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AUTHOR Harcleroad, Fred F., Ed.
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ABSTRACT

These papers presented at a seminar for administrators of statewide boards and commissions of higher education, sponsored by the American College Testing Program, cover: (1) changing patterns of statewide coordination (Richard M. Millard); (2) organizing state systems for maximum effectiveness (Fred Harcleroad); (3) effecting change in state systems (John D. Millet); (4) information resources and state planning for equal educational opportunity (John K. Folger); (5) the role of student assistance programs in statewide planning (John D. Boyd); and (6) national perspective on the analytical uses of data in postsecondary educational planning. (KE)

Administration of Statewide Systems of Higher Education

Joseph D. Boyd
John K. Folger
Fred F. Harcleroad, *Editor*
Ben Lawrence
Richard M. Millard
John D. Millett

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ADMINISTRATION OF STATEWIDE SYSTEMS OF HIGHER EDUCATION

Papers presented at a seminar for administrators of statewide boards and commissions of higher education, sponsored by The American College Testing Program and held June 24-26, 1974, in Vail, Colorado.

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CHANGING PATTERNS OF STATEWIDE COORDINATION

Richard M. Millard
Education Commission of the States

It is no accident that the period of the most rapid expansion of higher education in the history of the country was also the period in which states moved at an accelerated rate towards establishing statewide higher education agencies—either coordinating agencies or consolidated governing boards. In 1960 there were only 16 state coordinating agencies or consolidated governing boards, one of which went back to colonial times. By 1970, 47 states had such agencies. They varied in 1970 and still do today in power, in structure, to some extent in purpose, and in scope of institutions or segments included under their aegis. Most of them were concerned primarily or only with public higher education institutions, although a few to a limited extent had responsibilities extending beyond the public sphere.

To understand the environment out of which such coordinating and governing boards emerged and the extent of the changing situation today, it may be wise to recall that between 1960 and 1970, enrollments in higher education institutions alone jumped from 3,789,000 to 8,581,000, an increase of 126%. While most institutions expanded during the period, the public institutions expanded at a far more rapid rate than the private ones. State expenditures for higher education rose from $4.5 billion in 1960 to $13.9 billion in 1970, an increase of 207%. More than 400 new campuses were created by the states, bringing the total number of state institutions to 1,089.[1]

[1]Clark Kerr, "The Future of State Government-Higher Education Relations," in *The Changing Face of Higher Education*, Proceedings of the Second Legislative Conference (Atlanta: Southern Regional Education Board, 1973), p. 33.

What this underlines is that to a very large extent, state coordinating and governing agencies were created to deal with expansion of public higher education. In fact, in many of the state laws establishing such agencies, the stated purpose was "to provide for the orderly growth" of public higher education. Governors and legislators, faced with increasing demands for higher education places, competition among existing institutions and systems for funds for expansion, and increasing evidence of chaos in random growth, turned in most cases first to study commissions and then on to the recommendations of such commissions to legislation establishing the coordinating or governing agencies. Again, while the powers and scope of operations of such agencies differed, most were at least charged with responsibility for planning on a statewide basis for the institutions and segments under their purview. They thus emerged in a period of expansion and were charged with insuring orderly growth, effective use of funds to insure that growth, and planning for what at that time seemed to be an unending period of continuing growth and development.

The situation in 1974 is considerably different. The period of greatly increasing enrollments of college-age students has clearly passed. Although the peak of the 18- to 22-year-old population may not be reached for another 2 or 3 years, the proportion of 18- to 22-year-olds attending colleges and universities is already dropping. In fact, with white males it dropped back from a high of 44% in 1969 to the 1962 level of 37.6% in 1973. Although attendance among women is not yet decreasing, it has leveled off. The national birth rate has reached the level of "zero population growth" and is still dropping.

Costs of higher education continue to escalate, but in those states in which appropriations are tied to enrollments, funds for institutions with decreasing enrollments are in turn decreasing. Percentages of state general revenue going into all education have dropped from a high of 53.49% in 1969 to 48.90% in 1973. This may in part reflect already decreasing enrollments in elementary-secondary education. The percentage of state general revenue going to higher education has held fairly constant at around 14.5% since 1968 (14.26% in 1973), but there is little indication that it will increase in the future and some indication that it may drop further.[2] As a result, the concern at state and institutional levels is not with expanded students or funds in relation to traditional higher education, but with how to operate in a steady state or even in a declining state situation.

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[2]Lyman Glenny and James R. Kidder, *State Tax Support of Higher Education: Revenue Appropriation Trends and Patterns, 1963-1973* (Denver: Education Commission of the States, 1974).

Such a situation calls for a kind of planning and fiscal operation both for institutions and state agencies very different from the planning and operations called for in the 60s. If one considers only higher education and traditional college-age students, it clearly means planning for retrenchment, for consolidation, for husbanding of resources. And part of the question becomes whether state agencies have, can, or will change focus to deal with these new conditions.

But the picture is complicated by a series of not unrelated developments. The *first* has been the growing concern over the last 5 years on the part of legislators and the general public for more effective accountability in the use of public funds. This has been followed by increasing concern for accountability in relation to the meeting of educational goals and the quality of the educational process. This demand for accountability grows in part out of increasing costs and questions of productivity, in part out of the after-effect of the student unrest of the late 60s and early 70s, and in part out of the continuing credibility gap related to the first two. It also grows out of the persisting feeling (whether correct or not) that the higher education community has been less than candid in its willingness to make accurate information available to state and national funding agencies.

The *second* is the manpower situation (whether correctly interpreted or not) and the claim that we are producing an excess of highly educated manpower, not only at doctoral and master's degree levels but at baccalaureate levels as well. That there are oversupplies in some areas such as teacher education, and even undersupplies in others, would be hard to deny. That we are educating too many people may well be subject to dispute. But regardless of the actual situation, the danger of over-production has further reinforced the credibility gap and has at least made it necessary in planning to take manpower issues more fully into account.

The *third* development has been the growing public concern over the plight of private institutions. This has been reflected in both the financial problems of private institutions and the tuition differentials between public and private institutions. While the dire predictions of the Jellema reports[3] have not been borne out, it is true that many private institutions are in trouble and some have gone under. It is clear that the public is concerned about preserving the "dual" system, and that the states have responded. Some 39 states now make aid available to private institutions or to students to enable them to attend private institutions. States are far more concerned with

[3]William W. Jellema, *The Red and the Black* (Washington: Association of American Colleges, 1971); "Redder and Much Redder" (Unpublished paper, Association of American Colleges, 1972).

utilization of the resources of private institutions than was the case only a few years back.

The *fourth* development has been the rapid growth over the last 6 to 8 years of information and management systems in higher education institutions and at state levels. The National Commission on the Financing of Postsecondary Education has in effect come close to recommending a national management information system for postsecondary education. The scope of interest and impact of the development of management information systems, and concern about their assumptions and applications have been demonstrated by and at the Education Commission of the States National Forum on New Planning and Management Practices in Postsecondary Education in 1972 and 1973, the National Center for Higher Education Management Systems assembly in 1972, and a highly provocative paper by Earl Cheit.[4]

While the development of such systems has been a boon to statewide boards and their planners, in fact effective planning cannot be carried out without adequate information. It has also raised major questions on the use of such information and the power it gives its possessor. Legislators have been sufficiently impressed that specific management information systems have been legislatively mandated in a few states, and other states considered doing so.

The *fifth* development, growing again in part out of student unrest but gaining impetus on its own, has been concerned with innovation within the framework of higher education. Although the earlier sidewalk and "free" universities have pretty well died out with the end of the student upheaval, external degrees, universities without walls, experimental colleges such as Empire State (New York), Evergreen State (Washington), and Metropolitan State (Minnesota) colleges, encouragement of dropping in and stopping out, and other forms of educational offerings involving new methods of delivery and opening nonorthodox opportunities have flourished. In a number of instances, the planning and encouragement for such programs, and even their operation as in the case of the external degree program in New York, have been undertaken by the statewide agencies in question. The statewide agencies, in other words, have recognized the public concern for reform, for opening up new paths to and in post-high school and collegiate education, and have taken the initiative in encouraging such developments including more effective use of technologies. This includes inter-

[4]Earl Cheit, "The Management Systems Challenge: How to Be Academic though Systematic" (Paper presented at a meeting of the American Council on Education, fall 1973).

institutional television networks as in Oklahoma, computer networks as in Illinois; and library networks as in Ohio.

Thus quite apart from what might be considered other external developments affecting higher education, the patterns, concerns, and directions of statewide coordination and governance of higher education have changed radically in the past 4 or 5 years. The emphasis has changed to planning and coordination for consolidation, conservation of resources, more effective use of information systems, more effective reporting and accountability, consideration of manpower issues, concern for private institutions in the planning process, and encouragement of new forms of educational delivery. In some cases this has meant declaring moratoria on new programs, particularly at the graduate level, developing more discriminating criteria for program approval, considering new bases for budgeting that are less directly dependent on student enrollment formulas, encouraging institutional consortia to accomplish educational goals more economically, and fostering new delivery systems to meet different student clientele needs.

One fascinating feature of the changing conditions is that in the process, no statewide coordinating or governing board has been eliminated as being itself a luxury or an unnecessary cost. In fact the trend, insofar as there is one, has been the opposite. Some coordinating agencies have been replaced by consolidated governing boards (North Carolina and Wisconsin) and in one state (Rhode Island) the segmental governing boards were replaced by one governing board for all levels of education. Most of the coordinating boards have been strengthened. What this would seem to indicate is that the states at least have come to recognize that, if anything, in a period of possible retrenchment effective planning and coordination are even more crucial than in periods of expansion. The need for more effective differentiation of role and scope of institutions, for development of complementation in contrast to competition among programs, and for adequate information for decision making even at legislative levels is that much more acute.

In addition to the types of changes noted which might be considered as internal to the higher education system, there are other highly significant developments that further alter the patterns of statewide coordination, in some respects, perhaps radically. At the time of its passage, the Education Amendments of 1972 was hailed as a landmark piece of legislation that would have major impact on all education beyond the high school. In spite of administrative foot dragging and inadequate funding, this prediction has in fact turned out to be true. The Act has literally changed the ground rules and, whether intentionally or not, redefined roles and responsibilities of institutions, states, and the federal government.

First, and perhaps most important, it redefined the universe of federal and state concern with post-high school education from higher education to postsecondary education. Traditionally we have tended to think of the educational system as made up of schools on the elementary-secondary level, and colleges and universities on the post-high school level. What the Act did was to bring national attention to the fact that this traditional view is wholly inadequate. The components of postsecondary education have been around a long time. We have been dimly aware of them, but in some cases acted as though they did not exist, considered them as engaged in "training" rather than education, or even considered them as alternatives for persons who for whatever reason could not be admitted into the "system." We suddenly discovered that the number of people involved in education beyond the high school or over the age of compulsory school attendance was more than triple the number of students in collegiate institutions. According to the National Commission on the Financing of Postsecondary Education, 9.3 million students were in collegiate institutions in 1973, but in excess of 34 million students (this figure may be conservative) were engaged in other kinds of postsecondary education. From the standpoint of statewide planning alone, any major shift among students in different categories of postsecondary education could radically change concerns for the types of institutions being planned. The Act, in other words, by the very redefinition of the universe of postsecondary education, created new problems and opportunities for planning at all levels.

