segments of the total educational system. Exuberant and well-meaning leaders attempted to expand the mission of the local institutions to encompass many (and some seemingly all identifiable) social ills. These colleges were surprisingly effective in dealing with many of these problems but ultimately were unable to continue as such because no institution can be all or do all that is necessary in our very complex society. Community college leaders thus ought to recognize that the community college cannot and should not attempt to be all things to all persons. A refocusing on the central mission of the community college and those things it can do well is essential. This should not be taken as a failure but rather a refocusing for success and a reaffirmation of why the community college has been so effective in the past in such tasks as developmental education, local economic development, and the attraction of minority persons into higher education, to cite three major successes.

In recent decades the positive aspect of cooperation and articulation with other educational institutions, other social institutions, and economic organizations has proved so beneficial that such practice may be taken for granted. Community colleges can bring about positive change and advancement while overcoming social problems far in excess of their own resources if they associate with others in these efforts. The whole of such cooperative efforts usually exceeds the sum of their individual parts. This is not a new idea.

What may be new in this new era of fiscal constraint is that community colleges ought to reevaluate their outreach efforts in light of present reality. Colleges should refocus their external efforts and assign new priorities to revised sets of external problems. Care must be taken not to overextend external efforts in such a manner as to endanger higher priorities. It may be argued that there is no higher priority for community colleges than to attempt to correct wrongs and troubles of their communities. This is probably an ethic of the highest order. Yet it is important that this fifth priority for action, important as it is, should be subordinate to the first four, given that for the college to act at all on the fifth, the institution must be sustained by attention to the first four. This said, community college leaders must stand for and speak out on issues that extend beyond the accepted bounds of the institution.

The American invention which we know as the public comprehensive community college has made, and will continue to make if its leaders are wise, a profound and enduring contribution to the betterment of this nation. It must not be allowed to falter because of lack of support, elitism, lack of commitment to its core mission, or to any indifference to the challenges that will continue to confront it as we enter the next century. The community college changes hundreds of thousands of lives for the better each year, millions each decade. It serves as a positive force in our society and contributes to our cultural development. Positive and assertive leadership can help prevent its erosion.

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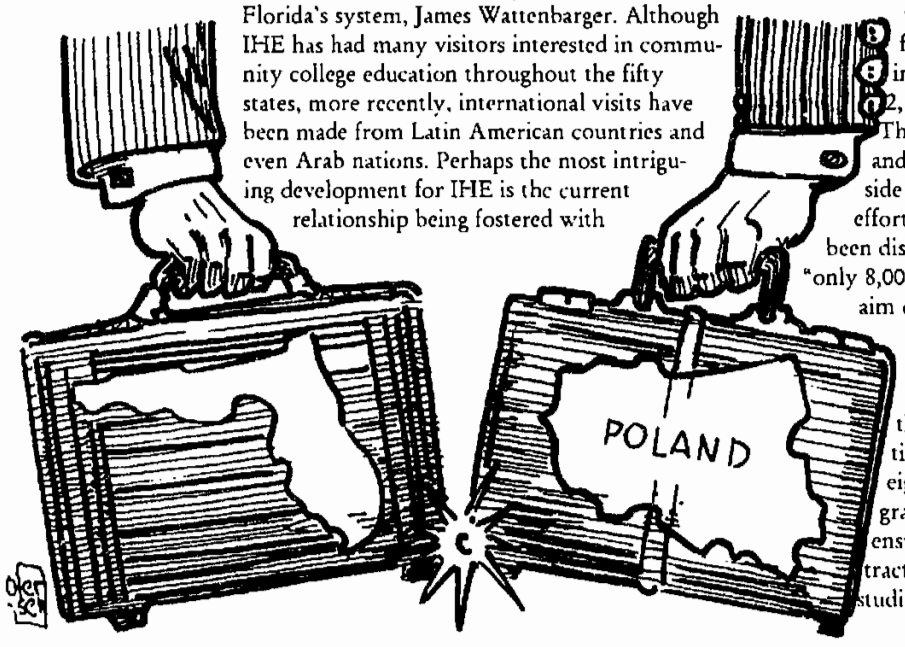
Applying the Florida Plan for Community Colleges to Poland

David Marzak

Fifty years ago when Florida's community colleges were in their formative stages, who would have thought that they would one day serve as a model for national and international development? Decades have passed since Florida first made a strong commitment to its community college system. During this time, Florida's 28 community colleges have received national and international acclamation. These colleges have been enhanced by legislation and careful planning and by research spearheaded by the University of Florida's Institute of Higher Education (IHE) founded by the architect of Florida's system, James Wattenbarger. Although IHE has had many visitors interested in community college education throughout the fifty states, more recently, international visits have been made from Latin American countries and even Arab nations. Perhaps the most intriguing development for IHE is the current relationship being fostered with the Institute for Democracy and Higher Education (IDHE) and educational leaders and researchers in Poland at the Marie-Curie Sklodowska University and the citizens of Lublin who are interested in community college planning and development in Eastern Europe.



