#### DOCUMENT RESUME

ED 188 668

JC 800 271

AUTHOP

Possmeier, Joseph G.
Taking Charge of the Eighties: Flanning and

Management in Higher Education.

PUB DATE

18 Feb 80
16p.: Paper presented at the Annual Meeting of the

Southern Association of College and University
Business Officers (52nd, Williamsburg, VA, February

18, 19801

EDRS PRICE DESCRIPTOPS MF01/PC01 Plus Postade.

\*College Administration: \*College Planning: Community Colleges: Computer Oriented Programs: Decision Making: Futures (of Society): Information Networks: \*Information Processing: \*Information Systems:

Information Utilization: Institutional Pesearch: Organizational Communication: Postsecondary

Education

ABSTRACT

The effects of declining enrollments, rising costs, increasing public scrutiny, diminishing financial and energy resources, and emerging environmental impact considerations will be felt by all institutions of higher education, regardless of institutional type. To cope with these threatening issues, a strategic planning process must be developed which places significant emphasis on the resources to be integrated and coordinated. Such a process must include a pre-planning phase, a needs assessment mechanism, a mission statement, achievable institutional goals, comprehensiveness in scope, a kev planning officer, executive management commitment, involvement of staff on all levels, short- and long-range goals, a cyclical structure, use of information as the basis for planning, data collection and coordination of information linkages, flexibility, a priority-setting mechanism, a tie between planning and budgeting, institutional research, synchronization with state planning processes, and a routinely updated master plan. A second major management component over which institutions must deir better control in the future, is information resource management. Extending beyond the traditional scope of computing services. information processing in the future should also include text management and computer/communications networks, in order to bridge the information gap between data processing and the management decision-making process. (AYC)

\* Peproductions supplied by EDPS are the best that can be made \*

from the original document. \*



# TAKING CHARGE OF THE EIGHTIES: PLANNING AND MANAGEMENT IN HIGHER EDUCATION

US DEPARTMENT OF HEALTM.
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM
THE PERSON OR ORGANIZATION ORIGINATING IT POINTS OF VIEW OR OPINIONS
STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF
EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Joseph Rossmeier

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Joseph G. Rossmeier, Director of Planning, Research and Management Services
Northern Virginia Community College 8333 Little River Turnpike
Annandale, Virginia 22003
As Presented at the 52nd Annual Meeting of the Southern Association of College and University Business Officers Williamsburg, Virginia February 18, 1980



## TAKING CHARGE OF THE EIGHTIES: PLANNING AND MANAGEMENT IN HIGHER EDUCATION

I am deeply pleased to have the opportunity to speak to you today because you are so vitally important to the successful accomplishment of my title task--"Taking Charge of the Eighties: Planning and Management in Higher Education"--and because your knowledgeable and skilled responses will help ME better plan for planning and management in the decade being called by many "the decade of decision."

As a show of my appreciation for this opportunity, I intend not to bore you with details of a grandiose systematic planning model, nor to frustrate you with a pontification on management in present day institutions. I hope instead to stimulate your thinking about future challenges approaching all too-fast.

I will first highlight some major domestic and global issues which confront us today; then look into the future and comment on the coming transformations in post-secondary education-especially in community colleges, since they are the sector of public education with which I am most familiar. In doing so, I will describe possible linkages between understanding these future challenges and formulating responsive action strategies.

In choosing to concentrate my talk on the future, I experience a slight trepidation, remembering the plight of a character in a John Updike novel, The Poorhouse Fair (an appropriate work to reflect on in a talk that must consider double-digit inflation). In Updike's novel, this character is giving a talk about the future to a group of senior citizens, and he is spelling out all these grandiose plans for social improvement. At the end of his talk, an elderly lady, named-significantly--Amy Mortis, asks, "Will this happen in our lifetime?" The speaker reluctantly has to say, "Well, no. But in your children's lifetime possibly and certainly your grandchildren's." Mrs. Mortis reiterates, "But not in ours?" The speaker says, "No." And Mrs. Mortis replies, "Then I say to hell with it."