This shift to postsecondary education created problems of definition, raised questions about the applicability of our management information systems, and added a vastly wider cast of characters to those concerned with the implications of decision making in relation to postsecondary education at the state level. It raised questions about the very paradigm of post-high school and advanced education we had been using for planning and information purposes on institutional, state, and federal levels. The new universe includes proprietary schools; postsecondary vocational schools, whether public or private; schools not currently eligible for student aid, ranging from special language schools to schools on how to become a croupier; and the widest of all—"formal and informal learning opportunities offered by such organizations and groups as churches, libraries, museums, art galleries, labor unions, public radio and television, civic organizations, industrial organizations, professional organizations and chambers of commerce throughout the nation."[5] Even if for practical purposes at the

[5]National Commission on the Financing of Postsecondary Education, *Financing Postsecondary Education In the United States* (Washington: U.S. Government Printing Office, 1974), p. 18.

present time this last largest group is not considered, the range of concern for planners constitutes a new ballpark. And that last group can hardly be eliminated for long in the light of other developments including renewed emphasis on life-long learning.

The Act went further than theoretically changing the universe. It implemented at least significant parts of the change in three ways with direct impact on the states. First, under Title IV on student assistance, students attending accredited proprietary schools are eligible for federal student aid. Second, in Section 140, congress established a National Commission on the Financing of Postsecondary Education charged to investigate not the financing of higher education alone, but postsecondary education, and to report back its findings and recommendations. Although the commission in its report dealt primarily with higher education, its very discussion of the components of postsecondary education makes it impossible to overlook other areas in future discussions. Third, and most dramatic, the Act directed that any state that wishes to secure funds under Title XA (community colleges), Title XB (postsecondary occupational education), or Section 1203 (comprehensive statewide planning) shall establish or designate a state postsecondary education commission "which is broadly and equitably representative of the general public and public and private nonprofit and proprietary institutions of postsecondary education in the state. . . ." Regardless of legislative history and any confusions embodied in Section 1202 as a result of compromises by the conference committee, through this section the federal government for the first time recognized (particularly in Section 1203) the importance of general statewide planning and the state's responsibility for it, and insisted that statewide planning be general enough to take into account the range of postsecondary education.

Section 1203 also made it possible for the states to consolidate under the state postsecondary education commissions the higher education facilities commissions and the state agency administering the continuing education and community service programs (Title I). It was thus designed to encourage consolidation rather than proliferation of state agencies responsible for administering federal programs.

In Title X, which has not to date been activated, the Act called for statewide planning under the 1202 commission for community colleges and occupational education, and it specifically recognized that such planning cannot take place in a vacuum and that to be effective it must be carried out in the context of planning for postsecondary education as a whole.

One other part of the Act also focused on the states and has implications for changing patterns in state coordination. This is the State Student Incentive Grant Program, which provides matching funds to new or additional state funds for student assistance. To receive such funds, a state must apply

through a single state agency administering the state's student grant program. Although in a number of states the agency administering the state student aid program is not the coordinating or governing agency, in many states they are the same; it would seem clear that in those where they are different, at least the planning for student aid must in part be a function of the central planning agency. More recent developments indicate the possibility that the State Student Incentive Grant Program may become the key for coordination of federal and state programs in the development of a more coherent national-state delivery system. If this should become the case, the pattern and role of state agency operation and planning in this area may be considerably enhanced.

Most educators are well aware of the subsequent history of the activation of the provisions in the Education Amendments of 1972. The U.S. Office of Education attempted to develop guidelines for the 1202 commissions and in the process involved a wider range of consultation with the postsecondary education community than ever before or since in the history of federal legislation. The revised guidelines were ready to be released when it was decided by the administration to hold them up indefinitely because there was no intention of funding Section 1203 or Title X. In fact, the administration refused to recommend funding for most of the Act, with the exceptions of the Basic Educational Opportunity Grants and Developing Institutions. Guidelines were also developed but never released for the State Student Incentive Grant Program. Congress, however, for fiscal 1974 approved $3 million under Section 1203 and $19 million under the State Student Incentive Grant Program.

Of the $3 million appropriated under Section 1203, $2 million was withheld to "phase out" the higher education facilities commissions, leaving only $1 million for statewide planning. On March 1, 1974, U.S. Commissioner of Education John Ottina, without benefit of guidelines, wrote to the governors of each state and territory inviting them to establish or designate a commission or augment an existing one, if the state wished to apply for the planning funds and to do so in accordance with the conditions stated in the Act.

Given the fact that so little money was involved and that the procedure of designating or appointing 1202 commissions would be a painful process in some states, the response of the states has been overwhelming. Forty-three states, the District of Columbia, and three territories responded by establishing or developing commissions. Six states, because of local conditions, responded by electing not to establish commissions at this time but reported that they expected to establish commissions in the future. One state was unable to act without legislative authorization, and only one eligible territory did not respond at all. Fifteen states established new commissions; in two cases the new commissions include all the members of

the existing commission and the current executive officer is also the officer of the new commission. Nineteen states designated existing commissions and nine states augmented existing commissions. It should also be noted that three of the new commissions were established by legislative action prior to the Ottina letter as successors to previously existing agencies in those states. One other fascinating footnote is that the three states that had no coordinating agency or consolidated governing board all established 1202 commissions.

The critical question is why did the states respond so overwhelmingly? It could hardly be because of current federal funding. With 47 states and territories responding, the total amount available to any state would be approximately $26,000. States are currently spending in excess of $15 million for planning purposes. The administration has recommended no additional funding for fiscal 1975. While Congress may appropriate some funding under Section 1203, perhaps in excess of the current figure, it is not likely to be a large amount. There appears to be little chance of funding this year for Title X. It thus can hardly be the funds that encouraged the response. It would seem to me that the only answer that can be given is that the expansion of statewide planning to the range of postsecondary education is an idea whose time has come, and the states are convinced of it. I know of no other development with as direct and far-reaching implications for changing patterns in statewide coordination and governance as this. It would seem to mean that governors and legislatures are convinced that one can no longer plan for any segment of the post-secondary education community, including public higher education, without taking the range of postsecondary education into account.

If anything, the response to the limited funding under the State Student Incentive Grant Program was even more phenomenal. Fifty-one states and territories indicated interest. Twenty-eight of these have existing or ongoing student aid programs; eleven have authorized such programs for next year. Eleven more expect their legislatures to enact programs before March 25, 1975. Only four states indicated that they did not intend to inaugurate such a program at this time. As of June 1, 1974, 37 states had actually submitted applications. Neither congress nor the administration can complain of a lack of interest or state responsiveness in relation to either the 1202 commissions or the State Student Incentive Grant Program, even though for many states each program represents a new or modified departure.

It would seem clear that whether the coordinating or governing agency is the designated 1202 commission and/or the state student aid agency or not, it will of necessity in its planning efforts have to encompass a broader scope on the one hand, and recognize that aid to students is an integral part of the state's commitment on the other. This among other things has implications

for the information systems and data bases that can be used, and may call for revisions in current systems. Information currently available from some sectors of postsecondary education is either nonexistent or extremely sketchy. It may, as I have suggested elsewhere, call for a new approach that does not invalidate current systems, but rather calls for developing new and indigenous systems in segments not now covered and then developing comparisons on higher levels of aggregation. This may hasten the development of achievement or competency-based measures of educational progress in place of the old reliance on credits and hours as educational counters.

This broadening of horizons in statewide planning and coordination may also have an important meliorating or even counteracting effect on the issues raised in the early part of this paper. It is true that as long as we concentrate on traditional college-age students, the picture is one of decreasing numbers and the need for retrenchment, consolidation, and curtailment. However, with the wider view that includes postsecondary education students of all ages past compulsory school attendance, with increasing emphasis on life-long learning, the picture may not be so bleak. If state agencies and institutions begin to plan now to meet the varying educational needs of students of all ages, to recognize and encourage movement back and forth among the sectors of postsecondary education, to open up traditional curricula to encourage students to become involved at appropriate stages in their own lives—in other words, to meet the variety of postsecondary education needs of the citizens of the country—the potential may not be nearly so limited as the prophets of gloom suggest. This will, however, require far clearer definition of institutional goals, role, and scope than has usually been the case. It will require that coordinating agencies concentrate far more directly on articulation among segments than has been the case in the past and that all of us work together to break down the most persistent of educational orthodoxies in the various segments of postsecondary education.

Among the many issues remaining is a very persistent question that is likely to be heightened by most of the trends we have been considering. This is an old question in a new guise. Will not the trends we have been discussing, both the constricting and the broadening trends, lead to greater centralization, control, and homogenization of postsecondary education? First, I would like to divide the question. I think the question of homogenization as it relates to planning and coordinating agencies, even to consolidated governing boards, is a red herring. That homogenization has occurred in higher education may be undeniable, but those who fear homogenization forget that it occurred not under the influence of coordinating boards but in the period of competition for students in the 50s and early 60s, when institutions became progressively selective in their attempts to copy each other. This is well documented by Jencks and

Reisman. The major thrust of coordinating and planning agencies has been, if anything, in the opposite direction—that is, in the direction of attempting to work with institutions in defining role and scope to preserve their uniqueness and their contribution to the higher education scene.

The question of centralization is a different one. Planning and coordination require both information and decision making. In his concern about the impact of management and information systems, Earl Cheit states, "Power goes with information. As information goes to higher levels in the organization, the power to decide and the practice of deciding goes there too."[6] As on the one hand the decisions become tough and on the other, the horizon in which information is needed broadens, there is a danger of increased centralization. But there are counteracting factors and there is a third and more dangerous alternative that should not be overlooked. First, the counteracting factors: neither planning nor coordination can be effective for long if the process does not include the integral involvement of the institutions and agencies planned for. If there is any clear message from the Education Commission of the States' Task Force on Coordination, Governance and Structure, it is this. Library shelves are lined with plans that were never implemented because they were devised in the abstract. One of the aims or goals of planning is to help develop the consensus which makes implementation possible; this cannot be done without the participation of the units or institutions or systems planned for. This is one very important side of the picture and the state agency that overlooks this is headed for self-destruction.

The other side of the picture is that centralization in relation to the overview is frequently also accompanied by the recognition of the importance of decentralization, both for effective segmental development in the planning process and in implementation. The wise state agency is likely to recognize that the task is too large to be carried out wholly centrally even with institutional involvement. Accordingly, a number of states have already begun to move in the direction of creating planning and implementation regions within the state. At least nine states—Connecticut, Illinois, Indiana, Michigan, Minnesota, New York, Pennsylvania, Tennessee and Virginia—have moved to some degree in the direction of encouraging or creating planning regions. This may well be a trend that will increase and perhaps should increase. So long as the central agency does effectively coordinate the planning in the regions, such centralization may mean that planning is closer to the institutions planned for and more fully involves them. In one state, a radical reorganization was proposed that would have divided institutions internally and set up regional governing agencies. In such a

[6]Cheit, pp. 20-21.

case, the cure would have been worse than the imagined disease and the plan was rejected.