Although Eastern countries such as Poland have a type of mystique about them and have had that mystique intensified by recent political, economic, and social changes, these changes have left many people unemployed and in need of new educational opportunities. According to Bartyzel (1992), Poland can be counted among the countries with the largest and fastest growing unemployment rate in Europe. By 1991 there were 2,100,000 unemployed in Poland. That is 11.4% of the total work force and 16.5% of workers employed outside of agriculture. The re-education efforts of these unemployed people have been dismal. Of the 2 million unemployed, "only 8,000 were directed to courses with the aim of learning a profession"(p. 85).

The situation is even more bleak for secondary school graduates. In Poland all students receive the same general preparatory education from kindergarten through the eighth grade. Following eighth grade, a system of clear differentiation ensues — students have four possible tracts to follow: college preparatory studies at a lyceum, technical studies at

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a technikum, or vocational studies at either a Basic Vocational School (BVS) or a Secondary Vocational School (SVS). The first and most prestigious choice among Polish students is the college preparatory lyceum. Once the domain of the nomenklatura [1] and the elite of Polish society, the lyceum handles approximately 24% of all Polish secondary students. Entrance to the lyceum was, and still is, by exam only. Technical high schools known as technikums are the clear second choice; like the lyceums, entrance is by exam only[2]. The teknikums offer high-level technical training and full secondary general education comparable to that offered at the lyceum. Graduates are permitted, therefore, to sit for the university entrance examination. The technikums serve approximately 22% of all Polish students.

The other secondary schools, the BVS and SVS, are hoth entered by default not by choice; there are no entrance exams. Approximately 54% of all Polish students are shunted into vocational schools from which the dropout rate is high. Graduates of the BVS do not qualify to sit for college entrance exams — for all intents and purposes this school, which serves close to 50% of all Polish students, is a dead end; educational opportunity beyond it is virtually non-existent. Students at the SVS receive a full general secondary education which permits them to sit for university entrance examinations and qualifies them as skilled workers. This school, however, has not found wide social acceptance. Only 4% of primary school graduates enter the secondary vocational school. They prefer to go to the basic vocational school for short-term training which gives them the same practical skills and qualifications for work after completing school.

However, the economic situation in Poland is so bleak, especially for vocational students, that work is hard to find. Although all sectors of Polish society are feeling economic hardship, the vocational sectors educating recent graduates are the hardest hit. Unemployment is concentrated among young generations (65% are under 35) and among those with low levels of education, one-third of the unemployed have only a primary education; another third have only the basic vocational education. Current school leavers are among the most vulnerable groups on the labor market simply because of the lack of new positions (Grootings, 1993, p. 98). Currently, 50% of all basic vocational school students are unemployed, as are 56% of all secondary vocational school students and 22% of all lyceum students (p. 98).

The situation is almost revolutionary. The average unemployment rate for all leavers (including graduates of Polish schools) is an alarming 45.37%. Given such a dismal picture, educational planners in Poland are discussing and planning a significant restructuring of the vocational education training system that could include the introduction of community colleges before the close of this decade. Given the paucity of resources in Poland, educational planners in that country are studying closely the empirical research pertaining to community college development in the United States with particular attention to very successful community college systems such as the state of Florida's.

A nascent democratic society requires democratic education if it is to remain on the path towards democracy and avoid retrogression to totalitarian rule, oligarchy, and paternalism.

Poland's National Ministry of Education's report (1991, p.15) "Directions of Changes in Education" stated that increased postsecondary educational opportunity is necessary for future social and economic development. There is a manifest desire to expand the range of available forms of higher education such as evening studies, extramural and distance learning, as well as increased options for the unemployed and those desiring to enhance their professional qualifications.

Consequently, the ministry has articulated the need for postsecondary schools to bridge the gap between high schools and universities. This gap is a result of the educational system left behind by the Soviets which includes approximately 150 technical high schools and 30 institutions of higher learning including 11 major universities and one private university, 18 polytechnical colleges, and higher academies of science, medicine, and agriculture. With a shift towards the democratization of secondary and higher education and with only 12 universities to serve a nation of 39 million people, overall university enrollment has increased rapidly over 3 years (1990-93) growing hy 10%. In some regions of the country this number is expected to increase. This influx of students has led to expanded class size and increased faculty workload.

It is realized by ministry personnel that it is necessary to expand the network of higher education institutions offering only undergraduate degree programs and to turn some of the existing institutions into exclusively undergraduate establishments. Thus, many Polish colleges are being reestablished after decades of dormancy and are offering a new short-term postsecondary degree known as the lycencjat. Other Polish col-

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leges are being converted from institutions that once offered the Magister Degree[3] into institutions specializing in certain fields in which they offer only the new Lycencjat Degree.

