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ABSTRACT

In light of growing concern for the measurement of educational effectiveness, this paper advocates institutional research at the community college level in California's community colleges to answer crucial questions concerning students, programs, and communities and urges trustees and administrators to use research results to inform decision making and policy formation. Sections I and II discuss increasing demands for accountability, point to external and internal benefits of institutional research, and identify questions concerning student and institutional success that community colleges must be able to answer. Section III underscores the value of research to trustees in making informed policy decisions. Section IV summarizes the six areas encompassed by the institutional research function: information systems use, program evaluation, survey design and implementation, research and analysis, research critique, and formulation of emerging issues. After section V identifies three basic ways of organizing a research office (i.e., institutional research and planning office, institutional research committee, individual or group research), section VI considers desirable qualities for an institutional researcher and for research reports. Finally, section VII discusses the need for continuing institutional research in the future. (AJL)

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Volume 1, Number 6  
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# Community College Issues

## Institutional Research for Decision-Making and Accountability in California Community Colleges

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**INSTITUTIONAL RESEARCH  
for  
DECISION-MAKING and ACCOUNTABILITY  
in  
CALIFORNIA COMMUNITY COLLEGES**

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## PREFACE

In the University of California and California State University segments, pure and applied research are recognized, along with teaching, as primary missions. These institutions are ranked among the best in the world for the creation of new knowledge and for solving some of our most pressing human problems. On the other hand, the mission of the community colleges is to provide quality teaching and an environment conducive to learning to most of the State's freshmen and sophomore students. The emphasis placed on learning is reflected in the high degree of faculty contact with students both in and out of the classroom. Although community college teaching loads are the highest of the three segments and the students are the most diverse in terms of incoming preparedness, ethnic background, socioeconomic status, and age, California community colleges have developed creative programs and innovative methods of instruction to serve our ever-changing clientele.

While it may seem that there is no room for research in a segment devoted almost exclusively to teaching and learning, community colleges, out of necessity, are taking the lead in a form of research known as institutional research. For many years, our colleges have suffered because policy makers were making intuitive judgments about our programs and students. Their conclusions were, at times, incorrect but convenient for a particular philosophy or preconceived notion. Their actions were usually unsupported by any real evaluation data. However, we did not have much data or careful research to show that our programs and services were effective and efficient. In an article in the *Sacramento Bee*, in March of 1984, Pat Callan, former director of the California Postsecondary Higher Education Commission warned that if we resist evaluating our programs, we face evaluation by outsiders. In this environment, institutional research is given new emphasis in community colleges.

While opportunities and resources are limited for community college faculty to participate in academic research, the very nature of our mission and the diversity of our students provide limitless opportunities for practical research on teaching effectiveness. Classroom-based research, as advocated by Dr. K. Patricia Cross, now Professor of Higher Education at the University of California at Berkeley, is currently being done in our segment, and I expect that we will see more emphasis on classroom research as faculty members evaluate new methods of delivery, new ways to encourage critical thinking, and other attempts to develop literacy skills throughout the curricula.

As a community college chief executive officer, I see a definite need for accurate, timely information and incisive analyses. Over time, the decisions made by governing boards and administrators have dramatic effects on our colleges and the kinds of programs and services provided to our students. With the right information and proper planning, we can shape the future for our institutions rather than just meeting it.

In this first in a series of Research Commission papers, the authors present a compelling case for institutional research as it relates to decision making in California's community colleges. They define it, they discuss its uses to support decision-making and policy formulation, they cite its importance in the evaluation and improvement of programs and services to keep our institutions oriented to serve the needs of today's students and our changing communities, they point out how it can be done; they even list examples of questions decision-makers should be asking of institutional researchers. On behalf of the Commission, I thank the authors for a clearly written and useful document. I hope that our governing boards, chief executive officers, and other college decision-makers turn to it to reaffirm the importance and usefulness of institutional research in California's community colleges.