Against concern for over-centralization, as real and legitimate as it is, however, should be placed the third alternative. This third alternative is not just a figment of imagination. This is the alternative which would take planning and coordination out of the hands of an agency primarily responsible for and usually representative of postsecondary education, and lodge it directly in the legislative or executive branch of government or in a planning agency for all state affairs for whom education is only another competing priority. With the development of more extensive legislative and state budget office staffs, if the postsecondary education community is not able to work effectively with a postsecondary education agency, this is a real alternative.

The patterns, the problems, and the scope of statewide coordination have changed radically from the period of the 60s. One of the fascinating and at times frustrating aspects of statewide planning and coordination is the constantly shifting nature of the task. We are in a different world today. The stakes in successful planning and coordination are high. We have an opportunity not only to divert disaster but also, in cooperation with the wider postsecondary education community, to help develop the kind of postsecondary education system which will meet the needs of students of all ages during the last 2 decades of this century.

ORGANIZING STATE SYSTEMS FOR MAXIMUM EFFECTIVENESS

Fred F. Harcleroad
Professor and Head, Department of Higher Education
University of Arizona

The organic political institutions of our democratic society abhor vacuums. Our constantly changing social needs require continuous adaptation of institutional forms in order to eliminate vacuums and meet changing social demands. Persons responsible for these changing institutions move rapidly to fill any vacuums of responsibility, power, or organization required in order for governmental operations of all types to be performed effectively.

This paper highlights two developments which may be helpful in considering future adaptations in the organization and administration of higher education. First, statewide coordinating or governing boards with educationally oriented staffs—in place of remote, hidden officials in distant offices of diversified state agencies—are moving gradually to making critical decisions about higher education. Second, changes taking place in organization and administration of multiunit business organizations may provide some leads to the most effective assignment of responsibilities to coordinating boards and to individual higher education institutions. Both of these aspects, if carefully developed, can lead to optimum use of resources and maximum opportunity within our society for the higher educational services needed.

First, higher education during the past quarter of a century, now defined more broadly than at any time in previous history, provides a prime example of power vacuums filled in unfortunate ways. By the middle 1950s, the increasing proportion of state budgets going into higher education caused numerous dislocations in previously existing funding patterns and relationships between state government and the various institutions or systems of institutions in the different states. McConnell pinpointed the major problem which he developed as a result of executive budgets and the

increasing power of state departments of administration, finance, and/or budget. In his introduction to Lyman Glenny's classic study of coordination, *The Autonomy of Public Colleges*, McConnell wrote:

If coordination is not exercised by formal or voluntary bodies created for the purpose, it will be effected by external agencies. The two most likely outside sources are legislatures (in making appropriations or in establishing new institutions) and state departments of finance. Legislatures find it increasingly difficult to resolve competitive claims for financial support. State departments of finance are usually pleased to take over the coordinating function. . . . Deficiencies in the procedures of the educational institutions themselves present an open invitation to state budget officers to intervene in their affairs (quite legally in most instances, probably). These deficiencies include failure of public institutions to support their requests for legislative support with objective data where possible, aggressive competition of institutions for public funds, lack of systematic administrative procedures, and inefficient planning and use of plant and facilities. Because of such shortcomings, institutions have lost autonomy by default, and the best way for them to avoid further external control by executive agencies is to improve their own administrative operations. But this, it must be admitted, may not forestall undesirable incursions by finance departments. . . . There is no assurance that the officials who exercise these detailed and rigid controls are competent to make and impose educational policy. And make and impose educational policy they often do by their financial decisions.[1]

At the same time McConnell and Glenny were studying "autonomy," the Committee on Government and Higher Education, chaired by Milton Eisenhower and directed by Malcolm Moos, completed its study on "The Campus and the State" and published *The Efficiency of Freedom*, which basically dealt with the same problem and emphasized the incursion of state officials into the operation of higher educational institutions. The report also emphasized the change from decentralized institutional operations to highly centralized state administration. This was based on the fact that:

the conviction has spread that efficiency demands a tightly knit system of administrative centralization, with direction and control imposed from above. The practice of this philosophy of centralization has pointed implications for the traditional independence of state colleges and universities. Many state officials believe that institutions of higher education should be brought under the state's system of uniform administration. Influential state officers argue that if central controls can be applied successfully to such activities as highways, conservation, and other regular state programs, they are equally valid for higher education. Beyond question, centralized budget-making is the most powerful of the devices created as instruments of central control.[2]

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[1]Lyman A. Glenny, *Autonomy of Public Colleges: The Challenge of Coordination* (New York: McGraw-Hill, 1959), pp. xiii-xiv.

[2]Committee on Government and Higher Education, *The Efficiency of Freedom* (Baltimore: The Johns Hopkins Press, 1959), p. 11.

The report goes on to point out that the "real decision-making power resides at some remote spot in the state bureaucracy"[3] and emphasizes that "public officials who may be ill-equipped to make educational decisions are moved into a position where they govern higher education without bearing any visible responsibility for its success or failure."[4] A problem of great concern was the preaudit by administrative officials after the legislative decision to make funds available. This study recommended lump sum appropriations, or lacking lump sum appropriations, it pressed for flexibility in the use of funds, allowing transfers between categories in the budget. The Moos study emphasized that the most critical problems in the recent past two decades (the 1940s and 1950s) related not only to the budget and preaudits but also to centralized purchasing, statewide personnel controls, and state building program controls.

Fortunately, in the 15 years since these two major studies were published, in some of the most centralized situations (states), great expansion has taken place in the numbers of statewide coordinating commissions or governing boards. These have been widely developed, and state departments of administration or finance reluctantly and gradually have transferred some powers to these agencies. Recent important analyses of these problems indicate the major changes that have taken place and provide recommendations for improved institutional arrangements in the future. In April 1971, the Carnegie Commission made a series of recommendations on coordination and planning, emphasizing the coordinating agency as a "buffer and communicator"[5] between the institutions and legislative or executive agencies. At the present time, 47 of the 50 states and the Commonwealth of Puerto Rico have legislatively or constitutionally established agencies responsible for statewide coordination, planning, and/or governance of higher education in their states. Twenty of these agencies have governing responsibilities and 27 basically are coordinating agencies. In the same year (1971) Glenny, Berdahl, Palola, and Paltridge provided a handbook with guidelines for practice in state coordination and governance. Where the previous long-term trend had been toward coordinating boards they had noted the sudden reversal in several states toward statewide governing boards. Utah, West Virginia, Maine, North Carolina, and Wisconsin, a widely diversified group of states, have moved in this direction. Other states tended to strengthen the control responsibilities of their coordinating boards.

These changes, all designed to make more effective use of limited resources, provide for important educational judgments, particularly

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[3]Ibid., p. 12.

[4]Ibid.

[5]Carnegie Commission on Higher Education, *The Capitol and the Campus* (New York: McGraw-Hill, 1971), p. 30.

regarding planning activities, to be made by educationally oriented professionals rather than bureaucrats in distant executive and administrative offices of the state.

Finally, in 1973, the Education Commission of the States, in its analysis of coordination, governance and structure of postsecondary education, made a number of strong recommendations including:

> that each state delineate levels of authority of coordination and governance, and develop state plans suggesting levels of decision making consistent with those authorities. Wherever feasible in accordance with effective statewide planning, decisions should be made as close to the operational levels as possible. An appropriate balance, which again may vary from state to state between centralization and decentralization and between control and autonomy, is essential for sufficient flexibility to meet changing conditions on both institutional and statewide levels."[6]

The ECS report provided three possible patterns dealing with the level of decision making for higher education between state government, the coordinating or the governance element, and the institution. Each of the three possible models for the distribution of power and responsibility moves away from final decision making on educational matters by executive and legislative functionaries.

The second major point of this paper relates to documented change in multiunit American companies. Of course, the caveat must be made that educational institutions have markedly different basic purposes than American profit-making corporations. Nevertheless, organizational theory in the operation of large sophisticated business organizations has many similarities to organizational theory in the developing state systems of post-secondary education. Since large-scale business organizations developed much earlier than most of the groupings of postsecondary institutions, advantages and disadvantages which have been proven over the years may furnish valuable insights which can be helpful in providing optimal patterns of organization in systems of postsecondary education.

Comparisons between effective business organizations and effective systems of postsecondary educational institutions may be helpful to boards, legislators, governors, and other state executives in making ultimate decisions regarding the best manner in which to establish systems of postsecondary education within their states. Glenny has stated that it is "ironic that the higher education community that slavishly copied models of industrial corporation governance and control in the past should ignore

[6]Education Commission of the States, *Coordination or Chaos?* Report of the Task Force on Coordination, Governance and Structure of Postsecondary Education (Denver: Author, 1973), p. 105.

current corporate patterns of decentralization into major and at times competing segments, especially of corporate conglomerates."[7]

The "multicompanies," which include many of the best managed large corporations in the United States and the conglomerates which have developed since World War II, have valuable experience which may prove quite useful as higher education moves into its new developing organizational forms.

Many of the multicompanies, or multiunit companies as they are sometimes described, have developed decentralized forms of organization which have been strikingly successful. Alfred P. Sloan, Jr., writing about this idea, said that "the concept . . . goes by the oversimplified name of decentralization. The General Motors type of organization—co-ordinated in policy and decentralized in administration—not only has worked well for us, but also has become standard practice in a large part of American industry."[8] He further emphasized that "the last necessary key to decentralization with co-ordinated control . . . was the concept that if we had the means to review and judge the effectiveness of operations we could safely leave the prosecution of those operations to the men in charge of them."[9] Since the 1920s when Sloan first developed this decentralized model, it has become widely used, particularly during the last 25 years, by such interesting examples as Textron, one of the major leading companies in this category, Interco; Jim Walter Corporation, Safeway Stores, General Electric, McGraw-Edison, Koppers, and Amfac. All of these companies are large, diversified, and spread out geographically. In terms of gross income per year, all of them are large and some are quite large:

Company	Annual Income
Textron	$1.9 billion
Interco	1.1 billion
Jim Walter Corp.	1 billion
McGraw-Edison	825 million
Amfac	750 million
Safeway Stores	7 billion
General Electric	11.5 billion
Koppers	612 million

[7]Lyman A. Glenny, Robert O. Berdahl, Ernest G. Palola, and James G. Paltridge, *Coordinating Higher Education in the 70s* (Berkeley: University of California, 1971), p. 3.

[8]Alfred P. Sloan, Jr., *My Years with General Motors* (Garden City, N.Y.: Doubleday, 1972), p. xv.

[9]Ibid., p. 159.