The lycencjat is a three-year degree similar to Florida's upper division component of the Bachelor's Degree; it offers specialized professional training without the general education component offered in Florida's lower collegiate division[4]. However, like the Associate Degree, it provides short-cycle postsecondary education which both expands access and opportunity while also permitting the universities to remain more selective. Again, like the Associate Degree, the lycencjat is a university-parallel degree augmented by articulation agreements with regional universities. Although Poland does not yet have a fully articulated state system like Florida's, these regional articulation agreements between the new colleges and the major regional universities are a move in that direction.

The state of Florida was able to democratize higher education which more successfully meets the human, economic, and political needs and demands of its citizens by offering short-term, postsecondary education at community colleges having an open-door policy and geographical accessibility.

The state of Florida was able to democratize higher education which more successfully meets the human, economic, and political needs and demands of its citizens by offering short-term, postsecondary education at community colleges having an open-door policy and geographical accessibility. Florida's community colleges provide educational opportunities within a one-half hour commuting distance for every person residing in that state. These colleges make it possible to handle increased enrollments in higher education while protecting the academic integrity of the universities at the same time. Poland has not yet initiated an open-door policy to serve its vocational school students nor is the accessibility plan for higher educational opportunities anywhere near Florida's laudable achievement.

As such, Florida's community college system is attractive to Poland's Ministry of Education which has committed itself to study the possibility of establishing community colleges: "This decade should witness the decision whether Poland is to introduce such new forms of continuing education as 'open universities' and 'community colleges'" (National Ministry of Education, p.18).

Among the pioneers in Florida's community college planning and organization, James Wattenbarger holds an esteemed position. He constructed a community college planning model that was accepted and implemented by the Florida Legislature. Ever since, Florida has been recognized as a leader in community college development. Wattenbarger (1950, p.15) recommended the Florida plan based on five generally accepted assumptions that he argued pertain to education in democratic societies. These five assumptions are:

1. Equal Opportunity for the Individual.
2. Value to Democratic Government.
3. Value to Society.
4. State Responsibility.
5. Local Control. (pp. 15-16)

Although all of these assumptions are pertinent to community college development in Poland, the second assumption—Value to Democratic Government—is particularly relevant to the nascent democratic society emerging in Poland.

Assumption Number 2: Value to Democratic Government.

Hieronium Stanislaus Konarski (d. 1773), one of Poland's leading educational reformers of the Enlightenment Period, was "the first one [in Poland] to state that the citizens are no better than the schools, and the government is no better than the citizens" (Rostworowski, 1991, p. 75). Konarski served as a herald for the value of education to democratic government. Early in the development of the United States, Thomas Jefferson and many of his contemporaries pointed out the need for education if the people were to rule themselves (Wattenbarger, 1950, p. 18). A democracy is the "only society that can be destroyed by the ignorance of its people.... The subject can live politically without an education, the citizen cannot" (Adler, 1958, p. 119).

Thomas Jefferson argued in his Notes on Virginia, that if the people are "the ultimate guardians of their own liberty," then we had best "render them safe" via a "thorough education." He wrote to James Madison that "the only sure reliance for the preservation of our liberty is to educate and inform the whole mass of people" (Barber, 1992, pp. 223-224).

A nascent democratic society, (indeed all democratic societies such as Poland), requires democratic education if it is to remain on the path towards democracy and avoid retrogression to totalitarian rule, oligarchy, and paternalism.

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Although citizens need an education that ennobles them—the difficult task is to define what education in a democratic society entails. Such an education requires social, political, and vocational components. As Wattenbarger pointed out, education is essential in democratic societies. However, for the sake of the new democratic society being built in Poland, it is imperative that the country's education be the education of man and education for freedom, the development of free men for a free commonwealth. However great the need for technicians may be, it would be an irremediable mistake not to return to the primacy of liberal education (Maritain, 1974, p. 103).

Liberal education is an education that liberates. Liberal education is a key component in a nation achieving liberty. It is an education, says Maritain, which "helps human persons to shape themselves, discipline themselves, to love and prize the high truths which are the very root and safeguard of their dignity"(p. 158).

Vocational education, on the other hand, often does not seek to develop a person's intellectual skills, the emphasis placed solely on developing manual skills. Vocational training in Poland has been servile; it has prepared human beings to work as technical extensions of machines for the material glorification of the state. Instead, human beings should be educated to work as a means to their own self-fulfillment or human happiness; this pursuit of happiness is one of the primary reasons for the existence of the state. The state does not exist for its own aggrandizement but for the betterment of the people who make up the commonwealth which it serves. Human beings do not exist for work and the state; work and the state exist for human beings. Consequently, education should be liberal because liberal education helps to prepare a person for meaningful participation in the social life of society which includes much more than a certain number of hours a week spent in labor.

Vocational education, although important, often does not help students to develop more fully their essential mental faculties or to become social and political participants but only workers limited in scope, ability, and outlook. If liberal education is not also given to the citizens of Poland, and the majority of children there continue to receive "an education conceived mainly as special trade preparation," the schools run the risk of acting as "an agency for transferring the older divisions of leisure and labor, culture and service, mind and body, directing and directed class, into a society nominally democratic" (Adler, 1958, p. 89). Vocational education is not the appropriate education for free people. The education appropriate to free people must include liberal education as well.

