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ABSTRACT

The present public library financing system is described and assessed, and the key issues for consideration in either reaffirming its continued use or in the development of new approaches are delineated. Special emphasis is given to illuminating those issues and factors affecting metropolitan areas--both core city and suburban fringes. The perspective includes Federal, state, and local legal bases, policies, and mechanisms used in financing public libraries' capital and operational needs. The issues provide information essential to the development of alternative role and funding options for consideration at the Federal level. The inquiry also suggests the need for the possible directions of additional research required to resolve the issues developed. The examination is based on secondary source data and available research materials and did not involve any new assessment of library service needs of the collection of new data on funding levels among local communities. A 27-item bibliography is appended. (Author/PF)

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BASIC ISSUES
IN THE
GOVERNMENTAL FINANCING OF
PUBLIC LIBRARY SERVICES

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May 1973



Table of Contents

	<u>Page</u>
Prefatory Note.....	v
I. PERSPECTIVE ON PUBLIC LIBRARY FINANCE: AN OVERVIEW.	1
The Current Scene	1
Possibilities and Prospects Under Revenue Sharing	3
A Broader Perspective is Required	6
II. GROWTH OF PUBLIC LIBRARY SERVICES AND GOVERN- MENTAL FINANCING PATTERNS	9
Early Development	9
The Growth and Impact of Governmental Interest: Local and State	11
Establishment and Growth of Federal Interest and Involvement.....	14
The Pattern and Levels of Intergovernmental Fiscal Support	19
The Changing Scene: A Review of Current Problems	25
1. Lack of performance standards	27
2. The public library's role in question	29
3. The problem of meeting different needs ...	30
4. The problem of differing ability to support services	33
5. Constitutional issues and fiscal support	34

	<u>Page</u>
6. What is an adequate basis, level and distribution scheme for fiscal support?	35
7. Balance among the sources of funding	38
The Future Scene	40
1. Population	42
2. Urbanization	42
3. Education	43
4. Labor Force and Occupations	44
5. The Economy	44
6. Leisure Time	45
III. A SUMMARY OF BASIC ISSUES	48
1. There is a need to sharpen the definition of, and to achieve broader consensus on, the role and function of the public library	50
a. Political acceptability and accountability	52
b. Public libraries as a single and separate entity	53
c. Relationship to government	54
d. Relationship to public education	55
2. The structure through which public library services are developed and administered at the local and state governmental levels needs to be reexamined and strengthened	57

	<u>Page</u>
a. Service-providing vs. administrative agencies	57
b. The use of administrative boards and commissions	59
c. Permissive versus mandatory state legislation	62
d. The administrative and fiscal viability of regional library network organization	64
3. There is a need for systematically researched alternative plans for the distribution of public library costs, at adequate levels of service, among Federal, state and local governments	67
a. Federal level	69
b. State level	70
c. Local level	72
4. More responsive, strategically designed methods of financing public library services, featuring tighter accountability and performance improvement requirements, should be explored	77
a. Library Services and Construction Act	79
b. State Public Library Support Programs	83
c. Local Support Systems	85
IV. BIBLIOGRAPHY	88

List of Tables

	<u>Page</u>
TABLE I : Percentage of Operating Funds by Source for Public Libraries Serving at Least 25,000 Inhabitants, 1968 - Selected States	20
TABLE II : Receipts into Operating Funds by Source for Public Libraries Serving at Least 25,000 Inhabitants, 1968 - Selected States	21
TABLE III: Per Capita State Aid and Total Opera- ting Receipts Per Capita to Public Libraries Serving at Least 25,000 Inhabitants, 1968 - Selected States	23
TABLE IV : Appropriations for Public Libraries by State	24

Prefatory Note

The objective of this paper is to examine and generally evaluate the bases, patterns of support and funding mechanisms through which Federal, state and local governments finance public library services. A need exists to describe and analyze critically the extent to which existing support patterns are adequate in terms of sound principles of public finance and in the light of existing and future funding problems in the public library field. Legislative bodies at all levels of government, public library administrators and interested observers are expressing increasing concern over the funding of public library services as questions concerning role, support bases and changing library service needs become evident. Roles and responsibilities of Federal, state and local governments are being discussed and studied, but efforts to examine the support base as a problem in intergovernmental finance have been sporadic and diffused. Thus, the specific intent is to describe and assess the present public library financing system and to delineate key issues for consideration in either reaffirming its continued use, or in the development of new approaches. Special emphasis is given to illuminating those issues and factors affecting metropolitan areas - both core city and suburban fringes.