I trust my talk will not engender the same response, because for those of us charged with planning and management in higher education in the eighties, the future is now. My prognosis is not a gloomy one--if we think and plan intelligently now, I am optimistic that we can help bring about the kind of future we want to see in higher education.

Now, ten years ago many of us were unfamiliar with such things as pocket calculators, microprocessor chips, \$1.25 a gallon gasoline, OPEC, ERA, the Gray Panthers, Plains, Georgia, hot tubs, jogging, test tube babies, Proposition 13, and declining enrollments. What the coming decade will bring is exciting to contemplate but difficult to predict, since our world is experiencing such rapid and dramatic changes. In



fact, changes during the next 10 to 30 years are likely to equal and possibly surpass the changes that occurred during the past 250 years. The present energy crisis alone has touched off great uncertainties about the nature of education, work, societal values, international relationships, the economy, and in our own little world of indivi alized creature comforts, such things as travel, leisure, food sports, shelter, etc.

Futurist Alvin Toffler, in a new book to released shortly, foresees dramatic change over the next 50 year, by predicting the dissipation of the industrial society whice emphasized mass production, mass marketing, mass media, mass distribution, and above all, mass education. In its place, Toffler predicts that society will emphasize diversity, not uniformity, as the basis of Western civilization (Business Week, September 1979).

Trust that change will not spare our institutions. Postsecondary education in the 1980's, which up to now has been
viewed by some as the "not-to-me decade," (Chronicle, January
7, 1980) is certain to experience a "new academic revolution,"
according to a recent final report of the Carnegie Council on
Policy Studies in Higher Education entitled, "Three Thousand
Futures: The Next Twenty Years for Higher Education."
During the next 20 years, the students, that is, the consumers,
will experience a buyer's extravaganza while institutions, the
sellers, will fight for survival. The Carnegie Council
expands on this condition by saying that:

"Students...will be recruited more actively, admitted more readily, retained more assiduously, counseled more attentatively, graded more considerately, financed more adequately, taught more conscientiously, placed in jobs more insistently. The curriculum will be more tailored to their tastes" (Chronicle, January 28, 1980).

This prediction may come as somewhat of a shock given that many faculty, administrators, and trustees have continued to perpetuate the myth that somehow the fate of their institutions will be spared the fullforce of such currently threatening issues as:

- --declining enrollments;
- --rising costs;
- --increasing public scrutiny;
- --diminishing financial resources;
- --diminishing energy resources; and
- -- emerging environmental impact considerations.



If we take a closer look at each of these future problems, we may see clearly why few, if any, institutions will escape them.

### Let's look first at Decreasing Enrollments

The enrollment threatening population pattern should be of no surprise to anyone, especially those in service agencies such as higher education institutions whose livelihood depends so heavily on one major segment of the American public—the high school graduate. By watching the human pipeline more closely, we could have observed this downward pattern in the elementary and secondary schools for some time.

While part-time older students are projected to increase over the next few years, they probably will not offset the projected loss of full-time, recent high school graduates. According to the National Center of Educational Statistics, college enrollments nationally will reach a peak in Fall 1981 and then begin a gradual decline to about 5.5 percent from that point by 1988. Institutions in the East and Midwest are expected to lose about 10 percent of their comparative share of enrollment, while schools in the South will grow by about 5 percent, and the West and Southwest will experience a 10 percent college enrollment increase. These trends reflect shifting population patterns and characteristics in the United States. The institutions least likely to reel the upcoming enrollment pinch, according to the Carnegie Council, are large research institutions, prestigious liberal arts colleges, and community colleges because they have expanded their role to fulfill more social as well as academic needs (Washington Post, January 23, 1980).