All of these companies share the decentralized mode of operation and, in many cases, are highly successful in their operation, in great contrast to centralized competitors. For example, Interco has been extremely successful in contrast to Genesco, a comparable size centralized organization which had declining profits for 4 years and a huge loss during the past year.[10] Safeway Stores with its decentralized system of operation has been highly successful, while the comparable size Great Atlantic and Pacific Tea Company has been described as "close to being a corporate disaster."[11]

All of these successful decentralized multicompanies have characteristics which are common to their method of operation. First, they have relatively small central office staffs. Interco, for example, has only 40 employees on its total headquarters' staff; Textron has a headquarters staff of 135. In essence, many of these multicompanies are described as "federations" with relatively flat organizational design.

Jim Walter Corporation is even described as having a system of "collegial management,"[12] a form designed to "create a sense of common purpose and mutual interest that will motivate and encourage initiative. . . ."[13] The method of operation is described as follows:

> Middle managers have complete authority over their operations. The corporate executives do not issue directives. Instead, the initiative in seeking advice flows up from, and across, all lower levels of management. And because the corporate staff's role is to provide counsel rather than issue orders, managers feel free to speak up, whether they have problems or ideas.[14]

Although central office functions vary somewhat among the organizations, there are some common characteristics besides small size of the central office staff, which can be instructive for the planning of other large, diversified, and geographically-distributed organizations, such as state systems of higher education.

Central offices in a decentralized system are responsible for the development of overall policy, for master planning, often for large capital costs, and for fiscal controls. Executive structures are streamlined to facilitate fast decision making on important policy issues which do have to be discussed with central offices. However, operating decision making on

[10] *Business Week*, June 8, 1974, p. 40.

[11] *Forbes*, May 15, 1974, p. 78.

[12] *Fortune*, March 1973, pp. 196-203.

[13] Ibid., p. 115.

[14] Ibid., p. 117.

important issues is placed at the divisional level. One of Textron's company presidents has been quoted as saying, "Real happiness with Textron is the way Providence (the headquarters office) manages, which is to say without interference. Other than that we are left alone. It is a . . . lot different from Litton and others I have bumped into."[15] Typically, the presidents of the internal companies of a multicompany meet monthly as an operating board. Monthly reports are filed with the central office, with quarterly visits by the senior central office staff to the operating divisional company. Central management is normally by "exception" rather than by standard, required procedural handbooks. The hands-off "decentralization" serves as a motivator to the individual institutions.

Among the most important procedural responsibilities assigned to separate units are the following: (1) There is local planning of the goals, programs, and alternative possibilities, which are submitted along with the fiscal plan to the central office. Objectives for the near-term and the long-term are worked out cooperatively, and these objectives are used as the basis for later evaluation through analysis and auditing. (2) The units normally maintain their own accounting, personnel, and payroll systems and records. (3) In addition, they do their own purchasing. (4) They conduct their own minor construction programs. (5) They operate their own "production" facilities, set local standards of achievement, and establish internal procedures needed to achieve them.

Some large companies, of course, operate on a centralized and far more authoritarian basis, and with considerable effectiveness. For example, Northwest Industries with Ben W. Heinaman as president (formerly president of the Illinois Board of Higher Education) was basically run from the central office and by the president. Although his operation was described as "one-man rule,"[16] he stated that his philosophy was "strong decentralization of day-to-day operations and very strong controls over goals, planning, and capital expenditures," and further that "if the conglomerate entity has a genuine goal, it is based on a rigorous theory of diversification coupled with management in the interest of the individual companies."[17] Thus, in spite of its strong centralized structure, Northwest Industries still provides decentralized operation based on 4-year plans with a formal annual budget reviewed 3 times a year.

With the increasing size and diversification of the higher education enterprise and the strong movement toward coordination or governance by multiinstitution governing boards and headquarters offices, the decentralized pattern of these successful companies may well serve as a

[15] *Business Week*, October 7, 1972, p. 67.

[16] *Business Week*, March 26, 1973, p. 60.

[17] Ibid.

model to be followed by legislators and boards of trustees. In making the ultimate decisions regarding actual methods of policy determination and operation, the evidence over the last 50 years from these multiunit companies should be extremely helpful in determining the levels of educational decision making, providing for operational autonomy in higher educational institutions, and thus making the most effective use of the resources provided for these critical social institutions.

EFFECTING CHANGE IN STATE SYSTEMS: THE ANALYTIC USE OF INFORMATION

John D. Millett
Vice President, Academy for Educational Development
Chancellor Emeritus, Ohio Board of Regents

In order to discuss the analytic use of information, two definitions must be presented and understood: (1) a definition of "effecting change" and (2) a definition of postsecondary education.

The assumption in this discussion is that the *primary objective in the use of a data structure is to effect change.* If this objective is indeed the purpose in accumulating a data base, then a statewide board of higher education must have some idea of the changes which it wishes to effect. Various possibilities exist for various kinds of change which may be desirable in a state system of higher education. Some of these possible changes will be considered later. Here, the point is that an information structure is developed to serve some very definite objectives, and that these objectives need to be known before there can be any assurance that our data collecting and analytical efforts will meet our perceived requirements.

The other preliminary comment concerns the uses of this word "postsecondary." As an individual who has devoted all but 4 years of his professional life to the cause of higher education, I must confess a certain uneasiness and discomfort with the use of this term, "postsecondary." I think I understand the motivation in this thrust for a larger or broader definition of education beyond the high school. On the one hand, there is a desire to encourage youth to think in terms of education other than that provided by the traditional collegiate sector, or as I prefer, the higher education sector. On the other hand, there is also present a desire to limit the expansion of higher education, either because there are too many disappointments ahead for some youth as higher education becomes universally available or because higher education is considered beyond the abilities of all youth. Without exploring these motivations here, I wish only to

emphasize that when we expand our area of concern from higher education to postsecondary education, we had better know what our motivations are.

Four important considerations must be discussed: (1) the desirability of economy in any information system; (2) the possible uses of information; (3) the irrational fear of information within our institutions of higher education; (4) some speculation about the changing circumstances in information use.

There is, I believe, such a thing in higher education as too much information, especially at the level of a state board of higher education. I believe this generalization because I have seen it happen in at least two states, and it may well have happened in others. Thanks to the marvels of electronic data processing, almost any kind of quantitative information can be provided in overwhelming detail by most colleges and universities. But let us not deceive ourselves into thinking that data collection and transmission are inexpensive, and let us avoid the trap of thinking that the more information we have, the better will be our decisions.

The first essential in an information system is an analytical framework, an understanding of just what information we need for a particular purpose and of how we intend to use the information. If we have an analytical framework, and if we are sure that the framework is usable for decision-making purposes, then we can achieve some economy in our information collection and analysis. There is no point in having information just for the sake of information. What we want in state management is the information we need for state decision making, and what we want is such information in a usable form.

Here it is important to emphasize the difference between management information and policy information. If there is indeed such a difference, then the information requirements for a management administrator will be different from those for a policy administrator. Thus a state board of higher education which is a planning and coordinating agency will have needs for information somewhat different from those appropriate to a statewide governing board.

When I became chancellor for the Ohio Board of Regents in 1964, I was convinced that the board needed just as soon as possible a master plan and a uniform information system. The board members agreed; indeed, they had commissioned a master plan study 6 months before I became chancellor. This study, completed 6 months later, was of inestimable value in the development of a master plan and in the prosecution of the planning role of the Ohio Board of Regents. The need for a uniform information system was two-fold: to provide data about instructional programs essential to assess progress in the accomplishment of the master plan, and to provide

the basis for the budget authority of the board. Thus the uniform information system was constructed within a mutually reinforcing analytical framework: a framework of program experience and a framework for the analysis of resource utilization.

Fortunately, the development of our uniform information system in 1965 had been preceded by at least 5 years of discussion and data gathering carried on by the presidents of the six state universities in Ohio and their staffs. The board of regents did not start from a zero base of information or of purpose. The needs had already been well defined and the data base to meet these needs was in process of development. The board of regents built upon an earlier experience and a felt sense of need.

The second concern regarding the uses of information is important here. What a state board of higher education needs to know depends upon what it expects to do. In Ohio in 1964, there were two basic objectives for the board of regents. One objective was to provide the instructional programs and the requisite physical facilities to meet the demands of the tidal wave of students. The other objective was to achieve an equitable basis for the distribution of current operating appropriations and capital improvement appropriations among the various state-supported campuses. With time and experience the second objective was formulated in somewhat broader terms: to establish a minimum base of needed resources for each state-supported campus. It was necessary to come to this broader objective when it became apparent that the size of the instructional fees charged to students was a policy decision which the governor and the general assembly wished to make during the appropriation process.

The uniform information system was not too difficult or too formidable to design and to implement when we were certain about the uses to be made of the information provided. We wanted enrollment data by various instructional programs in order to determine student demand and to measure this demand against social needs for educated talent. We wanted data about enrollment, staffing, and costs in order to establish a basic cost requirement for various instructional programs and to ensure the provision of these cost requirements through the appropriation action of the governor and general assembly. The information collected was usable and was used. This fact was an essential reassurance to all the state-supported colleges and universities. This fact was also a guarantee of a certain economy in our data collecting and analytical activities.

To be sure, no information system can be entirely static, because as information uses change, so will information requirements change. A good illustration is our experience in Ohio with a student financial assistance program. When the Ohio Board of Regents began to operate in 1963-64, the development of a state-wide student aid endeavor was not contemplated, or

at least was not a matter of top priority. As a consequence, the board of regents had not collected any data about the family income levels of students enrolled in public institutions of higher education. We knew a great deal about the geographical origins of our students; we knew nothing about their socioeconomic status. The issue of family income became important in 1969 when the whole subject of instructional charges to students became a major political issue.

When the 1969-71 biennial budget was under consideration in Ohio, the need for more income to support higher education programs could be met in only one of two ways. One way was to increase state taxes and so raise additional revenue; the other way was to increase the charges to students. The governor was reluctant to recommend additional taxes at that time and so was inclined toward an increase in student instructional fees. The board of regents was willing to endorse an increase in fees, but only if at the same time the state government would adopt a student aid program so that none of the increase would fall upon any undergraduate student from a family below the median family income in the state.

The first problem obviously was to know how many students a student aid program would have to assist, and so to calculate the costs of various kinds of student aid arrangements. The Ohio Board of Regents had no such information, and the state universities professed that they had no such information. We eventually obtained the information, but we had to acquire it from an outside agency. I might add here that the information provided proved to be remarkably accurate, and that in subsequent years we continued to rely on this outside agency for family income data. Our budget predictions were quite accurate, and we were content to depend on this external source of information.

Another example of use of information occurred in 1965, when the Ohio Board of Regents decided it would be desirable to collect data about the age of students enrolled in various instructional programs. We wanted to know the propensity of students to enroll in particular programs by age groups and to determine any trends in such enrollment. But these data became especially useful when the selective service law was amended to eliminate deferments for students after they had received their baccalaureate. You will recall that there was widespread panic thereafter among deans of graduate schools and of graduate professional schools. It was widely said that graduate enrollments and graduate professional enrollments (other than in the health professions) would be reduced by one-half or more.