The perspective includes Federal, state and local legal bases, policies and mechanisms used in financing public libraries' capital and operational needs. The issues, however,

provide information essential to the development of alternative role and funding options for consideration at the Federal level. The paper is not intended to provide specific recommendations for action by any level of government. The inquiry also suggests the need for, and possible directions of, additional research required to resolve the issues developed. The examination is based on secondary source data and available research materials and did not involve any de novo assessment of library service needs or the collection of new data on funding levels among local communities.

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Dr. Lowell A. Martin, Professor, Graduate School of Library Science, Columbia University, Mr. Keith Doms, Director, Free Library of Philadelphia, and Dr. Thomas J. Davy, Director, New Jersey Public Service Institute provided invaluable guidance and consultation to the project and critically reviewed the paper. Responsibility for the research performed and judgments expressed remain with GSS.

Charles P. Cella, Director
Government Studies and Systems
June, 1973

I. PERSPECTIVE ON PUBLIC LIBRARY FINANCE: AN OVERVIEW

The Current Scene

In a number of respects, it would have been easier to prepare this paper a year or two ago when revenue sharing was more a concept and less a reality. Only four years ago, Richard Leach, writing in Libraries at Large, stated:

There is no doubt that the rapid burgeoning of Federal aid to libraries in recent years has had a major impact on library needs and on the solution of the nation's library problems. Indeed, it would appear that the battle for library aid has been largely won. The Government has recognized libraries as a vital part of the total education complex and has made a definite and long-range commitment to aid libraries in fulfilling their role.¹

Matching the glowing optimism of that statement against the following terse statement in the Federal Budget for FY 1974 indicates the magnitude of current turbulence in the public library financing field.

Grants and payments are made to States, educational institutions, and other agencies for support of library programs under the Library Services and Construction Act, the Elementary and Secondary Education Act, and the Higher Education Act. In 1973 library programs ... are being funded under a temporary continuing resolution in effect for the period from July 1, 1972, to February 28, 1973. In 1974, Federal support will be discontinued.²

Admittedly, support of libraries is one of the designated objects included in the general revenue sharing measure under which \$30 billion will be distributed to states and local governments over the next five years. But even the language of the revenue sharing act is guarded and somewhat convoluted as it states: "Funds received by units of local

¹Richard H. Leach, in Libraries at Large, Douglas M. Knight and E. Shepley Nourse, Editors, RR Bowker Company, New York, 1969, p. 37.

²The Budget of the U.S., 1974, Appendix, p. 432.

government under this subtitle may be used only for priority expenditures. For purposes of this title, the term 'priority expenditures' means only (1) ordinary and necessary maintenance and operating expenses--and-- (2) ordinary and necessary capital expenditures authorized by law" (emphasis added).³

While in some instances, public libraries have already received, or have been promised, some of these funds, few library officials are sanguine about future prospects.

Many agree with the statement, as The Wall Street Journal puts it, that the President's proposed budget cuts are likely to "dim" the lamp of book-learning. Federal aid to libraries represents about \$140 million - a relatively small amount, and only about 7 percent of the nation's library expenditures. Nevertheless, Federal input is crucial in the view of most librarians, perhaps far more important than direct aid. Federal programs under the Library Services and Construction Act (LSCA) have required and triggered a more substantial flow of state funds in support of local libraries. Oddly enough, the reported success of the present program is used as part of the argument for its elimination. More basically, however, as the Journal article points out, "The Administration says libraries are local things, which Uncle Sam has no business paying for,...(and that)...librarians can make up the loss of earmarked aid funds by persuading state

³State and Local Fiscal Assistance Act of 1972, Section 103.

and local officials to let them have revenue sharing dollars. Librarians doubt they can compete with teachers, firemen, sewage-treaters and other local operatives for those precious revenues Washington has promised to share with the states and towns and cities".⁴

So there you have it: the main support program, for public libraries at the Federal level, which grew from its initial form in 1956, which was supported by the noblest rhetoric of successive Presidents, and which expended about \$500 million in its 16-year history - is now under threatened extinction. A policy of clear and continuing Federal involvement in the fiscal support and functional development of public libraries is now under threatened reversal by a program of intergovernmental fiscal reform supported by a new notion that such institutions should be the exclusive concern of state and local governments.

This is the perspective of the moment, but it may prove to be transitory, depending on how Congress responds to the proposed Presidential budget cuts and the special revenue sharing measures now under consideration.

Possibilities and Prospects Under Revenue Sharing

The concept of revenue sharing, in one form or another, has been around for a number of years. It represents a response to a variety of needs and observed developments in inter-governmental fiscal affairs including the following:

⁴The Wall Street Journal, Tuesday, February 27, 1973, p. 42

- the accumulation of vast fiscal resources and power of the Federal government, a product in large measure, of the elasticity and productivity of the Federal income tax in an expanding economy;
- a continuing expansion of Federal aid programs from \$6.6 billion in 1959 (14 percent of state-local expenditures) to \$45 billion in FY 1973 (24 percent of state-local expenditures);
- the distribution of Federal aid through an increasing maze of categorical programs (over 500 in 1972) with much attendant red tape and dissatisfaction with performance evidenced at all governmental levels;
- the continuing dire financial circumstances affecting local governments, particularly larger urban governments, as they face increasingly restricted tax bases and higher service costs.