Because a major decline in the 18-24 year old group will cause a radical change in higher education, the Carnegie Council believes there will be a "downward drift in quality, balance, integrity, dynamism, diversity, private initiative, and research capability" (Washington Post, January 23, 1980). This forewarning alone should provide us with enough initiative to assess our planning and managing strategies and capabilities. Posed with the threat of declining enrollments, how is your institution prepared to respond to the future?

### Next, let's consider Rising Costs

The seventies began with inflation hovering around 6 percent and the prediction this astonishingly high rate would soon be turned round. We have just moved into the eighties with inflation finishing out the seventies at 13.3 percent without adjustment for taxes, and the prediction that it will be at least several years before it drops to 7 percent. Even at the very modest 6 to 7 percent rate, prices could well be double what they are today. Looking at the inflation problem in our institutional setting, the Higher Education Price



Index, developed by the National Institute for Education, shows goods and services for which a typical college paid a \$1000 in 1970, cost \$1794 in 1979, and assuming inflation continues at the modest 6 to 7 percent average rate, will cost \$3444 in 1989 (Chronicle, January 7, 1980).

Further, the unadjusted 13.3 percent rise in the CPI in 1979 means that we finished off the seventies by doling out \$22.29 to buy the same amount of goods and services \$10 would have purchased in 1967. Translating this cost spiral to personnel which consumes 80 to 85 percent of our budgets today, will higher education continue to afford permanent faculty? Art Cohen (1976) predicts that by 1990 community colleges will be dominated by part-time instructors. As the chief financial expert in your institution, how do you propose to cope with an inflation economy which will haunt you through the early eighties? More succinctly, how will you urge your management team to develop a leaner, more disciplined, more productive institution?

#### Third, We Have Increasing Public Scrutiny

The consumerism movement which permeates societal values today has direct implications for higher education. Institutions can no longer afford to turn out graduates in fields that are already saturated with trained personnel or are obsolete in today's highly technological society. Nor can institutions continue to provide offerings only in the traditional setting, time and instructional mode, and remain competitive in tomorrow's market.

While community colleges have tended to maintain a sense of accountability in providing levant educational programs and services to varying constituent groups in their immediate service areas, two year colleges also must become more responsive and adaptive if they are to continue to be spared from highly publicized criticism. Criticism from consumers about the inadequacy of higher education can only lead to tighter controls by the funding agencies.

The alternative is for institutions to develop appropriate internal mechanisms such as routine needs assessment efforts to anticipate the ever-changing, complex needs in society. While the nation has traditionally brought forth its needs through representative democracy, this modus operandi is now changing to participative democracy. That is, people want a more direct role in the formulation of policy. They will demand not only equality of opportunity, but also equality of results (AASCU).

If institutions of higher learning are to continue serving as a tremendous national resource, they must rise above the current disquieting trends in society and undertake diligent planning and managing in order to maintain strength, vitality, independence, but above all, accountability.



### Fourth, there's the issue of Diminishing Financial Resources

A simple proposition among politicians and their budget analysts claims that if enrollments are in fact declining then so should institutional budgets. Politicians and budget analysts assert themselves even more ominously by first limiting personnel positions and then curtailing flexibility in institutional budgets once the dollars are allocated. For example, monies allocated for personnel salaries in many instances can no longer be shifted to equipment or other support services.

The continuance of adequate state and local funding is made more difficult by competition from other services dependent on these same financial coiffures. Health, corrections, and social agencies are a few which have essential needs and an increasingly vocal constituency.

The Jarvis-Gann proposal or Proposition 13 approach to financing poses another threat to continued state support. In California, Proposition 13 sent major shock waves through the large community college network, severing local tax support which these institutions had depended on for so many years. Ed Gleazer, President, AACJC (1979), concludes that "taxpayers in some states and communities have looked no more kindly on the two-year institutions than they have on other great social agencies."

Is the shrinking of public funds placing higher education in such desperation that institutions must seriously consider "winding-down" the scope of their operations? Can your institution scale back its operations today, if necessary, through planned retrenchment?