In Ohio we were fortunate to have data about the age of every single student enrolled by program in every state-supported college and university. We found that two-thirds of all our graduate and graduate professional students were over 26, and so were unaffected by the amendment of the selective

service law. With experience we learned that the impact of the amendment was to reduce enrollments by a good deal less than one-third, for a variety of reasons.

Third, fear of information does exist within many colleges and universities. I must confess to a considerable lack of sympathy with this fear, but have no doubts about its existence. Faculty members display this fear, but so also do administrative officials. The situation seems to arise from a concern about how information will be used. Faculty members fear that data about the costs of instructional programs in relation to enrollment will lead to the abolition of courses, and even of faculty positions. Faculty members want increased salaries, but they are opposed to the use of economic or cost data to determine the value of particular courses, particular subjects, and particular degrees. Faculty in large part are not willing to accept the proposition that enrollments should be related to employment opportunities. And faculty members insist that research and public service are outputs of the educational enterprise just as important as the instruction of students. They are accordingly fearful that information data will lead to a curtailment of their research and public service interests.

For their part, administrators are fearful that a greater flow of data will lead to increased interference by state governments and by federal government agencies with the autonomy of their enterprises. Every administrator is convinced that in some subtle ways the college or university he or she serves is different from any other college or university, that this difference is of great value, and that it is threatened by increased information. In addition, administrators are concerned about the increased costs of the data reporting requirements being placed upon them. I know of one university president who this year ordered that no response would be made to any request for information about the university which was not accompanied by a check approximately equal to the expense of providing the data. Administrators have noted that every time a new government agency becomes involved with higher education, it begins its work by sending out a questionnaire or a form to be filled out. Administrators worry about the use of information by politicians and others who know little about the intricacies, the customs, and the attitudes of the academic community. Administrators perceive the world in which they live as threatening, and they see an increased flow of information as adding to rather than reducing those threats.

Recently, one state university president resigned his office with a statement to the effect that he thought one of his greatest mistakes was giving too much information to the faculty and to the student body. As he built an "open access" to the financing and other problems of the state university, greater and greater anxiety about the future appeared among faculty members and students. These anxieties expressed themselves in hostile

actions of various kinds which made management of the university increasingly difficult, if not impossible. In still another university, a private one, I have found a full and frank disclosure of all available information by the administration to the university senate, but in turn this disclosure has led to long and inconclusive debate about the action implications of the data.

It does little good for those not currently responsible for campus administration to belittle or to ignore these fears. They are real and cannot be dismissed as unreasonable or unjustified. We must recognize these fears, do all we can to calm them and certainly everything possible to avoid adding to them. The institution of higher education in the United States is in a current state of shock. The shock may be future shock, or shock because the future arrived sooner than expected. But the shock is here, and we must deal with it as best we can.

Finally, I must emphasize several things about possible changing circumstances in the use of information. Obviously the most important changed circumstance is the enrollment decline being experienced by many colleges and universities. These same institutions have discovered that they lack the information to explain what has happened and is happening. The decline in the enrollments of private colleges and universities is attributed to the sizable gap between the tuition charged by private institutions and the tuition charged by public institutions. The decline in the enrollments of public colleges and universities is attributed to the decline in the market demand for college graduates and to the cessation of selective service. I submit that none of us really knows what has happened, and that it would be very worthwhile to find out.

Another changing circumstance is indeed the decline in job opportunities for graduates of most baccalaureate and post-baccalaureate programs. It is all well and good for many of us to declare piously that the ends of higher education are to improve our capacity to live, not to improve our capacity to make a living. The facts are that most if not all Americans are concerned about making a living, and that higher education over the past 50 years or more has appeared to be the principal avenue to making a better living than our parents did. It is just possible that higher education will not again in this century, and maybe not again in the next century, be the same avenue to social mobility that it has been in the past. If this should indeed come to pass, higher education faces some further rude shocks.

I must confess to a certain wry amusement as I note 4-year public institutions now embracing technical education and awarding 2-year associate degrees in applied science in such fields as the business, engineering, health, and public service technologies. Ten years ago many a faculty member or faculty committee informed me with emotional outrage that technical education was beneath the dignity of higher education. Apparently, our higher education sense of dignity is undergoing change.

Yet another change is more subtle but nonetheless real. We have not yet begun to define the meaning of equal opportunity within higher education. If you have not read the 1973 report of the CEEB panel on financing low-income and minority students in higher education, I strongly urge you to do so. Many of us have thought of equal opportunity largely in terms of lowering the economic barriers to access to higher education. Presumably the objective was to ensure that students above the median or some other point in academic ability should have access to higher education, regardless of socioeconomic status.

If I read correctly what many of our black friends are now telling us, this particular objective is not enough. We must find ways to increase the academic ability of low income and minority students. For example, I am hearing increased discussion about retention rates of various students in higher education. It is obvious that we are going to have to have more extensive and intensive information about retention rates than we have had in the past. And we are going to have to know more about the reasons for differential retention rates among students, especially by ability level and by race or ethnic background. Our minority friends will not be satisfied with something less than equality in retention rates among all students. The implication of this position is one we have not begun to worry about yet, either at the information level or at the policy level.

We are experiencing changing circumstances in the size of instructional programs and in the size of campus units. As higher education becomes more expensive, we shall find more and more programs too small to justify their economic cost, and more and more campuses too small to justify the expense of their operation. The Carnegie Commission on Higher Education suggested some standards for minimum and maximum size of institutions without stating the basis for these standards. Some state boards of higher education are beginning to establish standards for the minimum size of an instructional program, especially at the graduate level. We are going to have to give greater attention than before to this question of size, and we shall need precise information and some new analytical tools when we begin to make decisions about what is and is not a viable enrollment or expenditure size for individual campuses.

I do not pretend to be able to foresee, let alone forecast, all the various changes which may be ahead for state systems of higher education. I am convinced that there are changes now in process, and that there will be still further changes in the years ahead. And I am convinced that whatever the substantive changes may be, change in information structures will be an accompanying event. As analytical tools improve, we shall need refinements or expansions in our data inputs. As policy issues become more complex and more difficult to resolve, we shall need both better analysis and additional data.

It is reasonable also to expect that there must continue to be a certain economy in data collection and analysis. The prospective uses of information will dictate information activity, and fears about information use will persist. State boards of higher education will need to be mindful of these concerns even as changes occur in our state systems of higher education.

It has been said that ours is a knowledge society. Information gathering, processing, and analyzing are essential ingredients of a knowledge society. They are also essential ingredients of a higher education endeavor seeking to serve a knowledge society. In a social institution dedicated to knowledge and rational behavior, higher education should be leading the way in the effective use of knowledge, not resisting the turn of events. And that surely is the biggest change of all to be effected in state systems of higher education.

INFORMATION RESOURCES AND STATE PLANNING FOR EQUAL EDUCATIONAL OPPORTUNITY

John K. Folger
Tennessee Higher Education Commission

What do we need to know to plan for the achievement of equality of educational opportunity? This important goal of our statewide educational efforts can be discussed at a specific, practical level and is one of the most important current state-level planning problems.

Some general observations about the relation of data to the planning process are pertinent. Most information is collected for administrative or management purposes. Students are registered, grades are awarded, fees are paid, and budgets are managed; all of these and other operations in the bureaucratic process generate records and reports. The larger the organization, in general, the more bureaucratic it becomes and the more administrative records it generates. Public bureaucracies tend to generate more formal records than private bureaucracies. The trends of the last 3 decades have been toward bigger institutions, the rise of public systems of institutions, and a concomitant increase in administrative reporting and record keeping.

Planning and policy making in the past have been decentralized and quite informal. Higher education is organized in a decentralized way with most important decisions made at the institutional level, or even within the institutions at the departmental and school level. The need for data for planning has not been very great. Recently, administrative data has expanded rapidly, and a large part of the information used in planning has been, and is, generated for administrative purposes.

When we try to develop policies in higher education, the usual process is to take available information, most of which is generated for management purposes, and do the best we can to reach some policy conclusions. This

pragmatic approach to planning and policy making has typified most organizations in American society, and it certainly fits higher education.

In the last couple of decades there has been more attention to planning at all levels, but especially at the state level. People also have been concerned about the information needed for more effective policy making, but these new interests still tend to be subordinate to the administrative data needs and data systems. The hope is that the data we already have will be adequate to our planning purposes, and that we will not need to create yet another expensive data collection system just for planning and policy making. This leads to an add-on approach to data for planning. In the examples to be presented, this will be evident. The add-on approach, however, has serious weaknesses, and as long as we are primarily dependent upon it, we are likely to be planning and making policies with inadequate information.

To determine what information we need for planning and policy making, we must begin not with the data at hand, but with a concept or theory about the subject for which we want to make a policy or develop a plan. For example, if we are interested in tuition policy, we need to begin by identifying those variables or factors that interact with and are affected by changes in tuition, and about which we need information. Once we have specified the factors we think affect tuition policy, then we can specify the information we need about each of them. Some of this information may come from the administrative data system, but if the information needed isn't available, the outline will indicate what else we need to know in order to develop it.

This more formalistic approach to determining information needs is not foolproof, but it is more likely to produce adequate plans and policies than the pragmatic approach of taking the information we have, and trying to make policy with it. Planning is both a political process of involvement and consensus building, and a technical process of collecting, analyzing, and projecting information which facilitates policy decisions. Without ignoring the political aspects completely, this paper concentrates on the technical part of planning: what do we need to know, and how can we project an adequate picture of the future which will be useful for policy choice?

Equality of educational opportunity is a principle to which nearly everyone subscribes. It is in the same class as motherhood and the free enterprise system, and is one of those broad generalizations hard to oppose, hard to define, and hard to achieve. If educational opportunity is to be available, several conditions must be met; taken together, they constitute a definition of the concept.

1. There must be a system of diverse institutions which provides a range of programs, admissions criteria, and services appropriate to meet the educational needs of all citizens.

2. There must be a pricing system and student assistance funds which do not price any significant number of citizens out of the opportunity to attend school.

3. Administrative arrangements and educational requirements must be clear and realistic, and should not constitute major barriers to attendance. This does not mean that every student can attend any program, because some are necessarily highly selective, but it does mean that there should be programs appropriate to the capabilities of most students.

Finally, people must believe that education is valuable and want to attend school, at least at the post-compulsory ages. While the motivation to attend is not a part of the definition of opportunity itself, it is necessary to a utilization of opportunities that exist. It will be affected by, and interact with, the availability of opportunity. In other words, if opportunities are perceived as quite limited, and available only to the well-to-do or bright, then the motivation to attend probably will be limited, too. This point has an important bearing on the problem of measuring the availability of opportunity and on the discussions of universal access versus universal attendance.

Return to the first aspect of opportunity, the provision of a system of diverse institutions. This is primarily a state responsibility, one the states have met in a variety of ways. At present, no generally accepted index exists to determine whether or not a state has provided an adequate number of institutions of various types dispersed geographically so as to be accessible to all citizens. Warren Willingham tried to measure access state by state, by constructing a commuting radius around each institution that met other criteria of low cost and relatively open selectivity.[1] The results were interesting, but the analysis had several flaws. The commuting radiuses were arbitrary, and were unrealistically small in the large metropolitan areas. In addition, the study failed to assess the residential student opportunities which in many states may be a lower cost alternative than commuting, as well as the extent to which some institutions with restrictive admissions also had open access programs.