George R. Boggs, Ph.D.  
Superintendent/President  
Palomar Community College District  
Chair, Commission on Research  
California Association of Community  
Colleges

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## EXECUTIVE SUMMARY

### **Quality Indicators. Student Outcomes. Measures of Accountability. Evaluation Criteria. Performance-Based Funding Factors.**

The effort to measure educational effectiveness is surfacing as a major new focus for higher education. Increasingly, local constituencies and state interests are asking community colleges to demonstrate that the programs and services they provide work.

This political reality of accountability is affecting all community colleges. Districts, colleges, and the community college system as a whole, at a minimum, must be able to answer these crucial questions:

- What are the important demographic, economic, and social trends in the state and in the communities that will be affecting community colleges? What will be the nature of the colleges' communities in the future? Who will be the potential students?
- What kinds of students are enrolled currently in the colleges? Do they differ by college? Do these students reflect the colleges' communities at large?
- What kinds of preparation do students bring to community colleges? Are they prepared for college-level classes or could they benefit from remediation?
- What are the educational goals of students? Do these goals differ by age, gender, ethnicity, work status, or economic level?
- How well are students' goals being met? How well do community college programs and services work? Is the evidence solid?
- What do students do after they leave the college? Are they successful as transfers to four-year institutions? In finding jobs? In improving their skills and potential if currently employed?
- What are the implications for colleges of the differences in student demographics and goals?
- How can institutional program and service effectiveness be improved?

Through institutional research these and other questions can be answered. Institutional decision-making includes identifying areas of concern, problem-solving, establishing missions, goals and objectives, policy-making, and developing short and long range institutional plans. Institutional research identifies and gathers information to assist decision makers. Data are extracted, analyzed, summarized and communicated in an accessible manner. Institutional research encompasses at least six areas: information systems use, program evaluation, survey design and implementation, research and analysis, research critiques, and emerging issue formulation.

In a system as diverse as the California community colleges, institutional research is conducted in a variety of ways by a variety of people in a variety of positions. Often institutional research may be conducted by the very person who raises the question or who has a problem that needs solving, or responsibility may be assigned to a staff member as a full-time professional pursuit, or as a partial reassignment from other duties.

The institutional research function can be organized and performed in several ways. Many organizational forms are being used successfully in California community colleges. However, there are three basic forms: the institutional research and planning office, the institutional research committee, and individual and group research. No matter how it is accomplished, people conducting institutional research play a key role for decision makers in gathering, integrating and analyzing data. They can also play a leadership role in detecting emerging external issues and forces that will be shaping their college's future and hence enable the college to respond to those forces in a more proactive manner than otherwise. They are most effective when their reports are timely, readable, organized and identify implications for policy and procedures.

Questions related to educational and institutional effectiveness will continue to be the major focus of decision-making about California's community college system through the 1990's. Continued support from the many communities and constituencies served or wishing to be served by our institutions requires that community colleges demonstrate convincingly that their programs and services are effective. This, in turn, requires an effective institutional research capability in our colleges and districts, and the system as a whole.

## I. ACCOUNTABILITY FOR COMMUNITY COLLEGES

### **Quality Indicators. Student Outcomes. Measures of Accountability. Evaluation Criteria. Performance-based Funding Factors.**

Whatever it is called, the concern for measuring educational effectiveness is surfacing as a major new focus for higher education, in general, and community colleges, in particular. Increasingly, local, state, and state interests are asking community colleges to demonstrate that the programs and services they provide work.

While arguments about what constitutes appropriate measures abound, one thing is clear: legislative and public support for educational programs and services cannot be assumed. Legislatures and the public are demanding documented evidence as a condition of continued support. Unfortunately, there is a scarcity of meaningful, policy-oriented research on community college institutional or program effectiveness at the state level, and while some solid research exists at the local level, it has yet to be assembled into a cohesive body of knowledge that legislatures and colleges find useful and convincing.