# Last, let us consider Emerging Energy and Environmental Conservation

The current energy crisis facing America is leading us directly into an unprecedented transition period which will revamp our way of life. This incontestible fact results from our historically increasing energy demands and decreasing global supplies of natural gas and oil.

Past and present total recoverable oil reserves are estimated at about 2 trillion barrels. Assuming 360 billion barrels of this reserve was already consumed by 1979, and the present world consumption being around 20 billion harrels per year and growing by approximately 3 percent per year, the 2 trillion barrels would easily be exhausted by 2020 A.D.

Of course, the most immediate implication of an energy crisis is its effect on the economy. Energy and the economy easily overshadow all other issues confronting us today. Added to these problems will be the continuing concern to improve the natural environment. As the energy sources such



7

### Page 6

as solar, nuclear, tidal, sonar and synthetic are pursued rigorously, the natural environmental balance could be jeopardized unless strong legislative action minimizes air, water, and land contamination and destruction.

The consequence of the looming energy issue on higher education is still uncertain. But the evidence is already clear that it has lead to higher costs in heating and cooling, oil based products for construction and for laboratory and maintenance uses, and transportation. What is not known yet, especially in community colleges, is the impact of energy on the commuter student. Will he or she continue to attend regardless of gasoline costs, or is there a point when low tuition costs and accessibility no longer balance high commuting costs. Conversely, can an institution extend itself into the community using more off campus centers, also costing more to rent, to make education more attractive to the commuter? You, as the chief financial officers, will undoubtedly become quite familiar with unit costs and break even costs for all programs and services in the eighties in order to make these major decisions.

#### Methodology of Planning

I do not have answers to all these questions, of course. But I do offer a method of planning and management that may help us learn how to get answers.

Never before has higher education experienced such urgency in getting its "houses of academe" in order. The choices for coping with these threatening issues are limited regardless of institutional type. We must bring effective and efficient management to bear in addressing and resolving the problems associated with the harsh realities of enrollment, demographics, inflation, mission changes, limited resources, public scrutiny, and environmental uncertainties.

Effective management must be built on (1) comprehensive institutional planning and (2) information resource management. These two components of modern management practice are quite critical for continued development of effective and responsive institutions.

### Comprehensive Institutional Planning

Let me talk about planning first, especially as it applies to a community college, although I trust that much of what I have to say also applies to other institutions.

To appreciate the direction I believe we must take, let us consider the former state of planning--which still may prevail in too many places. Over the years, as facilities were put into place, colleges got around to defining a broad mission statement along with some "bread and butter" but unspecifically stated goals.



#### Page 7

Now planning must redirect thinking away from high sounding goals toward clear, creative, insightful, opportunistic decision-making to gain better control of an institution's destiny. Such a strategic planning process places significant emphasis on the position of resources--fiscal, human, physical, and intellectual--which must be coordinated and integrated to maximize opportunities in the institution's environment. This aspect of strategic planning has been called by Robert G. Cope (1978) in his recent book Strategic Policy Planning - an "opportunistic analysis."

Before I ighlight some basic concepts about planning and management which will emerge in the eighties, I must provide you with a working description of the relationship between planning and managing. Without question, strategic planning is a basic function of management. Yet, strategic planning as a management function cannot be understood properly and implemented successfully without defining who or what constitutes administration, management, or even governance. Cope resolves this distinction by saying, "Decision making is synonomous with managing, which in turn is synonomous with planning and governance." Since "strategic planning is the collective exercise of foresight," which in turn is required of all decisions, "planning becomes in practice, identical with decision making on the part of those with management or policy making responsibilities." Thus, planning and management are deemed as inseparable components of modern management practice. Harold L. Enarson, President, Ohio State University, (1975), verifies this concept by stressing that "Planning is inseparable from management, and both involve those elements we associate with art--intuition, creativity, discernment, command of the work tools and materials, and appreciation of the interaction of form and function." Thus, we must recognize the integral relationship planning has to management.