The Carnegie Commission also studied the institutional system and recommended additional community colleges and urban public colleges for states and metropolitan areas. By implication, if states provided the additional opportunities recommended, there would be an institutional system adequate to meet the needs of the citizens of most, if not all, states.

[1]Carnegie Commission, *New Students and New Places* (New York: McGraw Hill, 1971), Table 6, pp. 134-135.

The matter is not that simple though, because the distribution of different types of institutions interacts with the costs of attendance and the availability of student aid in providing a set of conditions which promote or retard attendance. Actual enrollment rates of citizens may be a better indication of the availability of educational opportunity, but as a measure of opportunities, this has its flaws simply because it is also a measure of motivation. Utah has the highest ratio of undergraduate residents attending in state, in relation to the 18- to 21-year-old population—51 percent; except for Alaska, South Carolina has the lowest—15 percent.[2] South Carolina is low partly for definitional reasons; the state had a system of vocational schools that was not counted as part of college. Since the Carnegie Commission report was published, South Carolina has increased its percentage dramatically, because the vocational schools have been redefined as a part of college. Utah, on the other hand, is high in attendance largely because the Mormons put great emphasis on education; the motivation for attendance is high in Utah. Aside from South Carolina, Virginia, Nevada, Maine, and Delaware are all low in percent of college attendance within the state by residents, although some of them have just as adequate numbers and distribution of institutions in relation to population as Utah does. Both Delaware and Nevada have high per capita income, and low attendance cannot be attributed to low socioeconomic status in those states.

The enrollment rate is correlated with the presence or absence of community colleges, but the relationship is not very high. Some of the states without community college systems have fairly high enrollment rates, while some with such systems (such as Virginia) have low enrollment rates. Clearly the matter is complex, and the definition of "adequate provisions of educational opportunities" is a multifaceted one.

The federal government has largely limited its role in expanding educational opportunity to providing student aid, and in so doing has largely ignored the differences among states in the accessibility and adequacy of the institutional system. Thus, federal student aid funds are distributed by state in relation to population formulas and in relation to institutional requests, neither of which gives a very clear guide to the adequacy of the institutional system to provide educational opportunity.

States also provide a significant amount of student aid, but state programs have not operated to equalize the effect of federal funds in providing expanded educational opportunity. Well-funded state student aid programs have been concentrated in the high income states such as New York, Illinois, California, Michigan, Massachusetts, New Jersey, and Pennsylvania. Some of these states have had underdeveloped public institutional systems (Pennsylvania and Massachusetts) and needed big student aid programs to provide access to private institutions. Since the

low-income, low-attendance-rate states in the South also were deficient in student aid programs, the state programs have probably increased the inequities in educational opportunity among the states. The BOGs will help to correct this by providing help to needy students wherever they are located and in a relatively evenhanded way, but it remains to be seen how much this will equalize opportunities among the states.

In view of the differences among states, (1) in the number and geographic distribution of institutions, (2) in the percent of institutions with open-door admissions policies, (3) in tuition rates, (4) in the extent of dependence on the private sector to provide educational opportunities, and (5) in student aid resources, it is not surprising that attendance rates of undergraduate residents of the state are more than twice as high in the top five or six states as the rates in the bottom five or six states.

Although attendance rates vary greatly among the states, the differences in attendance rates among different socioeconomic groups *within* states are much larger. Between 85-90 percent of the top quartile of high school graduates in ability and family income attend college, while about 20 percent of the graduates in the bottom quartile in ability and family income go to college. The lower attendance rates of the bottom quartile in academic achievement are probably going to continue, but when ability differences are controlled, attendance rates of low socioeconomic groups are only a little more than half of those of high socioeconomic groups.

Any definition of equal opportunity ought to provide for elimination of differentials due to income, even if it allows for continuation of differentials due to differences in academic aptitude and achievement. The problem is that there is interaction between socioeconomic background and academic achievement, and interaction between both of these variables and the extent to which the state has provided a diverse system of institutions. If *all* postsecondary institutions, rather than just collegiate institutions, are included in the measurement of attendance differentials among socioeconomic groups, the differentials will be smaller. How much smaller will depend on number, type, and location of postsecondary institutions within the state, and the motivations that have been developed for attendance.

Any information system that is adequate to guide policy decisions in the field of educational opportunities must deal with all aspects of opportunity. Information just about attendance rates or just about tuition levels will not be adequate to an intelligent decision. The factors are interrelated, and all must be considered.

In planning the development of education in each of our states, we need an information system that will provide information about the various factors

that affect equal educational opportunity. In Tennessee, we have been developing what we call an "Educational Opportunity Monitoring System." It includes (1) an expansion of the Computerized Student Information System that we have developed for all public colleges and universities, using the definitions and procedures outlined by NCHEMS; (2) information about student aid funds; and (3) direct survey information collected from high school seniors.

The design of this system has been worked out by our staff with the assistance of the staff of The American College Testing Program and the staff of the Tennessee State Department of Education which has cooperated with us, and with input from the higher education institutions in the state.

In brief, here is the plan for the system.

First, a survey of 1974 high school seniors in Tennessee has been conducted by ACT under contract with the Higher Education Commission and with the State Department of Education. Each high school senior in the state completed a questionnaire which obtained information about the student's personal and academic background, plans for postsecondary education, career and job plans, financial resources and plans for financing postsecondary education, and enough identifying information so that we can follow up the student in the future. Nearly all of the questions were taken from a set which has been developed and pretested by ACT, and which can be packaged in various ways, depending on the interests of the person making the survey.

The State Department of Education arranged for participation by the local school systems, whose cooperation was excellent. We obtained responses from between 90 and 95 percent of all of the high school seniors in the state. A copy of the questionnaire can be furnished to any of you who are interested.

ACT was responsible for developing and printing the questionnaire, for supervising its distribution and administration (which was performed by the school systems), and for tabulation, analysis, a preliminary report to the sponsors, and a shorter report to each school system. This survey cost us a little less than $1.00 per student responding, and this low cost was possible partly because ACT absorbed much of the development cost in this project, and partly because the school systems absorbed the costs of administering the survey. Our survey differs from those some states have conducted in the past in that we used a set of questions ACT had already developed and pretested, and plan to match the survey respondents with entering freshmen this fall in our Student Information System.

The second phase of the survey will involve the follow-up of the respondents through the Student Information System, which provides a computerized record on each student enrolled in the public institutions. Some of the private institutions also participate on a voluntary basis. The public vocational schools are also developing a computer based Student Information System, and we plan also to match the high school senior respondents against vocational school enrollment records in the fall.

For those high school seniors who are not matched, we will draw a subsample and follow up the students by mail and telephone surveys to find out what they are doing. Are they enrolled in college out of state? A private vocational school? Are they working? In the military? Married and a housewife?

By the end of the fall term in 1974, we hope to complete the first phase of the follow-up and prepare a report which will show what happens to the young people who complete high school in Tennessee. This will enable us to identify students for whom educational opportunities are inadequate and some of the reasons for those inadequacies.

We expect to repeat this type of survey and follow-up every 2 or 3 years. Although an annual survey would have some advantages, in view of the costs involved and the expected stability of the outcomes from year to year, as indicated in national surveys of this type, we think a 2- or 3-year cycle will prove to be most cost effective, and will give us the necessary information for planning purposes.

Another phase of the study of educational opportunity deals with the retention of students who enter the postsecondary system. Our Student Information System is set up so that we can match students one year against students the following year, and get information about dropout and transfer rates within the system. In 1975, we plan to utilize this capability to draw a sample of the dropouts and follow up on them directly to get at reasons for dropping out.

Still another phase of the assessment of educational opportunity will involve follow-up surveys with a sample of graduates of each institution in the system. We plan to begin this phase in 1975 with a survey of graduates of our community college system to see how many of them continue their education in a 4-year institution, how many take jobs, etc., and how this relates to the programs they have taken in the community college. We may also be able to include the people who complete public vocational school in this same follow-up survey.

The various follow-up studies are not going to be planned to follow a single individual through his or her entire postsecondary educational career. This

is complicated, expensive, and time consuming. By the time a cohort has been followed from high school through college, 5 or 6 years will have elapsed, and the data may not be very useful for policy studies of what ought to be done about educational opportunity for the current generation of high school seniors. Therefore, we are designing our system to operate on overlapping surveys and short-term follow-up of students at the critical decision points—the transition from high school to college or vocational school, retention within each type of institution, and what happens to the graduates. In a 3-year cycle, overlapping samples of entrants, dropouts, and graduates can all be studied, without the necessity of following any of them for more than 6 to 9 months. While longer follow-ups would give additional information, the cost is higher, and the cost-benefit assessment is probably negative.

There is another kind of data from another administrative source that we want to try to introduce into this system, but we have not worked out all the details yet. We have a state student assistance corporation which this year will process about 10,000 applications for tuition grants, and probably an additional 3,000 or 4,000 guaranteed student loan requests. In addition, there will be a large number of federal BOG applicants and entitlements, as well as several thousand applicants for institution-based programs such as Work Study or Supplemental Opportunity Grants, which we would like to get information about and include in our educational opportunity monitoring system.

There are many potential uses of the information in the educational opportunity monitoring system. Let me mention two.

First, our state student assistance program in Tennessee is a relatively new one, and we are going into the third year of tuition awards with a program funded at about $3.5 million for 1974-75, which will mean about 5,500 awards or about 4.5 percent of the Tennesseans enrolled in college in Tennessee. In 1973-74, the number of those with financial need applying to this program was not much greater than the money we had available. This might suggest that the program was big enough, and that there was not much unmet need for student assistance in the state. However, aggregate analysis based on the family income distribution in Tennessee, the needs analysis formulas employed by ACT and CSS, and institutional data on the total amount of financial assistance available in the state, indicate that there is a very large unmet need for financial assistance in the state, just to take care of those students who are already enrolled in college.

In planning for future appropriations for the student assistance program, how should we reconcile these different estimates of what should be done? Data from our survey of high school seniors include a substantial amount of information about how they plan to finance their postsecondary education,

as well as information on family income. In our follow-up survey we will get information on what student aid they are receiving. We can thus get an additional estimate of what financial needs exist, and can determine whether the limited numbers of applicants to the state tuition grant program are the result of inadequate advising and not evidence that needs are being fully met.

A second planning problem relates to the further desegregation of higher education in Tennessee. Like most southern states, we are under federal court order to achieve further desegregation in higher education. One of the problems with these court orders is that the goals we are trying to achieve are not entirely clear. If the goal is for black students to attend college at the same rate as white students in the state's public higher education, then in Tennessee about 15 percent of college enrollment ought to be black, because about 15 percent of the population between 18 and 24 is black. In Tennessee, 10.7 percent of public college enrollment in 1973 was black, and so we are a long way from a 15 percent goal. But achievement of a 15 percent enrollment of blacks would mean that black enrollment rates for low socioeconomic and achievement groups would have to be substantially higher than rates for whites of the same groups. There is already evidence that indicates that blacks now enroll in college at higher rates than whites from comparable socioeconomic and academic achievement backgrounds, and that to reach the goal of equal overall enrollment percentages by race, low socioeconomic blacks would have to have enrollment rates about 50 percent higher than those for whites from the same socioeconomic group.