Across the nation, the concern for student outcomes manifests itself in report after report. Repeatedly, educational institutions at all levels are being called upon to demonstrate quality in their educational practices. Community colleges are being asked to track students from admission and registration, through college programs and services, and on into employment or transfer to baccalaureate granting institutions, and to report their findings to the public, the legislature, and other governmental agencies. As community colleges strengthen their capabilities to accomplish these and other studies—known collectively as institutional research—they can expect to accrue both external and internal benefits.

Institutional research provides external benefits by demonstrating to the general public, the legislature, and to others at the state level, that community college programs are effective, that students and society alike benefit from them, and that they are a wise expenditure of public funds. Indeed, had California's community colleges been able to do this during the past six years, it is likely there would have been far less legislative and public criticism—and far more money.

Institutional research provides internal benefits by assessing which teaching strategies work best with each particular type of student, which programs are well coordinated with those at high schools and four-year institutions, and whether, for example, assessment and remediation activities and programs are having the desired effect of improving student performance.

## II. CRUCIAL QUESTIONS

The new era of accountability means that districts, colleges, and the community college system as a whole, must be able to answer a series of crucial questions about their students, programs, and communities. The major questions are these:

- What are the important demographic, economic, and social trends in the state and in the communities that will be affecting community colleges? What will be the nature of the colleges' communities in the future? Who will be the potential students?
- What kinds of students are enrolled currently in the colleges? Do they differ by college? Do these students reflect the colleges' communities at large?
- What kinds of preparation do students bring to community colleges? Are they prepared for college-level classes or could they benefit from remediation?

- What are the educational goals of students? Do these goals differ by age, gender, ethnicity, work status, or economic level?
- How well are students' goals being met? How well do community college programs and services work? Is the evidence solid?
- What do students do after they leave the community college? Are they successful as transfers to four-year institutions? In finding jobs? In improving their skills and potential if currently employed?
- What are the implications for colleges of the differences in student demographics and goals?
- How can institutional program and service effectiveness be improved?

California community colleges must be able to answer these student and institutional success questions, as well as questions related to finances, if colleges and districts, and the system as a whole, are to respond effectively to legislative, state agency, and community questions about their success in carrying out their mission. Fortunately, much of the data needed to answer these and other questions resides in college and district computers. However, frequently the ability to extract and analyze the data and then to summarize the data and transform them into information easily accessible and useful to decision-makers is less well-developed.

### III. TRUSTEE DECISION-MAKING AND INSTITUTIONAL RESEARCH

#### **Decisions. Fiscal Decisions. Policy Decisions. Program Decisions.**

Trustees must make hard decisions based primarily upon recommendations of chief executive officers and other district and college staff. Institutional research analyses and studies can provide and enhance the foundation upon which decisions are made. Recommendations can then be based on information about the potential desired and dysfunctional outcomes, as well as underlying rationales and costs.

While all decision-makers can benefit from the information identified by the crucial questions outlined in the previous section, for program-specific decisions, decision-makers usually require additional information: information provided by a program needs assessment. A typical program needs assessment answers the following questions:

- Is there a distinct community need for the program or project that would best be filled by the college? Information may show that, while there is not a broad community need, there is a need to serve a particular population—perhaps a population that has been under-served.
- Are there alternatives to the program or project and what are the relative costs of these alternatives? Have other community colleges or institutions tried similar projects and what were the results?
- What effect will a proposed project or program have on special constituencies in the district, such as business and industry, ethnic populations, women, residents of specific geographical areas and other private or governmental institutions?
- How does the program or project fit into the long range plan for the college?
- If the decision involves use of college facilities, what are the competing needs for these facilities?
- If the decision involves a curriculum change, how will various student subpopulations be affected?

Community college trustees are charged with the task of making informed policy decisions which affect the lives of their constituents—the community students, faculty and staff. Such decisions are best made when based on accurate, informed research.