In Florida, the need to expand opportunities for workers beyond technical and vocational training was realized when the general education component was made part of every curricula program at the community colleges throughout the state. In fact, it is the infusion of liberal arts, humanities, general studies, and collegiate transfer that distinguish community colleges from technical schools. Furthermore, the offering of a college parallel program in Florida augmented the public perception of these institutions as colleges not simply vocational schools. Florida's community colleges have achieved a respectable identity as part of the system of higher education, a place where the state's citizens can acquire a broad general education as well as technical and vocational training. Poland's higher educational reform would benefit much by Florida's example. It is important to note, as an aside, that educational reform of the type argued for in this article must necessarily begin at the elementary and secondary levels. However, that topic is beyond the limits and delimits of this article which is concerned primarily with community colleges and higher education.

In fact, Florida's earliest community colleges, such as the one in Palm Beach originally emphasized general education and collegiate transfer. Currently, Florida's community colleges offer diverse curriculums. The minority of students (approximately 20%) continue at a university after completing two years of general liberal studies at the community college, while the majority of students at the community college enter into vocational or technical training necessary for employment after completing general education prerequisites applicable to their field of study. Further, it was realized that the community college, since it identified itself with higher education and was to be distinguished from vocational and technical schools, must provide its technical-vocational students with liberal education if the college were to meet its democratic responsibilities both to assist its students toward more humane development and, also to provide them with the skills necessary to compete in an advanced econ-

In Florida, the need to expand opportunities for workers beyond technical and vocational training was realized when the general education component was made part of every curricula program at the community colleges throughout the state.

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omy requiring vocational and technical competence.

The manner in which these colleges have fulfilled this task differs from state to state. However, each state having community colleges has recognized the democratic mission to provide liberal education by requiring liberal studies of all students, not just those preparing for the university. Consequently, community colleges in the United States have emerged as major recognized institutes of higher learning; over 40% of all college students in the USA and 52% of all freshmen attend community colleges. These colleges have successfully avoided the stigma of being identified as vocational schools and have attracted millions of students who would otherwise have had to forfeit the dream of higher education. Because of their high success, these colleges are often referred to as Democracy's Colleges.

These are the types of innovative institutions needed in Polish higher education if Poland is to create a modern nation committed to the democratic ideals that all men are by nature equal and that they have a fundamental right to the pursuit of happiness. Poland faces many urgent problems: the depletion of essential resources, the pollution of the environment, and spiraling inflation coupled with high unemployment rates. To rectify these problems, innovative and resourceful leadership is needed. Poland sorely needs educated people. Increasing intelligence throughout the entire populace is needed to confront these problems. It is time for Poland to value its human resources as much as, if not more than, it values its natural resources. It is time for Poland to build community colleges that realize these ideals thereby truly educating its people to confront their pervasive problems and to form a commonwealth worthy of the name.

Notes:

[1]Nomenklatura was a list of positions that could not be filled or from which people could not be fired without the specific approval of the party's Personnel Department. The nomenklatura is a very long list divided into several subsections. Anyone in a position of responsibility or influence appears on the list.

[2]The Teknikums are being phased out because their program of study extending over 5-6 years is considered too long.

[3]The Magister degree is the first degree offered in Polish universities. Like other European universities, Poland's universities do not offer a bachelor's degree. What is usually covered as part of the first two years of general education in American universities is usually covered by Polish students in General Secondary Schools known as Lyceums. A lyceum graduate once accepted into a university begins at once five years of study for the Master degree. These five years are roughly equivalent to the two upper division years plus the additional years required to earn a master's degree in Florida.

[4]It is important to note that the lycencjat is offered only to students who can pass the higher education entrance exam. It does not provide an avenue into higher education for basic vocational school students. Furthermore, in Poland general and liberal education is completed at the lyceum and therefore the general education component which makes up Florida's lower freshman and sophomore division is not a major requirement for earning the lycencjat as it is for earning the baccalaureate.

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Computer Mediated Learning:

A Solution to Many of the Challenges Facing Higher Education

Maxwell C. King, Tace T. Crouse, Bernard R. Gifford

THE CHALLENGES FACING HIGHER EDUCATION

The challenges facing the community colleges in Florida are not unlike those facing all institutions of higher education across the nation. The American higher education system is the most comprehensive, diverse, and admired collection of colleges and universities in the world; yet fiscal scarcity, public and professional criticism, failure to meet the needs of the non-traditional students, and legislative proposals that would limit access and restrict local decision-making are among the hazards found nationwide.