The expanded use of block grants and various grant consolidation schemes were measures seen as compatible with revenue sharing, but sudden budget slashes including elimination of specific programs, were not a part of that concept. There is increasing evidence that some major budget cuts will be restored: witness the Administration's change of heart with respect to the funding of day care centers. Furthermore, there is evidence of second thoughts about the wide-spread elimination of categorical aid programs. Senator Muskie, in introducing the Intergovernmental Cooperation Act of 1973, now awaiting Congressional action, reported results of a nation-wide poll of local government officials seeking reactions to revenue sharing and elimination of categorical aid programs. The poll indicated that many local officials see revenue sharing

servicing one kind of need, while categorical aid serves other needs. As a local official from Portland, Oregon responded:

The goal to be achieved through revenue sharing has no relationship with the goals to be achieved through the categorical grant program. An example is that I should not expect revenue sharing would accelerate the construction of waste treatment plants or solid waste disposal systems, however, I am confident that a strong categorical grant program would achieve this national goal. It is my conclusion then that categorical grant programs should not be curtailed because of revenue sharing, but should be continued according to the national goals as set by Congress.⁵

Congress is likely to hear an increasing number of such statements as the potential effects of budget cuts and categorical grant aid eliminations are realized. Some observers are now calling for a postponement of consideration of the proposed four special revenue sharing measures for at least one year and a reinstatement at current levels of the grant programs affected. The Advisory Commission on Intergovernmental Relations (ACIR), a leading exponent of revenue sharing in the past, will hold hearings on the impact of the measure at its June meeting, 1973.

But make no mistake. If current cut-backs and grant program eliminations win Congressional approval, local public libraries are likely to face tough financial sledding as they vie with other demands for the local and state tax dollar. Witness the strong advice of L. L. Ecker-Racz, former Assistant Director of ACIR:

⁵Information Bulletin No. 73-4, Advisory Commission on Intergovernmental Relations, April, 1973, p. 2.

Political leaders (should) muster the intestinal fortitude to resist using much of its revenue sharing entitlements, especially with initial years, for operating purposes. It should strive to dedicate these funds to non-recurring capital outlays, to tax reductions to replace tax anticipatory borrowing, possibly even refunding callable bonds.⁶

The event of revenue sharing, the proposed elimination of funding LSCA, and their combined potential negative impact on the governmental financing of public libraries should be seen neither as a special vendetta against libraries, nor as a reasoned position of new Federal policy in this area. LSCA represents simply one of the many Federal programs whose initiation and expansion was made possible by felicitous fiscal conditions and the hard work of such interested groups as the American Library Association and library officials throughout the Nation. Pressure to establish Federal policy for libraries was started as early as 1944 but achieved only relatively limited results with the enactment of the Library Services Act of 1956. Statements that the program has been so successful that it is no longer needed, or that it has represented a too little and too late effort are merely rationalizations or defensive justifications - neither is supported by hard measurable facts.

A Broader Perspective is Required

Regardless of the outcome of the revenue sharing issue and the Congressional review of the President's budget

⁶L. L. Ecker-Racz, National Conference on State Supervision of Local Government Fiscal Performance, October, 1972, Philadelphia.

proposals, the problem of adequate and equitable funding for public libraries remains. Federal funding has represented only 7 percent of total library expenditures and has triggered a comparable level of funding from the states. As everyone knows, the bulk of the financial load falls upon local government supported in large measure, by the real estate tax base. Federal fiscal support and the impact of a reasoned, consistent policy about the development of public library services are, of course, important - perhaps even crucial. But a real understanding of library finance problems requires review and analysis of the public library, its development and history as a social institution, some insight as to its future role, and consideration of basic factors affecting, or likely to affect, the present pattern and effectiveness of its financial support.

The public library is a unique social and cultural institution, but that uniqueness should properly be viewed as both an asset and a liability. Concern over the financing system supporting public libraries has greatly increased recently because of erosions and weaknesses in the fiscal condition of local government and, as described above, because of Federal budget cut-backs and the unknown impact of general and special revenue sharing. The problem has deeper roots, however. It also involves changing perceptions of the role of the public libraries, changing library service

needs and the response to those needs, the costs and benefits of library services, and local, state and Federal roles in supporting library services. Public libraries in this country have a rich heritage in private philanthropy. Perhaps it is true, in part at least, that this history has delayed the movement toward a fuller recognition of public responsibility and funding support for library services. This factor, plus the low political visibility of public libraries, and the continuing single and separate status of libraries with respect to other functions of government may have retarded development of more rational, responsive systems of local and intergovernmental fiscal support of public library services.