#### IV. SCOPE OF INSTITUTIONAL RESEARCH for DECISION-MAKING

Institutional decision-making includes problem-solving, establishing missions, goals and objectives, policy-making, and developing short and long range institutional plans. Institutional research identifies and gathers information about needs, solutions, implementations, and possible problems. It anticipates and analyzes consequences, develops conceptual perspectives, and scans the environment. It provides reports on these activities in concise, timely, and understandable form in order to assist in decision-making, problem-solving and planning. Consequently, a key function of institutional research is to provide decision-making information at every stage. Often, institutional research widens the range of options considered and challenges "taken-for-granted assumptions" about goals, processes, and outcomes.

Institutional research encompasses at least six areas: information systems use, program evaluation, survey design and implementation, research and analysis, research critique, and formulation of emerging issues. Underlying these six activities of institutional research is the organization of information for decision-makers in a practical, timely, and comprehensible fashion for program and institutional evaluation and planning.

**Information systems use** provides the data foundation for institutional research. Ideally, a college's information systems contain data on all current activities within the college and provide an historical record as well. Institutional research sorts, selects, and presents data that are useful for planning and evaluation. Via information systems, institutional research can make projections and evaluations and support planning processes.

**Program evaluation** is a research process that enhances institutional effectiveness by providing feedback on program performance. This feedback can be used either by those external to the program to enable informed judgments about whether and how to support the program or by those internal to the program to help those responsible to shape its development. Data from various sources are often reviewed during program evaluation. Quantitative, qualitative and perceptual information are used, since these different types of information provide different perspectives enabling a more accurate and responsive evaluation.

**Survey design and implementation** is another important activity of institutional research. Survey research determines the views of clients and potential clients of college programs and services. Surveys usually supplement data collected in routine transactions with students and provide information on those not attending the college. General surveys of students add depth to a college's understanding of who its students are; individually-focussed surveys provide in-depth information on specific activities.

**The research and analysis** activity of institutional research may be its most critical. Analytical and research studies acquire quantified and conceptual information about the subject. This information is analyzed and assessed as a foundation for further study and as a basis for interpreting findings. With this context even limited available data may prove helpful to decision-makers. A well-established, comprehensive institutional research program can provide analyses on many educational issues such as how students flow through the college's courses and programs or how programs are most effectively reviewed. Institutional research can also provide feasibility and impact assessments.

**The research critique** activity of institutional research involves analyzing and assessing the value of research and impact of policy papers published by a variety of state agencies, research organizations, and educational institutions. Local colleges are faced with an increasing need to react insightfully to key external reports, such as A Nation at Risk, that comment on their policies and practices.

**The formulation of emerging issues** results from collaborative processes of systematically scanning for new opportunities and identifying shifts induced by external forces. When emerging issues or forces are identified early, then colleges have wide scope for proactive response. When important issues or forces are not detected early, colleges can only react with a narrow range of responses. Certain colleges in California, for example, detected the emergence of state mandated matriculation years before its arrival and are now

providing model programs for the remaining colleges. Detecting, assessing, and linking new opportunities and forces enables a thoughtful assessment of their significance. Leadership may respond through the pilot testing of new strategies. For example, community colleges are taking the lead in learning outcomes assessment and classroom research to improve learning and teaching.

Institutional research uses information systems and specific studies in a complementary fashion. This enables the college to be responsive to a broad spectrum of decision-making and planning needs and to benefit from reviewing several possible decision options.

## V. ORGANIZATION OF INSTITUTIONAL RESEARCH

In a system as diverse as the California community colleges, institutional research is conducted in a variety of ways by a variety of people in a variety of positions. Often institutional research is done by the very person who raises the question or who has a problem that needs solving. Faculty members, deans of student services, deans of instruction, personnel directors, and administrators, as well as professional institutional researchers can all be involved in one or more institutional research activities at community colleges. The amount of time each of these individuals devotes to research also varies considerably. For some it is a full-time professional pursuit. Others have a significant amount of release time. Still others try to fit institutional research activities into an already busy work schedule.