INSTRUCTIONAL REFORM

The new realities of the social and economic environment in which colleges and universities function force a reconceptualization and reconstruction of the undergraduate teaching and learning enterprise. Students come to us underprepared in both knowledge and learning skills. The reasons for this state are numerous, and fixing the sources is an impossible task. Preparing them adequately to go on from when and where we first encounter them is the goal. New and broadening technologies require an increasing number of employees to use higher order mathematical concepts, problem-solving and critical thinking skills. The budgetary problems are not predicted to leave the scene in the next decade, if ever. It is a virtual certainty that the funding growth once experienced is gone forever. Meeting the needs of rising numbers of students requires a new order, a new model. Higher education must look at more productive learning opportunities — productive from the viewpoint of both the student and the institution.

Employers want to hire people who can think independently, rationally, and creatively. They also want employees to possess a knowledge base in their area of expertise and be able to access information. Providing opportunities which make learning relative to the real world in which students will reside is not necessarily a common practice in every collegiate classroom. Relativity is a great understanding-provider and memory booster. This connectivity is essential for employee effectiveness and for student achievement.

The demand for improved instructional effectiveness for all students is strengthening. With community college populations composed or more and more part-time, older, minority, and/or non-English speaking students, the demand for specific strategies and interventions with these groups is growing. Meeting the diverse needs of these students can be accomplished only with individualized educational plans — a luxury that is too expensive when provided in the traditional academic setting.

It first appears ridiculous to state that improving the curricula and teaching methods with a focus on the needs of individual students is a 'reform.' Should not the consumers of higher education be treated with the same respect and reverence as the customers of corporate America? Apparently educators do not all agree on this point. The Wingspread Group on Higher Education (1993) stated that (higher) education seemed to be organized for the convenience of educators and the institution's interests rather than on what students learn and achieve. We still rely on the agrarian calendar and the factory method of bringing the students to the institution, working with them en masse, and then putting them out on the market. Many of our 'assembly lines' have

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hundreds of students within the same four walls, receiving the same lecture in a standard amount of time. All receive the same treatment.

The mission of the community college system is to provide access to higher education and to limit the barriers. The 'open door' does create a student body whose entry-level skills are widely diverse. Serving all students' needs is difficult and can be costly, but it cannot be a road not taken. The challenge is to create the best learning environment for each student in the most cost effective manner. Students do not learn the same — not using the same methods, not within the same time constraints, not understanding the same amount of information and depth of concepts, not capable of the same transfer or synthesis of learning.

FROM ACCESS TO ACHIEVEMENT

As long as the rules for access remain as they are, the opportunities for students to enroll in the community colleges are fairly good as long as they are able to meet the time and location requirements. However, many potential students are not able to attend the factory where classes are scheduled according to the standard workdays. Alternatives are necessary, and many already exist in the system. Attention must be given to the quantity and quality of the alternatives. Access without real and demonstrable academic achievement is an irresponsible, wasteful use of limited resources available to higher education. Telecourses, independent study options, and correspondence courses are some of the alternatives presently provided, but these do not meet all needs.

Fiscal pressures, public criticism, and changing political tides are rearranging the ideological and policy terrain in which publicly funded higher education institutions conduct their operations. One trend is already obvious: the executive and legislative branches of state governments, including Florida, are no longer willing to permit publicly funded higher education systems to establish their independent education and expenditure priorities with only perfunctory oversight. Publicly funded colleges and universities are being pressured to justify their existing and future claims for fiscal support. We are also being pressured to improve our responsiveness to the needs and requests of students and tuition-payers.

How do we create a learning environment which:

... appeals to the sophisticated consumer of technology yet is comfortable for the non-technical students?

...incorporates all the rigor and requirements of the curriculum yet permits students to progress successfully from simple to hard concepts?

...allows students to progress without wasting time but taking time when needed?

...uses relevant real-world perspectives to motivate and explain?

...provides for instant feedback on assessments?

...is affordable?

These customer-produced and external interest group-produced pressures establish the framework for this working model of collaboration between a public community college and a private sector partner which is the subject of this paper.

THE PARTNERSHIP

In order to take these considerations into account, Brevard Community College has developed a partnership with Academic Systems, Inc. to bring the Mediated Learning Model to students. This model addresses the needs of the student by providing individualized instruction including the following characteristics: interactive multimedia lessons; teacher intervention when it is most effective for the student; real-time assessment of student progress which dictates curriculum development throughout the program; and cooperative leaning opportunities. Together, the partners are working to develop and refine courses identified as top priorities by the college.

Mathematics is an essential part of most programs. Students often find this requirement one of the most difficult in the general education program. This is why Brevard Community College chose mathematics courses as the first priority in providing mediated learning.

One such a course is Developmental Algebra. In Florida's community college system, as many as 70% of new students each year are required to take a developmental algebra due to low entry-level placement scores. With general education mathematics requirements set at six hours of College Algebra and above, the students must take one and sometimes two developmental classes as prerequisites to these requirements. Brevard Community College and Academic Systems, Inc. have produced two interactive courses to address the mathematical competencies in Developmental Algebra and Intermediate Algebra. These courses were extracted from the collection of materials created by Academic Systems for its *Interactive Mathematics* program. Both the specifics of the model design and the results of using the Mediated Learning Model in Developmental Algebra are discussed in this paper. The next focus of the partnership is the College Algebra course which has been designated as a major bottleneck course in both the community colleges and the universities in Florida. The course is being prepared and is scheduled for beta testing in late fall, 1996 and spring, 1997.