This raises a number of interesting questions. First, is the goal proper? If not, what should the goal be? Second, is it realistic to expect the much higher enrollment rates of black low socioeconomic groups? What would have to be done to achieve them? Will financial aid do the job? What about motivational differences? The attendance rates represent job and career aspiration differences between blacks and whites, as well as differences in educational opportunity per se.

At present we do not have the data to determine whether or not desegregation goals are achievable, but we soon will be much closer to having adequate information for planning and will be able to deal with the difficult task of setting goals for educational opportunity in a more informed and, it is hoped, more effective manner.

Since the courts are going to require progress reports on the achievement of desegregation goals, and are going to require us to identify specific programs and activities which will increase desegregation, along with the effect of each on integration, we will have to develop a better understanding of the factors involved.

In summary, let me emphasize three points. First, equal educational opportunity and most other important policy issues in education are

complex, and require a complex set of data to make intelligent policy recommendations. Too often in the past we have acted on only a part of the data that was needed and, therefore, we have reached partial and inadequate solutions.

Second, and this is a corollary of the first point, is the interrelated nature of information required for establishing policy about educational opportunity. Decisions about a realistic goal for black enrollment cannot be made without information about costs of attendance, socioeconomic status of students, student aid, and motivations about the kind of postsecondary institutions to be attended.

Third, our system is a combination of information collected for administrative and management purposes, and an additional survey which is designed to provide the additional information needed for planning purposes. We began with a conception of the factors involved in providing expanded educational opportunities and tried to develop the information needed for policy planning in as economical a fashion as possible. While this system will use our existing student information system and the administrative data generated by the state student grant and loan programs, these sources of management information do not provide adequate information about the total population with which we are concerned, nor do they provide information on all of the characteristics that are important in determining educational opportunity.

The approach we have used to monitor educational opportunity in Tennessee has some drawbacks. It does not tell us about educational opportunities for adults, who constitute our most rapidly expanding market in higher education. We hope to remedy this in the future with a sample survey of the educational background, plans, and aspirations of adults. This is likely to be an expensive undertaking, and we are still trying to figure out the most effective way to go about it.

The survey of high school seniors depends on the cooperation and interest of the State Department of Education and the 140 local school systems who must administer the survey. The present commissioner of education has been quite supportive of our efforts, but if this cooperation is to continue, the local schools must get a useful return—information they can use for counseling and planning.

If we give this much time and attention to the information needed to monitor educational opportunity, what about the other information needs? Won't they be neglected? Actually, in Tennessee educational opportunity has been a third priority area, after we developed a final information system and program information. We are working with several other state agencies to develop manpower and other job market information. The priority information needs have to be assessed by each state for itself, in relation to its own set of responsibilities; within that framework, the process outlined in this paper should be helpful.

Chapter 5

THE ROLE OF STUDENT ASSISTANCE PROGRAMS IN STATEWIDE PLANNING

Joseph D. Boyd
Executive Director
Illinois State Scholarship Commission

At a time in the history of higher education when new buildings and new personnel for expanded enrollment are given low priority, discussion and decisions on how to finance postsecondary education and the state role in student financial aid programs assume new and important significance.

State programs of student aid are big business and are becoming more so each year. Master planners in all states cannot ignore the relationship between agreed upon goals in state plans for higher education and the significant use of student assistance programs as a means to achieve these objectives.

Each year since 1969, I have surveyed what the states were providing in comprehensive, undergraduate, need-based monetary award programs as investments in the future of both the individual recipient and society in general. My latest survey, October 1973, indicates there were 28 states (representing 77 percent of the U.S. population) investing in 722,000 financially needy undergraduates with approximately $375.3 million in state tax funds.

Growth in state programs of monetary awards has been both dramatic and consistent, as noted in the following summary of the past 5 years.

In 5 years, the state growth of grants is up $233.0 million or two and a half times more dollars in 1973-74 than 1968-69. In 1973-74, 28 states provided more nonrepayable aid to students than the combined award value of both the federal SEOG and Basic Grant programs.

Growth of State Scholarship/Grant Programs to Needy Undergraduate Students

Academic Year	Award Dollars (Millions)	Students Assisted
1968-69	$152.0	370,000
1969-70	191.5	488,000
1970-71	229.3	579,000
1971-72	268.6	604,000
1972-73	312.3	652,000
1973-74	375.3	722,000

The current state programs of monetary awards vary greatly in size, purpose, and years of existence. Five states (New York, Pennsylvania, Illinois, California and New Jersey) invested in students from their states 70 percent of the 1973-74 total figure of $375.3 million awarded by 28 states. These same five states represent about 34 percent of the U.S. population. Obviously, states are not responding equally in the development and/or the funding levels of student aid programs. Although student scholarships/grants at the state level were only 4.5 percent of all state funds appropriated for all of higher education in FY 74 by all the states, the amount of time and thought to be given this component on the agenda of higher education planners should exceed 5 percent by manyfold.

The federal program of State Student Incentive Grants (SSIG) is to become a reality with 1974-75 awards. This 19.0 million federal dollars of SSIG funds for FY 75 creates a partnership of about 5 percent federal/95 percent state funds in 1974-75. Additional SSIG funds in future years (requiring additional dollars of state funds) will mean every dollar of such federal funds will yield an additional dollar of state grant aid to needy students. A meaningful partnership is to begin which has a most significant potential in the years ahead to accomplish mutual goals of access and reasonable choice to the citizens of this country in entering and completing post-secondary education.

It is my considered judgment that the State Student Incentive Grant Program will not only motivate up to at least 14 new state programs in 1974-75 that would have not existed otherwise, but also permit states with existing programs to expand their programs more rapidly to meet the needs of their residents. When I complete the fall 1974 survey of the states, I anticipate a total of almost $500.0 million for 1974-75 in all states for need-based monetary awards assisting over 850,000 students. Student aid is growing rapidly in higher education at a time when other state dollars for higher education are remaining nearly constant or showing only slight growth.

Why have programs of student aid at the state level? What are the goals or roles they should play? Briefly stated, they are:

1. To equalize educational opportunity by removing financial barriers to attendance in a postsecondary educational institution.

2. To preserve diversity in postsecondary education by permitting freedom of institutional choice, allowing reasons other than the lack of funds to influence student selection of one institution over another.

3. To conserve public funds by utilizing the spaces and programs in nonpublic institutions by helping needy students attend such schools. A state resident in a nonpublic institution means that private dollars are assisting in total operational/capital costs which otherwise would have been additional taxpayer costs if the same student elected to attend a public institution.

4. To provide a means whereby a student's earnings from work and/or loan funds would not be the only sources operating to provide access or choice. Achieving a balanced package of aid, when needed by a student, allows a student's in-school employment and/or loans to be at a sufficiently modest level so as not to adversely affect studies or career plans.

5. To permit a means, if desired, to establish state institution tuition charges which can be met fully by applicants or families with adequate financial strength and to allow those with fewer resources to receive nonrepayable grants which will pay the entire amount of required tuition and mandatory fees.

6. To allow an open or free market concept to exist for the student or consumer of postsecondary education. This concept ideally permits the students to select that school with curriculum and programs which they believe are most relevant and of such quality as to justify the investment of their time and effort in accomplishing their educational or career goals.

7. To personalize to the student and the family the significant role that some of their state tax dollars are playing as investments in them in the form of grants or loans. An individual grant or loan to a given student carries a message of interest in him or her as a person and the importance of education as a high public purpose which bricks and faculty salaries paid by state appropriations can simply not deliver with the same realization or impact.

These seven purposes highlight some of the important roles of student assistance programs in statewide planning. Once certain roles or goals are

identified, state student aid programs are a means to the desired ends. It is also true that all the states will not agree on the priorities of the various goals. Furthermore, a state may also wish to have a different priority of goals than that established by the federal government in its student aid programs.

State and federal student aid monetary award programs must exist to complement and not overlap or replace each other. Allow me to suggest how this best can be accomplished.

The new federal program of Basic Grants is predominantly "access" money targeted to the low income and the disadvantaged to help permit students to attend some college and not necessarily any college. Almost all state programs have been planned to provide both "access" and "reasonable choice" to the needy student. When state programs are of sufficient total dollars or when certain state programs are made available only to higher cost schools, ($37.3 million or about 10 percent of the 1973-74 total state monetary award dollars were programs of tuition equalization at nonpublic institutions), need is determined on a relative basis. Relative need means the financial strength of a given family or applicant is compared with the total cost of the institution of the applicant's choice and if there is a difference, an award is made as long as state funds are available.

Many state programs are, therefore, assisting tens of thousands of families who would not qualify for a Basic Grant. A partnership which provides Basic Grants as predominantly "access" funds, and state funds predominantly to provide "reasonable choice" is clear in purpose and allows each partner to play a significant role in what distinguishes the United States from other countries of this world. Students of all ages seeking additional education after high school should not have financial barriers keeping them from this opportunity. In addition, this country can also proclaim that a strong dual system of public and nonpublic institutions is desirable by providing needy students a reasonable choice among the institutions which can best serve their interests and future plans.

To accomplish these mutual goals, a huge problem of coordination must be dealt with and solved. I strongly support the development of a common student aid application and in addition believe authority should be given to states (those who can demonstrate their ability to accomplish this) to calculate and announce Basic Grant entitlement to their state residents. Without coordination, almost $1.0 billion of Basic Grants and state awards in 1974-75 are simply not going to reach fully or equitably all the persons for whom the funds are intended.

Timing of decisions is a vital necessity in good coordination. State planning in student financial aid is most difficult until clear and timely federal student aid decisions are made and effectively communicated. Reasonable stability

in purpose and funding levels of federal student aid programs is another vital ingredient in the future strength of any new federal partnership with the states.

States can be a delivery agent for federal student aid dollars. Certain coordination has already begun. In June 1974 in most states, a listing of all their Basic Grants applicants for 1974-75 awards arrived to permit a packaging of state and federal funds. The Basic Grants can become a "floor" upon which to build any additional needed and available state aid.

Federal aid programs and funds for students enrolled in postsecondary education require a delivery agent to implement such benefits to the students for whom they are intended. As a working partnership, under a creative new federalism, contracts of understanding with specific authorities and responsibilities can and should be made available to state scholarship agencies already staffed and experienced in dealing with students applying for financial assistance.

The ultimate goal is to permit a student or his or her family to file a single application form and have a concise response as to what, if any, federal and state taxpayer educational benefits are the student's to use at the chosen institution. For services rendered, each state so participating should receive appropriate federal funds for administrative costs. Appropriate federal audit functions would be expected and a sharing of data to compile meaningful national as well as state data systems should also be mandated.