This is the perspective from which the identification and discussion of basic issues in the governmental financing of public library services will be undertaken. Succeeding sections will briefly review the history, critically evaluate some perceived major current problems, and examine potential future dimensions of public library services as a basis for the discussion of these basic issues.

II. GROWTH OF PUBLIC LIBRARY SERVICES AND GOVERNMENTAL FINANCING PATTERNS

Early Development

The history and development of public libraries are well-documented in the literature. Only highlights will be included here. The earliest forms of public library service in the United States were the "circulating" libraries of the colonial period. These libraries generally charged a fee for each book borrowed, or in other instances, membership fees were assessed and only members were allowed to borrow books from the library. Benjamin Franklin, that inveterate inventor, is often credited as the originator of this type of library in America when, together with some of his associates, he founded the Library Company in 1731. Other forms of library service in the eighteenth and early nineteenth centuries included large private collections and the collections of philosophical and scientific societies. These latter collections were sometimes quite prominent and strong scholarly libraries. But their strength depended upon endowment and legacies from wealthy members and by the end of the nineteenth century all of these early forms of library had been eclipsed by a new type of public library.

The modern public library is difficult to define precisely, but its major features were described as early as 1876: "The 'public library'...is established by state laws, is supported by local taxation or voluntary

gifts, is managed as a public trust, and every citizen of the city or town which maintains it has an equal share in its privileges of reference and circulation."⁷

According to this definition, the two essential features of a public library are the necessity for universal service and the link between the library and governmental authority. This link was forged for the first time in 1848 when Boston passed a special law permitting the establishment of a public library and levying an annual tax for its support. The Boston Public Library opened its doors in 1854. The reading room was open to all adults and "recommended" young people.

Municipal support for public libraries spread to other cities, but the amount of revenue contributed by municipal governments to local libraries was rarely very large. The largest contributors to free public libraries were philanthropists: John Jacob Astor gave \$400,000 to New York City to establish and maintain a free public library; other philanthropists included Lenox, Tilden, Fiske, Rockefeller, Morgan, Folger, Widener, and Mellon; the greatest of all the philanthropists was Carnegie. The list of Andrew Carnegie's benevolences for libraries is tremendous. Carnegie funds supported the erection of

⁷U.S. Bureau of Education, Public Libraries in the United States: 1876 Report, Washington, D.C., Government Printing Office, 1876, p. 477.

1,677 library buildings in 1,408 different communities from 1896 to 1923. In one instance, Carnegie donated \$5.2 million for the erection of 65 branch libraries in New York City alone.

The Growth and Impact of Governmental Interest: Local and State

Although private philanthropy has played an important role in the historical growth and development of public libraries, the major thrust for library development has been provided by local, state, and federal governments. The first state law providing for the establishment of public libraries was passed in New Hampshire in 1848. This act did not provide state aid for libraries. However, it did allow local authorities to levy taxes for library support, provided for free access for all, and allowed the city or town to receive bequests or gifts on behalf of the library. Massachusetts soon followed New Hampshire's lead and added a limit on the extent of municipal support for libraries. This law also allowed for the possibility of state aid for libraries from the education fund. Other states soon passed similar laws. By the end of the nineteenth century, all states had passed legislation providing for the establishment of public libraries and the levying of local taxes for their support. Furthermore, by 1875 all states had established a State Library for use by governmental officials, the judiciary, and generally the citizens residing near the state capitol.

In some respects, concern about the public library and its relationship to the State Library was an outgrowth of that Library's official duties. In any event, the public library functions soon grew beyond the mere provision of a circulating collection; a new role of extending library service to rural areas was developing and after 1890 most states had adopted plans for this service through their own library commissions and the State Library.

The relationship between the governmental library, in this case the State Library, and the development of public library services deserves analysis. This developmental role is also observable at the Federal level where the Library of Congress is viewed as the "national library", but is also criticized for not performing its leadership role. As Harold Orlans puts it: "LC (Library of Congress) responds rather than initiates; somehow our most indispensable library seems politically and administratively isolated from other major libraries within or outside of government. It is an empire unto itself, benevolent and hospitable, perhaps, but an empire nonetheless, rather than an agency involved in all of the normal processes of responsible and responsive democratic government."⁸

Orlans then goes on to make what he describes as a widely

⁸ Observations and Government Library Organization and Policy by Harold Orlans, in Libraries At Large, edited by Douglas M. Knight and E. Shepley Nourse, RP Bowker Company, New York and London, 1969, pp. 387-388.