THE MEDIATED LEARNING MODEL

The basic Mediated Learning Model is simple and preserves the core elements of the traditional instructional enterprise: instructor, instructional text, and students. In addition, Mediated Learning integrates two new resources: interactive multimedia and self-directed pacing. With the introduction of this technology comes computer-mediated instruction, assessment, and support. With the self-pacing comes extended time and increased understanding and achievement.

The Mediated Learning Model

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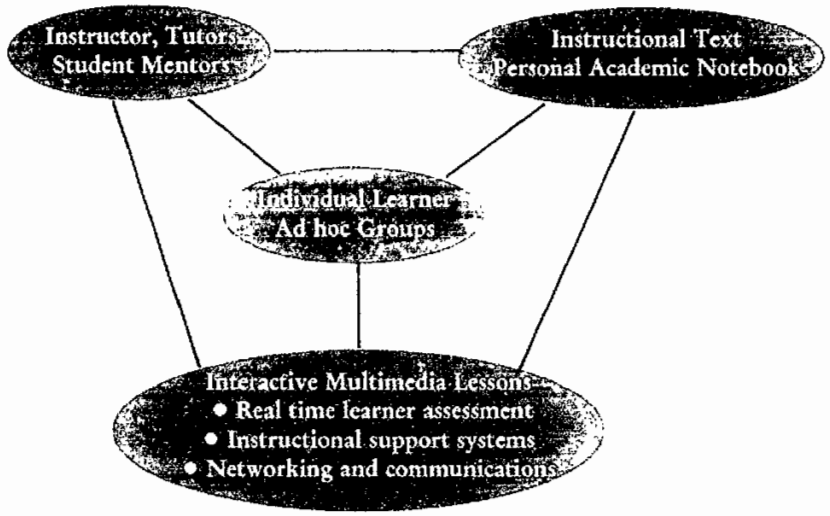

modifies the role of each element in the traditional instructional mixture so that the learning assistance needs of the individual student are appropriately addressed. The human roles are redefined as follows:

...**Instructor's Role:** The instructor's role in the Mediated Learning setting is to provide instructional assistance through the employment of multiple *modes* of instructional support including directing, modeling, coaching, guiding, and mentoring at times determined by either the student or the instructor.

...**Student's Role:** The student in the Mediated Learning setting is required to play an active role in his or her own learning by developing an understanding of the rationale behind the multiple forms of assistance provided by the instructor, by developing the skills and knowledge to take advantage of these forms of assistance when they are most likely to be advantageous. This development is primarily focused on the interactive multimedia resources. The students learn about the content and develop stronger skills in creative thinking and problem solving. These last two teaching strategies help the student learn how to learn. In addition, the student determines the length of time needed on a topic/concept and can spend time outside of class with the media.

The following diagram illustrates the interaction among the various elements that are essential to the Mediated Learning Model. Nothing is linear; this is an interactive system just as the software is interactive. Continuous improvements are initiated by any of the elements, and each element has an impact on the others. The dynamics also extend to the partnership between Academic Systems, Inc. and the institution. Continuous staff and faculty development occur right on the premises in real time as the support staff from Academic Systems, Inc. work directly with students to model effective strategies and solicit student information.

The Mediated Learning Model

Mediated Learning creates a flexible, responsive learning and instruction environment. Adoption of this approach has been shown to enable instructors to significantly reduce the amount of direct classroom instruction time they are required to spend on whole-class, lock-step, lecture-presentation activities and, correspondingly, to increase the proportion of classroom instruction time spent on addressing the specific learning assistance needs of individual students. Equally important, the Mediated Learning approach gives faculty the tools and support they need to reconceptualize the nature and character of instructional work in a manner that permits them to be more effective in providing targeted, relative learning assistance, and the approach also allows their students to be more productive in their autonomous learning activities. Because learning can take place with immediate feedback from computer assessments and the students can work on their courses during additional hours outside the class hours, the learning and teaching enterprise is more responsive and more flexible for both students and instructors.

Although in its early stages and undergoing continuous research, the results of implementation of the Mediated Learning Model at Brevard thus far indicate that the approach yields learning outcomes equivalent to or greater than those generated in more traditional classroom instructional settings. As instructors have learned to exploit the system's advantages and have become more adept at individualized assistance and creating cooperative learning opportunities, the success rates have increased by as much as 20 percent over levels obtained in the traditional lecture-centered settings.

ESSENTIAL ENABLING TECHNOLOGIES FOR MEDIATED LEARNING

The design, development and continuous improvement of each Mediated Learning course are based on a platform of four essential enabling technologies:

...Interactive Multimedia which is both engaging and task-specific uses a seamless incorporation of text, hypertext, graphics, animation, simulations, visualizations, video, and audio formats.