Let us now consider what planning must involve. Planning today and through the eighties will not be equated with growth and the proliferation of activity. Rather, institutions must recognize that the upper most priority will be qualitative growth achieved through selectivity, concentration and flexibility. An improved planning process should result in a state of academic integrity and financial health in higher education. The knee-jerk approach to continuous trimming and reducing across the board is not productive. Resources must be allocated in terms of what a particular institution does best. Some may cast this notion off as nothing more than planning for retrenchment, but colleges have one hope: to contemplate more carefully their perspective futures through a rigorous planning process.

The next question then becomes not whether to plan but how to plan. You as the chief financial officer need to ask yourself several pertinent questions about the planning efforts in your institution. Does your institution now have a planning process in operation which includes the following 18 components:



- 1. A pre-planning phase which encompasses the development of a plan for planning?
- 2. An assessment mechanism which addresses both environmental and institutional needs?
- 3. A mission statement which sets forth a realistic and desirable direction?
- 4. Achievable institutional goals which focus on instruction, public service, academic support, student support, institutional support, and for the universities. research?
- 5. Comprehensiveness in scope which means a formal system for integrating short, mid, and long-range perspectives of all elements of the institution?
- 6. A key planning officer or office to serve as both energizer and staff resource to the planning process?
- 7. Executive management commitment and involvement?
- 8. Involvement of individuals from all organizational levels?
- 9. Plans and goals for a variety of time spans including two years, six years, and/or ten years?
- 10. A cyclical, rather than one time or intermittent process?
- 11. Recognition of information as a primary institutional resource and the underlying factual basis for planning?
- 12. Supporting technology and staff competencies to (a) conduct data synthesis and aggregation, program review, performance audits, and action research, and (b) coordinate data linkages between local-state, elementary-secondary-higher education, college-industry-military, and two year colleges-four year colleges and universities?
- 13. Sufficient flexibility to allow for changing emphasis in the planning process to focus on overall master planning, program planning and review, class schedule development, resource allocation and reallocation, or other pertinent subject areas as needs dictate?
- 14. A priority setting mechanism?
- 15. A direct tie or integral relationship between the institution's planning and the budget development processes?
- 16. Recognition of institutional self evaluation and research as a vital function?



- 17. Synchronization with state agency master and program planning processes?
- 18. A final planning product called a plan which is updated routinely?

My intent here in asking these questions is to help you determine how your institution can improve its planning. If you are missing any of these items, you may want to revise your process.

Colleges and universities are frequently touted to serve as the agents to prepare people for the future. Hence, does it not make reasonable sense that these same institutions should possess a systematic planning approach to adapt itself to the prevailing winds of change—this constant state of flux—in which we find ourselves? Unless such steps are taken, institutions will reflect the status quo in overall purpose, budgetary decisions, personnel commitments, and program focus. In essence, the problem as John Gardner (AASCU 1978) points out, is not change per se, but rather the management of change which in the context of institutions of higher learning—is yet to blossom into full flower.

#### Information Resource Management

The second major management component over which higher education must gain better control in the future is information resource management. As we move into the eighties, institutional executives will face a new information explosion that will equal what you have seen in the past two decades. A new generation of information processing systems will be able to provide institutional executives with the capability to make their management efforts far more gost effective. Over the last ten years a technology has emerged to facilitate the evolution from data processing into information processing. From a management perspective, we are now witnessing a transformation of information systems to information resource management.

My definition of information resource management extends well beyond the traditional scope of computing services with which most of you are quite familiar. The rew strategy for information processing in the eighties will also encompass (1) text management including word processing, filing and retrieval systems, and document production tools; and (2) computer/communications networks including electronic mail systems such as communicating word processors, facsimile and computer-based message systems, and teleconferencing.