supported proposal to transfer the Library of Congress to the Executive branch sans its Legislative Reference Service. The justification advanced for this proposal is as follows: "At one stroke, it would remove all of the difficulties of formulating concerted Federal library and information policies which are attributable to the separation of powers."⁹ The move is described as facilitating common direction for the Library as well as for Executive departments and agencies; "the Library could in turn" exercise a markedly greater influence over relevant Government programs, and serve more frequently as staff or Executive agent for coordinating these programs."¹⁰

The critical point to be made is this: the growth of public libraries is marked by a lack of clear delineation of functions between (1) providing library services, and (2) administering a broad program of developmental assistance to local public libraries. The orientation of these two functions is entirely different. Different agencies, staffed by quite different personnel, are required. It is dubious to assume that an agency whose operating objective is to provide a service - however ramified and complex - can at the same time provide administrative leadership and direction to an essentially broad-gauged governmental program, involving various levels

⁹Ibid p. 388.

¹⁰ibid p. 388.

of government and a whole set of intergovernmental fiscal and functional relationships. Such a situation is a little like assignment of national health care to the Walter Reed Hospital. Yet, this blurring of roles and lack of a clear delineation of "service providing" vis a vis governmental administrative responsibilities is evident in the developmental history of libraries, particularly as it relates to public libraries.

Library service grew immensely during the nineteenth century, but the growth was largely limited to urban areas. A vast number of people in rural areas had little or no library service at all. Recognizing this need, states began to encourage a new form of library development - the county library. The first county library was established in Ohio in 1898, and within the next twenty-five years county libraries developed in other states as well, principally in the Midwest and Far West. County libraries emerged and developed at a painfully slow pace. A major reason for this slow development was finance: rural areas tend to lag in governmental development because they operate on a relatively low tax base and resist expenditure of tax dollars for new services.

Establishment and Growth of Federal Interest and Involvement

Library development was progressing in several states, but foundering in most other states. There was no concerted movement nationwide. While the need for Federal

government intervention was recognized as early as 1944, it was not until 1956 that the national government stepped in with a bold new initiative. In that year, Congress passed the Library Services Act, the first major piece of Federal legislation for the support of public libraries. The Act required each state to prepare a plan, the approval of which was a prerequisite to the use of Federal funds. A primary goal of the Act was the extension of library service to the rural population. Aid was precluded from towns with a population of more than 10,000.

Amendments in 1964, under the title "The Library Services and Construction Act", broadened the scope to include grants for construction of library facilities. Equally important, the new act recognized the need to support libraries in urban as well as rural areas. Plan requirements placed on the states were revised accordingly. Federal funds were allocated according to a formula which recognized only two basic factors: population and income. Each state was entitled to a share of the total federal grant equal to the ratio of the state's population to the total population of the country. However, in order to receive its full share, each state had to provide matching state and local funds based on the ratio of the state's per capita income to the national average per capita income. Thus, wealthier states were required to provide more matching funds than poorer states.

A stipulation was added that in no case would federal funds for library service and construction exceed sixty-six percent, nor be less than thirty-three percent, of the total costs. Determination of the use of Federal funds was left in the hands of the state library agency. It should be noted that the revised act represents a kind of limited revenue sharing measure. Its objective clearly was a redistribution of tax revenues in support of library services. Except for the state plan requirement, none of the fiscal support provisions relates directly to library needs, or library services. Thus, the current level of library services, differential service needs, and requirements to provide specified library services are not included as a part of Federal subsidy machinery.

In 1966 LSCA was amended to identify three new areas for improvement in library service. With these amendments, LSCA provided Federal support in the following major categories:

- (1) Library Services (Title I): support to be used for books and other library materials, salaries, equipment and other operating expenses.
- (2) Library Construction (Title II): support to be used for necessary capital expenditures, such as a new building.

- (3) Interlibrary Cooperation (Title III): support to be used for the establishment and maintenance of local; regional, state, or interstate cooperative networks of libraries, including public-nonpublic library networks. No matching of Federal funds required.
- (4) Services to the Institutionalized (Title IV-A): assistance in the provision of library service to inmates of prisons, state schools and hospitals, orphanages and other institutionalized individuals.
- (5) Services to the Physically Handicapped (Title IV-B): support to be used in the establishment or improvement of library service to the blind or visually handicapped individuals who are unable to use conventional printed materials.

The 1970 amendments to LSCA stipulated the strengthening of metropolitan public libraries as regional resource centers, and added, as a goal, the expanded use of Federal funds in areas with a large percentage of disadvantaged persons.