...Real-Time, Competency-Based Learner Assessment System provides immediate feedback and prescriptive post-test instruction.

...Instructional Support System links the interactive multimedia lessons with the real-time learner assessment system. The system facilitates *adaptive* instruction and learning by individualizing student plans based on pre-test

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prescriptions.

...Integrated Networking and Communications System is the current implementation structure for the Mediated Learning courses.

Offered in an open-access computer lab over a local area network, the system can serve any number of stations as determined by the institution. The initial investment in such a LAN can be very high. If the network is used for other purposes, the cost to operate the Mediated Learning program is reduced.

INTEGRATED INSTRUCTION: MATERIALS AND SUPPORT SERVICES

In order to implement Mediated Learning successfully, Academic Systems, Inc. also had to develop and integrate two other essential components to complement the four essential enabling technologies:

...Personal Academic Notebook: This new form of instructional text replaces the standard "one-size-fits-all" textbook. It is print-based and provides support for autonomous learning activities carried out away from the computer network. It serves as an advanced organizer,underscores learning objectives, and allows for more practice as assigned to the individual according to their progress through the multimedia lessons.

...Training and Support for Instructors: The next essential complimentary component of Mediated Learning is a systematic program of regular training and support for faculty who are new to this form of instruction and the learning environment it creates. A series of workshops is provided by specialists and supplemented by regular campus visits from instructional technology consultants. A major ingredient for success is to have a team of faculty take the leadership and orchestrate the support system for all participating teachers. Clear, concise print materials, including an Instructor's Guide, are available from Academic Systems, Inc. This features detailed descriptions of the scope, sequence, and instructional architecture of each course, as well as suggestions for assisting students to achieve success. In addition, as a mainstay of its relationships with all its partners, Academic Systems, Inc. has created online support and information resources throughout the World Wide Web. *ACADEMICNET* enables Mediated Learning faculty and staff nationwide to exchange information and advice, to post questions and answers, and to share ideas for improvements.

MEDIATED LEARNING: STUDENT FOCUSED

A major quality of Mediated Learning is its individualized learning within a motivating, encouraging instructional environment. Students are empowered — given the opportunities to exercise effective and efficient control over their own learning. Their pathway through the course work is unique and paced by their abilities until the appropriate level of mastery is reached. Students secure real-time assessment and feedback when it is most useful, including extra assistance when needed. Individual progress reports are provided frequently and provide students with more information on their achievement than in a traditional environment. Students are provided with assistance from teachers, tutors, and other students on a situational basis.

The faculty role and workload shifts from preparing lectures, tests, and grading the tests to guiding individuals as appropriate and monitoring progress. Other administrative practices also fall to the wayside if the institution so chooses. Class sizes can be adjusted according to the size of the network; multiple enrollment dates are possible due to the individualized program plans; and labs can remain open for extended hours with teaching assistants and tutors.

A side benefit from using the Mediated Learning environment is the gain in computer skills for the students. They soon develop an appreciation for the online environment and the capabilities of multimedia. Though they must do little more than point and click a mouse and a few keystrokes, they learn how to open and close files, and they learn how a branching program works. This is technology that is essential in today's world.

MEDIATED LEARNING: INITIAL FINDINGS

Brevard Community College Developmental Algebra students and faculty have experienced the Mediated Learning Model for a little over a year. Success rates are improving due to several interventions:

...The course materials have been revised to eliminate certain nonessential topics and a portion of the enrichment activities.

...The faculty are becoming more familiar with the resources on the system and are able to provide improved individualized instruction.

...The students are now required to participate at scheduled times in addition to the open lab times. The additional structure encourages completion of requirements in a more timely manner without requiring firm deadlines.

Other Mediated Learning projects have been developed in universities and colleges around the country. Over the past year, approximately 40 instructors and 1500 students have used modifications of the *Interactive Mathematics* in entry-level algebra courses.

One of the unique advantages of Mediated Learning is that it establishes a standard of accountability — accountability for measurable improvements in student academic achievement — that is hard to implement using other instructional approaches. The instructional support system that is embedded in the networked Mediated Learning course collects extensive data on student performance and progress. In addition, Academic Systems, Inc. collects data on student achievement on paper-and-pencil midterm and final exams. This data is extraordinarily valuable to the student and the instructor and permits a high degree of individualization of instruction and learn-

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ing. It is also valuable to Academic Systems, Inc. as decisions are made to improve this course continuously and to plan for other programs.

The initial data collected are not sufficient to draw statistically significant conclusions, largely because of the lack of good control group studies. Nevertheless, some preliminary findings and conclusions have emerged, and Academic Systems, Inc. has already incorporated several important discoveries in the new partnership versions of *Interactive Mathematics.*

The most significant preliminary conclusion is —

Instructors who have made the transition to the Mediated Learning approach consistently report that their students are learning better and learning more.