It has been realized during the last ten years that computer systems do not necessarily support the management decision making process as originally assumed. The new atmosphere of concern over information management encourages



the development of computer based systems which will bridge the information gap between data processing and the management decision making process. This atmosphere of concern is based on three assumptions:

1. The computer is destined to become the single most important advancement society has developed since the automobile, the cotton gin, and the steam engine. This device has a growing presence in our lives and promises to broaden our physical reach with the power of infinite intelligence (Infosystems, January 1980). Consider the computer's pervasiveness already in our daily lives: microprocessor chips are used in games, toys, automobiles, household appliances, communications devices, commercial travel, health care, banking, credit, the office, supermarkets and other retail establishments, and, of course, education.

As we move into the next decade, computer literacy is emerging as a requirement for high school graduation. In higher education, microcomputers and desk top computer terminals are becoming more abundant to support instruction, through computer managed instruction, problem-solving, tutorial, drill and practice, and simulation capabilities regardless of what discipline students are pursuing. In my own college we are currently discussing making computer literacy a fundamental requirement for graduation.

warrants the same recognition and status as human, physical, and fiscal resources. John Diebold, (Infosystems, October 1979), an internationally acknowledged leader in the field of management technology, has said that:

"...information, which in essence is the analysis and synthesis of data, will unquestionably be one of the most vital corporate resources in the 1980s. It will be structured into models for planning and decision making. It will be incorporated into measurements of performance and profitability. It will be integrated and treated as an assest."

3. Colleges and universities have a basic hierarchy of information needs which is closely aligned to their organizational management levels. The trend is to have computers fulfill a major role through information systems in supporting these needs. The prime role of an information system is to facilitate the achievement of an organization's goals and objectives more effectively and efficiently than otherwise possible. Defining the relationship between the organizational hierarchy and information needs is important when developing an information system, since planning, organizing, directing, controlling and operations activities occur at different levels and vary in information requirements.



My focus today in outlining these three assumptions is not to extol the virtues of computers, but rather to discuss the role of computers and systems technology in better planning, managing and evaluating our institutions. Let me highlight some likely gains as the coordination of information resources develops and expands in higher education.

Improved information management will allow for a broader concept of institutional strategic planning and policy control within colleges and universities. This broadening will occur because both executive and middle managers will gradually learn to use the computer as a management tool rather than as just a processor of data. An evolution will occur not because everyone instantly develops into a systems analyst or programmer. Rather, the transformation here should be much more palatable to those skeptics who still view the "coming of the computer" as the "loss of functional control." The day is around the corner when management executives such as financial officers will become so computer literate that daily on-line transactions involving modeling, simulation, graphic presentations, and reports by exception will become a normal way of life.

A number of emerging trends in the market place today will help to assure greater this "hands-on experience":

- Decentralization of the data processing function through distributed on-line computing;
- User oriented application generators and guides which employ user-friendly languages;
- 3. Convergence of software to integrate data processing and office automation; and
- 4. Hardware which is smaller, cheaper, and more cost effective.

With these trends there soon will be an increase in the acceptance and use of proprietary software, that is, software packages developed and marketed by commercial vendors. Technical data processing personnel shortages coupled with spiraling personnel costs and the inability to increase programming productivity make pr prietary software quite attractive to colleges and universities. Some institutions are even going so far as to turn their complete data processing operations over to commercial computing agencies.

As information becomes a major resource, a more top-down approach in the design and management of data bases, information systems and communications networks will occur, thus allowing for greater institutional flexibility and collaborative decision making. If institutional decision making must fit an overall comprehensive planning strategy, fall within the institutional mission and goals as well as the institutional resource capabilities, and be accurate and in tune with



society's educational needs, then the information processing support must be capable of synthesizing information, facilitating input, and translating and communicating decisions quickly.