Federal legislation has had a lasting influence on the statewide development of public libraries. Although the amount of Federal aid has been small in relation to total library expenditures, the effect of federal aid has been much greater. Federal aid encouraged the states to accept increased responsibility for support of public

libraries. As the National Advisory Commission on Libraries noted, there is evidence that LSCA "has stimulated increases in state aid to local public libraries and that it has resulted in the establishment of state aid in nine states." However, even though the percentage increases in state aid may be substantial, "only a few states appropriate significant per capita amounts of state aid."¹¹

Thus, Federal funds, accompanied by a matching requirement and plan preparation, stimulated the states' response to public library needs and strengthened the administrative and planning roles on the state library agency. Local libraries could look to the state as well as local government for relief of some of their pressing fiscal problems. The trend toward state-supported library services has been described as "one of the potentially most important developments during the past ten to fifteen years in public library systems."¹² It cannot be said, however, that these increases in state fiscal support have resulted in an excessive or monolithic pattern of state control over the development of public library systems.

¹¹Douglas M. Knight and E. Shepley Nourse, Libraries at Large, R. Bowker, New York, 1969, p. 405

¹²Ralph Blasingame and Ernest R. DeProspero, Jr., "Effectiveness in Cooperation and Consolidation in Public Libraries," in Melvin J. Voight, Advances in Librarianship, I, New York, Academic Press, 1970, p. 194.

If anything, one might characterize the lack of increased state administrative direction and planned development as a failure on the part of the states to fully recognize their basic responsibilities in this area.

In addition to LSCA there are, of course, other Federal support measures for libraries, but they are primarily adjuncts to programs and services directed toward other broader objectives. The LSCA is the main Federal support base for public libraries.

The Pattern and Levels of Intergovernmental Fiscal Support

Current data showing the amount and percentage of fiscal support for all public libraries are not readily available. The most recent national data on public library support showing the relative Federal, state and local fiscal support were collected for the year 1968. At that, the data are partial, showing only the relative amounts and percentages for public libraries serving jurisdictions of 25,000 or more population. In the 13 states which support libraries most generously, the amounts of state support ranged from \$7 million in New York to little more than \$300,000 in South Carolina. (See Table II) As a percentage of total expenditure for public libraries in these jurisdictions, the proportion of state support ranged from almost 19 percent in Pennsylvania to 4.4 percent in Michigan. (See Table I) (Hawaii is excluded

Table I
 Percentage of Operating Funds by Source for Public Libraries
 Serving at Least 25,000 Inhabitants, 1968 - Selected States

State	% Operating Receipts From		
	State Govt.	Local Govt.	Federal Govt.
Hawaii	89.0	0.0	11.0
Pennsylvania	18.7	61.8	4.4
Maryland	14.7	78.6	3.2
South Carolina	13.1	70.6	11.8
New Jersey	12.9	78.6	4.1
North Carolina	11.3	71.1	9.3
New York	10.9	67.3	1.6
Florida	7.3	73.1	3.1
Illinois	6.8	87.1	0.0
Rhode Island	4.9	61.2	0.0
Massachusetts	4.6	90.3	0.8
Montana	4.4	92.7	0.0
Michigan	4.4	82.5	1.3
Aggregate U.S.	5.9	83.1	2.6

Source: National Center for Educational Statistics,
Statistics of Public Libraries Serving at Least
25,000 Inhabitants - 1968, U.S. Government
 Printing Office, Washington, D.C., 1970.

Table II
 Receipts into Operating Funds by Source for Public Libraries
 Serving at Least 25,000 Inhabitants, 1968 - Selected States

State	Operating Fund Receipts From		
	State Govt.	Local Govt.	Federal Govt.
New York	\$7,072,531	43,767,783	1,061,798
Pennsylvania	3,956,308	13,756,816	958,146
Hawaii	2,506,560	-0-	308,497
New Jersey	2,373,396	14,498,085	765,685
Maryland	2,211,623	11,854,951	403,776
Illinois	1,264,691	16,183,102	-0-
Michigan	862,327	16,055,415	257,285
Massachusetts	824,833	16,018,573	138,060
Florida	657,166	6,537,134	274,461
North Carolina	644,382	4,041,129	527,019
California	439,808	63,465,522	754,509
Missouri	431,071	10,631,860	456,785
South Carolina	316,565	1,707,569	286,220
Aggregate U.S.	25,493,389	359,067,898	11,234,374

Source: See Table I.

because it provides service on a state basis.) On a per capita basis, the amounts ranged from 54¢ in New York to 14¢ in South Carolina. (See Table III.) These data show on a national basis that Federal support is miniscule (3 percent), state support is most modest (6 percent), and that local support is major (83 percent). Also, the remaining support (endowments, gifts, fines, fees, etc.), represented only about 8 percent.

It was reported in the 1972 PAS study that 35 states currently authorize some form of fiscal support for local libraries, but that not all of these states appropriate funds for such programs. The report listed 23 states which had made appropriations in 1970-71 totalling \$52.5 million and ranging from \$15.5 million in New York to \$100,000 in Idaho. The type of grant program for these 23 states is also described. (See Table IV.)