Much more work and careful research is being done to validate the positive effects of Mediated Learning and to identify the dissatisfactions. This research is capturing information in the following seven areas:

... Student achievement— Measured as percent who pass all units and success in follow-up courses. Initial results indicate a significant correlation between the amount of time students spent on the computer and success in the course.

... Student attitudes— Measured by student interviews. Initial results indicate more enthusiasm for this learning method. A particularly positive group were students who previously failed the course.

... Characteristics of successful students —Measured by case studies and instructor observation. Instructors report that positively-motivated students were more successful. A chief motivator noted was the sense of control over their own learning.

...Faculty attitudes—Measured by faculty interviews.Fears of the technology were replaced with enthusiasm for the individual interaction with the students in early reports.

...Characteristics of successful faculty—Measured by success rates of students. Initial results suggest the following characteristics of successful Mediated Learning faculty:

- Willingness to try a new model
- A tively involved with each student
- Interested in their own professional development
- Support from administration
- Regular interaction with other Mediated Learning faculty

...Implementation models— Descriptive study of various institutions.

...Continuous improvement— Continue meetings with partner campuses to determine areas for improvements.

WHAT'S NEXT?

The challenges facing higher education will continue to engage a majority of administrators' time and efforts unless solutions are found that will turn these challenges into positive motivators of successful programs. The partnership of Brevard Community College and Academic Systems, Inc. is creating an improved learning environment and addressing the needs for cost-effectiveness, meeting the needs of a diverse student group, and providing access to entry-level algebra throughout the year. Students learn when they are ready to learn. They learn what they must learn.

What's next? Research on and improvement of the existing courses will continue. Additional course ware is being developed and tested at Brevard Community College and other institutions across the nation to utilize the model with other curricula. The system lends itself to more than learning mathematics. Developmental writing and reading are next steps.

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4. Present a collection of success stories of students centered around a selected theme: (those who were in the top ten percent of their high school graduating class; those who were the first in their immediate families to attend college; those who received scholarships.

5. Descriptions of successful procedures used by faculty in their classes.

6. Descriptions of your General Education Program. Comparisons with other institutions relating to objectives, requirements, course patterns, etc.

7. Evidence (specific examples) of ways in which your college democratizes higher education opportunities.

8. Attributes of quality in your college.

9. Descriptions of positive effects of research findings upon your college.

10. Reports on institutional effectiveness.

11. The impact of "sunshine" on Board decision-making.

12. Successful programs of student retention.

13. Effects of "dual enrollment"....high school/community college or community college/university.

14. Who are those in your community that are not attending any higher education? Characteristics, profiles, numbers, relating to GED. What obstacles affect these individuals?

15. Impact of recreation opportunities sponsored by your community college.

16. Restrictions resulting from financial cutbacks and the impact of these restrictions.

17. Trends in student fee structures and the impact of increasing fees.

It might be worthwhile for the President of each college to appoint a special committee that would make a list of the questions that are pertinent to that institution and encourage faculty and staff to write these reports for publication.

This is our challenge to all those who work in Florida's community colleges, and **VISIONS** could be your major avenue for disseminating your findings. We look for your contributions.

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In the 1790s Thomas Jefferson wrote in correspondence with Pierre du Pont de Nemours and published in National Education in the United States of America:

Circumstances must decide whether there should be a college for each county or for two counties or for three. That should depend on thepopulation and the wealth, somewhat on the topographical situation.

In some cases, in order to encourage education in poor counties where poverty makes education even more necessary than elsewhere, the legislature may think it wise to spend a disproportionate amount of state fund on a local college and leave only part of the expense to the county or counties in which the college is located. In other cases they may prefer to leave the whole expense to the counties. (p. 54)

In 1947 the Truman Commission recommended:

The American people should set as their ultimate goal an educational system in which at no level—high school, college, graduate school, or professional school—will a qualified individual in any part of the country encounter an insuperable economic barrier to the attainment of the kind of education suited to his aptitudes and interests. (vol. 1, p. 36)

Hence the President's Commission suggests the name "community college" to be applied to the institution designed to serve chiefly local community educational needs. (vol. 3, p. 5)

The Community College seeks to become a center of learning for the entire community, with or without the restrictions that surround formal course work in traditional institutions of higher education. It gears its programs and services to the needs and wishes of the people it serves.(vol. 1, pp. 69-70)

It may have various forms of organization and may have curricula of various lengths. Its dominate feature is its intimate relations to the life of the community it serves. (vol. 3, p. 5)

In 1996 President Clinton recommended:

By the year 2000, the single most critical thing we can do is to give every single American who wants it, the chance to go to college. We must make two years of college just as universal in four years as a high school education is today. And we can do it. . .

I propose a $1,500 a year tuition tax credit for Americans, a Hope Scholarship for the first two years of college to make a typical community college education available to every America." (Address by the President to the Democratic National Convention, August 29, 1996, Chicago, Illinois.)

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