Alan D. Hoffman, Southern Regional Manager of CINCOM Systems, Inc., reaffirms this important role of information processing in a speech entitled, "A Look at Information Processing of the 80's" at the annual CAUSE Conference in Orlando last December: \

An information system responsive to the requirements of an organization implies increased data processing responsibilities. Data must be physically structured to reflect the information need; rapid access to the data must be provided through interactive, user-oriented systems; change within the organization and technological evolution must be effectively managed and above all there must be adequate controls.

As we approach the twenty-first century, information technologies will be more integrated into our way of life. Since these technologies, namely, word, data, image, graphics and telecommunication processing will support the main of management decision making, institutions should proceed at once to plan, manage, and evaluate their information resources. The information resource management function, properly organized and executed, is the key to institutions' meeting the challenge of the eighties.

In closing, as I look back at the threatening issues which we face in higher education today, I am reminded of my youth in the early sixties, growing up on a dairy farm in Wisconsin. And my hope is we - and other executive planners - do not find ourselves in the same predicament as dairy farmers in the sixties caught up in a poorly planned strike that failed for lack of adequate management of information and coordination of resources with goals. This failure was, in fact, so spectacular that the Allis Chalmers tractor company designed a special economy model tractor for the financially confused farmers. The tractor had no seat and no steering wheel and was billed as "for those farmers who lost their ass and didn't know which way to turn."

I hope you and the other executive managers of your institution do not find yourself in the same predicament as the dairy farmers back in the sixties. Take charge of the eighties; take charge of your institution's destiny through a deliberate planning process and manage your institution with the support of collective information resources. How well your institution meets its students and society's needs depends on comprehensive, long-range and systematic planning which can only be built on a well coordinated information resource management function. Together these two functions will provide the means for relating hard-won dollars to institutional goals.



## Page 13

If, as George Santayana said, it is true that those who do not remember the past are condemned to repeat it; it is equally true that those who do not plan for the future are sure to lose it. "The secret of success is knowing what to do next."

#### Bibliography

- "The 1980s: Higher Education's 'Not-me-decade,'" Chronicle of Higher Education XIX, No. 17, January 7, 1980, 6-9
- "Carnegie Panel Says Enrollment Declines Will Create 'New Academic Revolution"; Chronicle of Higher Education XIX, No. 19, January 28, 1980, 1-11.
- Resource Center for Planned Change. A Futures Creating Paradigm: A Guide to Long Range Planning From the Future for the Future. Washington, D.C.: American Association of State Colleges and Universities, 1978, vi.
- Hoffman, Allen D. "A Look at Information Processing of the 80's." Speech given at annual CAUSE conference, November 27, 1979, Orlando, Florida.
- Gleazer, Edmund J. Jr. "Community Colleges: What Is Their Promise and Future Place In America?" Vital Issues XX1X, No. 1, September, 1979.
- "Declining College Rolls Seen Benefiting Students," Washington Post January 23, 1980.
- Staman, E. Michael. "Trends In Administrative Computing." New Directions for Institutional Research 22 (1979) 95-104.
- Cope, Robert G. Strategic Policy Planning: A Guide for Colleges and University Administrators. Littleton, CO: Ireland Educational Corp., 1978.
- Lusa, John M. "The Computer in Our Lives." Infosystems 27, No.1, 40-41.
- Diebold, John. "IRM: New Directions in Management." Infosystems 26, No.10, 41-42.
- Enarson, Harold L. "The Art of Planning." Educational Record, Summer 1975, 170-174.
- "The End of the Industrial Society," Business Week September 3, 1979, 2-4.
- Cohen, Arthur M. Will There Be a Community College in the Year 2000? Topical Paper No. 5 Tucson: University of Arizona, 1976 15 p. ED 128 028

UNIVERSITY OF CALIFORNIA

JERIS | CLEARINGHOUSE FOR HINOR COLLEGES A 96 POWELL LIBRARY BUILDING Los angeles, California 90024 EB 36

1 1980 AUG