This brief analysis of public financing patterns yields a number of conclusions:

- (1) The great bulk of the fiscal support for public libraries rests with local government.
- (2) The level of state support is significant in a few states but is nominal in most states. This indicates that, however well states have responded to the 'SCA stimulus, they have not yet taken seriously the charge of insuring the development of an adequate pattern of public library services in all jurisdictions.

Table III
 Per Capita State Aid and Total Operating Receipts
 Per Capita to Public Libraries Serving at Least
 25,000 Inhabitants, 1968 - Selected States

State	State Aid Per Capita	Total Operating Receipts Per Capita
New York	\$0.54	\$4.98
Pennsylvania	0.43	2.34
Hawaii	3.96	4.45
New Jersey	0.55	4.26
Maryland	0.74	5.03
Illinois	0.23	3.36
Michigan	0.15	3.43
Massachusetts	0.25	5.32
Florida	0.1	1.14
North Carolina	0.16	1.42
California	0.03	4.60
Missouri	0.14	4.00
South Carolina	0.14	1.07

Source: See Table I.

Table IV

APPROPRIATIONS FOR PUBLIC LIBRARIES BY STATE*

State	Type of Program	1970-1971 Appropriation
Alabama	Matching grants; extension of service grants	\$ 325,400
Arkansas	Establishment grants; continuing support and maintenance grants	427,000
California	Per capita formula, system establishment grants; development and extension grants	1,000,000
Colorado	Continuing support and maintenance grants to individual and area libraries; development of statewide reference programs; grants for developing systems	600,000
Connecticut	Matching grants on a per capita basis	666,000
Florida	Operating, equalization, and establishment grants	500,000
Georgia	Basic operating expenses for state-supported local libraries	2,921,088
Hawaii	All library service is state funded	
Idaho	Per capita and construction grants; establishment grants; grants to develop new and cooperative services	100,000
Illinois	Equalization; grants to establish reference centers; grants for the establishment of cooperative library systems	6,897,093
Kentucky	General grants to county libraries meeting requirements	217,580
Maryland	Per capita grants for operating expenses (requiring 70 percent local support), construction grants of 50 cents per capita	3,529,563
Massachusetts	Direct subsidy grants, systems development funding	4,202,000
Minnesota	Establishment and library materials grants; special development funds; per capita support	517,500
Missouri	Per capita grants; equalization; establishment funding; continuing support (at least one mill local support required)	403,894
New Jersey	Regional service development grants	6,013,105
New York	Formation, development, and support of library systems	15,500,000
North Carolina	Operating cost grants	2,000,000
Ohio	Area service library systems support grants	366,009
Pennsylvania	Operating grants to regional centers, district centers, and local libraries	4,029,634
Rhode Island	Per capita grants to cities and towns; building and construction grants; regional center development grants	536,173
South Carolina	Supplement support for regional and county libraries	478,519
Tennessee	Operating cost grants; support for regional library centers	641,700
Virginia	Support of regional, county, and municipal libraries	600,000

*Patterns Among the States for Supporting Public Library Services, Public Administration Service, Chicago, 1972, p. 16.

- (3) The nature and objective of operative state support programs vary widely, ranging from straight per capita grants to formula based equalization grants for general operating purposes.

The Changing Scene: A Review of Current Problems

Much of the literature of the public library field is peculiarly defensive and introspective. There seems to be a discernible orientation toward discussion of survival issues ranging from philosophic questions centered on a validation of the role of libraries in today's world, to pragmatic issues of funding, with heavier emphasis on the former.

There is, of course, a logical explanation for this defensive posture. From the point of view of the traditional functions performed by the public library, it is indeed a rapidly changing world. Declining readership, especially in the cities; wide-spread development and utilization of new media forms; changed, sometimes polarized, cultural and educational interests; the metropolitan birthplace of the library, a racial, economic and political battleground -- all of these changing forces and influences challenge the role, sometimes the existence, of the public library.

Nonetheless, this explanation does not seem fully adequate. Other governmental institutions are similarly threatened and faced with the need to change. Public education, for example, is today a virtual battleground. And while we face in this field financial crises, teacher strikes, racial

upheavals, and basic questions posed by the studies of Coleman, Jencks, and Jensen about effectiveness and worth, no one talks seriously about complete elimination of the public education system.