Monetary awards are only one form of state student assistance. About one half of the states, serving nearly 60 percent of the U.S. student population, have designated and funded a state agency to serve as a processor of and guarantee agent for student loans with reinsurance agreements with the Office of Education to assist in default payments.

There are many options available to state planners for the provision of loans to students. Federal legislation on student loans profoundly impacts what a state can or should do in student loans.

The major issues in educational loans are:

1. Should the state be a direct lender? If so, how do we also involve the commercial lenders and/or institutions in making loans?

2. Are income contingency "pay back" arrangements the best answer to reduce defaults and improve access and the motivation to borrow? Or is this possibility an administrative "nightmare"?

3. Should educational institutions be direct lenders, with their loans financed with capital from either commercial or state sources? Will such an arrangement permit all colleges to have "joy" or "pain" over the next several years on some basis other than their ability to attract loan capital? Is it good policy to have only third-party lenders?

4. Could loans become so easily available as to further increase college costs to students at rates beyond what they would have been otherwise?

5. Will loans become such a large part of the aid package that equal educational opportunity becomes adversely affected?

6. Legislators and the general taxpayers are very concerned with default rates. What in our planning will assure them that this concern is being recognized and dealt with by sound decisions on how loans are made, serviced and collected?

Another emerging issue in state student aid planning is the role of state funds in student work programs. To my knowledge, only Connecticut had a significant comprehensive state student work program in 1973-74. Much thought needs to be given to this area. Creative federal/state partnership is highly desirable in the development of college work-study programs. It is most unwise to believe that state centralized student work programs could deal with term-time campus/community jobs for needy students. However, a centralized operation for summer work and for students temporarily out of school for a term or two has real possibilities at the state level.

There are some significant opportunities to combine earnings and much needed community service by students in not-for-profit operations. Creative programs of work to both earn and learn could become the new frontier for states to explore in assisting students and meeting the needs of our society. It is simply an extension of the concept that every taxpayer dollar in education is both an investment in an individual and in the possibility of a better society.

In the remainder of the 1970s and into the 1980s states will be a more significant delivery agent for packaging grants, loans, and work to the needy postsecondary student. In my judgment, we are beginning a transition period from one in which most federal student aid dollars are allocated to institutions to one in which the state student aid agency will be asked and expected to allocate and/or distribute most federal student aid dollars. If this new approach is to become a reality, state master planners must give considerable thought to how best to organize and achieve good state administration of student aid programs.

Related to future decisions at the state level is the question of which students are to participate in state-funded aid programs. The federal

student aid dollars are now clearly intended to serve students attending at least half time in both traditional and proprietary colleges. Few states have yet to so broadly define the eligible student for grant awards. Also remaining as a restriction in most states is the use of nonrepayable aid by a state resident to attend an out-of-state institution. The infusion of federal dollars in a state/federal partnership brings subtle, if not legal, pressures to make state lines more artificial and to open up new discussions on reciprocity agreements among states.

State/federal agreements to form 1202 commissions and receive federal dollars for planning have both short- and long-range implications in state student aid program developments. I do not believe you can plan for and coordinate certain institutions previously omitted from state higher education boards' deliberations and at the same time deny their students access to state-funded student aid programs.

Student aid programs at the state level do more than assist needy students. They permit the accomplishment of other desired state educational goals. Student aid decisions affect the health of institutions, college costs, the composition of the college population, and the amount of dollars legislators and/or governors may decide to provide for higher education in the state. Dollars for college can come in many forms, and wise state higher education planners and administrators explore every option to maximize the support of the enterprise they are asked to understand and represent.

As educators, there is one goal we can all agree upon. The full development of our human resources should be our highest priority of state and national concern. Well developed, well funded, and effectively coordinated student aid programs give strong evidence of this priority and concern.

A NATIONAL PERSPECTIVE ON THE ANALYTICAL USES OF DATA IN POSTSECONDARY EDUCATION PLANNING

Ben Lawrence
Director, National Center
for Higher Education Management Systems

The development of policy has two major aspects—establishing philosophical directions or objectives, and determining procedural policy that will result in the achievement of those objectives. A major trick in policy development is, of course, to predict in the present the extent to which a particular procedural policy, if implemented, would achieve the desired objectives. This paper focuses on this difficult and primitive art of bringing information to bear on such policy development predictions.

During 1973 and 1974, discussions and activity pertaining to the analytical uses of data in postsecondary education planning have increased dramatically.

- The federal government is busy building its capacity to conduct policy analysis in postsecondary education using modern analytical procedures.
- The American Council on Education similarly is building its own capacity in this area and just recently has held informal discussions with the principal leaders in this field around the nation.
- Research centers for postsecondary education are giving increased emphasis both to policy analysis and to the development of improved techniques for policy analysis.
- State coordinating agencies have begun to make large investments to improve their capability to use information for policy decisions.

It is too early to speculate about the staying power of analysis in policy formulation, but it appears to be more than a passing flirtation and demands

our consideration. It also seems likely that many will be skeptical, if not outright opponents, of this approach. Therefore, a few caveats concerning the use of this approach seem in order at the beginning.

1. At this time these approaches are primitive and must be used accordingly.

2. At best, even when more fully developed, this type of policy analysis is designed to be informative, not to make decisions or replace judgment on the part of the decision maker.

3. These approaches are data-dependent and loaded with assumptions. Those who use them must understand the limitations of data and of the assumptions they impose.

This paper focuses on three questions about the analytical uses of data in postsecondary education planning.

1. Why is there increased interest and activity in the analytical uses of data in postsecondary education planning?

2. What are the current capabilities for utilizing data in policy planning?

3. To what new capabilities should researchers give priority?

Why is there increased interest and activity in the analytical uses of data in postsecondary education planning?

A primary distinction between comprehensive/prescriptive (or long-range) planning and incremental/remedial (or short-range) planning is the degree to which each uses data analytically in support of planning.[1] Planners have given increased emphasis to comprehensive/prescriptive planning, as opposed to incremental/remedial planning, as they have attempted to answer a number of questions that arise with great frequency in policy development. For example:

> What evidence is there that implementation of a particular policy proposal will accomplish the desired objectives?
>
> What unintended and unanticipated consequences or results might come about if a particular policy proposal were implemented?

[1] Frank A. Schmidtlein, *The Selection of Decisions Process Paradigms in Higher Education: Can We Make the Right Decision or Must We Make the Decision Right?* Ford Foundation Program for Research in University Administration Paper (Berkeley: University of California, 1973), p. 8.

How will implementing a particular policy proposal affect various constituencies, institutions, and regions?

Are there useful generalizations that will hold true over a long term and that can be used to guide policy makers?

What wise, feasible, and efficient alternative uses of the scarce resources are available?

These questions call for evidence as opposed to speculation, objectivity as opposed to assertion, and rational projection of expected results as opposed to trial-and-error approaches to obtaining desired results. These questions arise, particularly at the national level, because once policy is implemented, it is very difficult to change. Those who support incremental/remedial approaches to planning point to the advantages of short-range projections coupled with frequent midcourse corrections to pursue desirable objectives. However, it is increasingly difficult to change the policy conclusions of state and national level bodies. Thus there is a need for more detailed comprehensive/prescriptive planning approaches that include greater emphasis on the analytical uses of data.

Weathersby has likened the increased emphasis on analysis in planning to the use of power assistance in steering vehicles. When nearly all vehicles were small and light, there was little need for power assistance. Today, as vehicles have become large and heavy, power assistance becomes less a novelty and convenience and more a necessity. It is essential for any reasonable degree of safety on large earthmoving vehicles. Similarly, it seems likely that increasing importance will be given to the analytical uses of data as a form of power assistance in planning when we are planning for large or complete portions of the postsecondary education enterprise.

What are the current capabilities for utilizing data in policy planning?

They are primitive, but better than intuition alone. Reference was made earlier to one of the distinctions between comprehensive/prescriptive planning and incremental/remedial planning. These two kinds of planning may be viewed as being opposite extremes on a spectrum.

Comprehensive/Prescriptive _____ Incremental/Remedial

In my own view, planning still is pretty much an incremental/remedial process, because the comprehensive/prescriptive process requires a much better analytical capability and because the current generation of policy makers does not as yet feel comfortable with the analytical approaches

currently developed. (I suspect that I am as comfortable as any with these new analytical concepts and I view myself as planning in an intuitive incremental/remedial style.)

Nevertheless, forces are moving planners away from the right end of that spectrum because even the development of incremental policy changes can benefit from rigorous analysis, and, most important, because there generally is more capability than currently is being used.

More data are available to use in planning than are recognized. Their use is limited by two factors.

1. Appropriate information standards were not and, in the case of current data collection, are not, used.
2. Current data base management techniques do not permit the timely availability of the data to policy planners.

Data base management techniques that will permit the ready availability of large amounts of data for analysis are available at reasonable cost. The hastily developed terminal access data base produced by the National Commission on the Financing of Postsecondary Education provides a glimpse of the potential in this area. The factors that deter the implementation of this existing capability are parochial and proprietary attitudes, concerns with confidentiality of data, and general lack of knowledge concerning the capability available and its costs.

While there still are few quantifiable measures that satisfactorily represent desired objectives and values, we do have a number of useful measures. Measures reflecting the demand for postsecondary education generally are much more satisfactory than those reflecting the supply of postsecondary education.

Analytical procedures are promising, even in their current primitive state. More are available than currently being used. The main deterrents to their use are the lack of trained analysts and the lack of policy planners with an understanding of the potential for using the results of analysis. The analytical procedures now available are very helpful in making general assessments of current conditions, in developing rough generalizations about relationships between major factors in policy issues, and in providing the capability to analyze alternatives rapidly.

Information produced by modern analysis techniques generally has the major fault of being *too much*. Our concerns with the development of sound analytical approaches have caused us to neglect the important consideration of distilling out the essence of the information for use by the policy maker. Here we need significant improvement.

To what new capabilities should researchers give priority?

From a policy viewpoint, research on the development of policy analysis approaches must give priority attention to:

1. The development of politically acceptable and technically usable measures of objectives for postsecondary education. A good beginning point would be measures for the national objectives for postsecondary education developed by the Commission.

2. The development of analytical models that allow us to examine questions of supply and demand and that can take into account regional differences.

3. Longitudinal studies of institutional, student, and funder behavior designed to provide data in support of the assumptions necessary for such analysis (microeconomic/behavior analysis).

4. Information standards and their use, so that data will be increasingly compatible and usable in linking for various analytical purposes.

5. Security precautions to ensure the confidentiality of data about individuals and other data as necessary.

6. The development of a core of indicators for postsecondary education that can be used to describe the status of the enterprise over time, such as indicators of financial health, and so forth.

7. The development of practical ways to determine priorities among competing objectives in a politically difficult environment.

In summary, I believe:

Circumstances surrounding planning for postsecondary education have placed, and will continue to place, increased emphasis on the analytical uses of data.

There currently is greater capability than is being used.

The deterrents to such utilization are essentially human—lack of trained and committed manpower in the policy planning field and lack of attention by developers of the analytical procedures to the human-values/quantitative-analysis interface.