The institutional research function can be organized and performed in several ways. Many organizational forms are being used successfully in California community colleges. However, there are these three basic forms:

**Institutional Research and Planning Office:** This office has the designated function of organizing, conducting, and facilitating college or district research and planning. Generally the office reports to the president or a vice president.

**Institutional Research Committee:** A formal research committee with several staff members shares the responsibility for institutional research. The committee usually identifies research topics and divides the tasks among various individuals or offices.

**Individual or Group Research:** In this model, research is conducted on specific topics of interest by interested staff members. For example, an English professor or faculty group might review the success rate of students in several levels of English composition courses.

Whichever model is used, comprehensive and quality institutional research requires time, competent personnel, and resources.

## VI. SOME QUALITIES OF AN INSTITUTIONAL RESEARCHER

Frequently, community colleges employ a specialist in institutional research or designate a person as the chief institutional researcher. Institutional researchers at California community colleges come from many professional backgrounds. Some are trained in research techniques, others have become researchers as a result of their keen interest in education and a desire to improve educational institutions and programs. All require the development of good skills in statistics, evaluation techniques, and communication skills. An institutional researcher must be able to work cooperatively with others. Good interpersonal and organizational skills are necessary because research is a complex group effort. An effective researcher works easily with faculty, administrators and board members to identify their research needs, to design and implement appropriate studies, and to communicate the results in an accessible manner.

In providing their services, institutional researchers aim for certain key study and report attributes that affect the ultimate usefulness of their work. These include:

- **Timeliness:** Research reports and data analyses summaries which are out-of-sync with the institution's decision processes are often perceived as having little value by local decision makers and even as wasting scarce institutional research resources. To be useful, institutional research reports and summaries of the results of data analyses must reach decision-makers before decisions are made.
- **Readability:** Institutional research reports and data analyses which rely on technical language and statistically elegant but esoteric discussions may be seen as complicating rather than clarifying appropriate directions for action. To be useful, institutional research reports and summaries of data analyses must be readable and written in language that is accessible to those who participate in the decision-making process.
- **Organization:** Sometimes excellent studies and data analyses are lost in reports and information summaries which either are poorly organized or which do not make apparent the relationship of their findings to the decisions to be made. To be useful, institutional research reports and summaries of data analyses must be organized in ways that enable decision-makers to find the information they need in the form they need it.
- **Policy and Procedure Relationship:** Research reports and data analyses results which fail to make specify the relations between findings and institutional policy and procedure considerations usually are regarded by decision-makers as "nice-to-know" but not really helpful. To be useful, institutional research reports and data analyses must identify implications for institutional policies and procedures. As appropriate, they also identify directions for change.

## VII. IMPLICATIONS FOR THE FUTURE

Institutional research can be a dynamic and vital component of the decision-making processes of California's community college districts, their colleges, and the system as a whole. In addition, institutional research can provide an information and analytical base for enhancing the support from communities served and from governmental and other agencies which provide the funding and coordination vital to the delivery of essential programs and services.

To accomplish these objectives, institutional researchers must focus on presenting the results of their studies and analyses effectively. In turn, establishing an organizational structure to support institutional research is necessary if the college wishes to obtain quality decision support. Institutional research becomes particularly effective when its reports and analyses identify implications for instructional policies and procedures, and suggest, where applicable, appropriate changes or alternatives. With the detection of emerging issues, institutional research can even enable an institution to become a proactive educational leader.

Questions related to educational and institutional effectiveness will continue to be the major focus of decision making about California's community college system through the 1990's. Continued support from the many communities and constituencies served or wishing to be served by our institutions requires that community colleges demonstrate convincingly that their programs and services are effective. This, in turn, requires an effective institutional research capability in our colleges and districts, and the system as a whole.

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