Perhaps a more valid explanation is that there exists a lack of full recognition and acceptance of public libraries as a viable function in the mainstream of government. A host of reasons and contributing factors can be advanced in support of this view. This explanation is perhaps less germane in the major cities where technical, functional, and fiscal operating problems prevail. But even in the big cities public libraries have a relatively low political and governmental visibility. It is doubtful that the director of libraries of any major city sits regularly as a member of the Mayor's Cabinet, or as ex-officio member of the local school board. The same circumstances exist at the state level where boards and commissions serve to insulate the public library function from direct accountability to the chief elected official or head of the department to which public library administration is assigned. Such politically insulated structure is never an unmixed blessing because lack of full accountability upwards means usually a lack of felt responsibility downward. Also, there is something less than a full, formal bureaucracy to sustain and support the public library mission, and survival is the unstated, but, nevertheless, top priority mission of any bureaucracy.

While these general observations may serve to explain the current scene, they are not intended to deny the existence, nor understate the importance of current public library problems. A summary of important current and continuing problems of the field follows.

1. Lack of performance standards

The American Library Association (ALA) has responded to the challenges of change by promulgating standards of service for many different classes of libraries. These standards are partly descriptive of present practice, and partly prescriptive in establishing goals regarding the level and type of services to be made available. Some standards are quantitative goals for "minimum" levels of inputs. For example, public library systems satisfy the standard if they have "at least one currently published periodical title ... for each 250 people in the service area."

Unfortunately, library standards as presently formulated are not really designed to guide and make possible the measurement of performance. The standards have been established with no apparent empirical foundations, nor are there criteria indicating priorities. If some standards are exceeded while others are not met, can any statements be made concerning the overall performance of the library? Probably not.

Furthermore, standards refer basically to levels of inputs instead of levels of output, the latter being the real concern of library administrators. Merely meeting the standards implies, perhaps falsely, that the library is doing an adequate job. Some observers have the view that standards are used too frequently to justify and support increases in a library's budget. That is an important use, but they should also guide and stimulate improved performance.

The development of public library performance measures is viewed as one of the most critical problems facing the library profession today. Such measures are especially difficult to construct due to the inability of the library profession to define objectives precisely and the inability to define or measure the output of library service. As one expert observer notes:

"Assuming that libraries do get promptly about the business of clearly defining functions, collectively and individually, it will still be obviously out of the question for the individual library to develop standard measurements of library use which, with the exception of circulation counts, simply do not now exist."¹³

¹³S. Gilbert Prentiss, "The State Overview: The State as a Collector of Library Statistics," in David C. Palmer, ed., A National Plan for Library Statistics: Guidelines for Implementation, Chicago, Statistics Coordinating Committee of the ALA, 1970, p. 31.

2. The public library's role in question

The question of purpose or function is fundamental for current and future planning for public libraries. At the present time there is a great deal of discussion centering on what the public library's future role should be. Should it continue in the traditional manner of trying to serve the diverse educational, cultural, and recreational needs of a wide variety of possible patrons, or should it attempt to define these needs more narrowly, providing better service for a smaller class of clientele? And what types of services can libraries provide which might not be available elsewhere at similar or less costs? Public libraries must answer these questions because across the nation, especially in cities, attendance and use of public libraries appears to be declining. The reasons for this decline may be difficult to determine, but part of the decline is probably due to competition for the public's attention from alternative sources, such as paperback books, magazines and newspapers, television, and school libraries. Spiraling costs and a proliferation of printed material have created a situation in which public libraries must carefully choose which document and program resources to develop and how they should allocate their scarce funds. The conclusion of at

least one researcher is that the public library should stop trying to satisfy everybody for everything.¹⁴

One alternative is to provide a narrower range of services not easily obtained elsewhere. Some public libraries have experimented with new forms of service, acting in certain instances like a Sears catalog-type distribution center. Other services may be limited to information on daily living, provision of work space and materials for students, presentation of new media items, and exploration of issues currently important to the community. The logical target population primarily would be the poor.

3. The problem of meeting different needs

The role of public libraries or, more precisely, the need for such services, particularly in metropolitan areas and urban centers, is apparently changing and becoming quite differentiated. As one governmental issue paper puts it:

Transactions of both print and non-print media showed a 12 percent decline nationwide, decreasing from 634,624,000 transactions in 1965 to 560,214,022 in 1968. The only increase in number of patron transactions occurred in the smaller cities (25,000-34,999) which showed a 6 percent increase. The decline was greatest (16 percent) in the largest communities, those having a population of 100,000 and over; in communities with a population of 50,000 to 99,000, the decline

¹⁴Thomas Childers, "Community and Library: Some Possible Futures," Library Journal, Vol. 96, No. 16, pp. 2727-2730 (Sept., 15, 1971).

was 8 percent; and in communities of 35,000 to 49,000, the decline was a mere 1 percent."¹⁵

The change in this measure of demand would appear to be quite significant -- not only is the utilization of library services decreasing nationally, the decrease is disproportionate in the larger cities where public libraries originated and have their longest tradition of service. Other findings presented in the paper demonstrate in the case of Baltimore and several other larger cities that while book circulation and number of borrowers have decreased over the past three years in the central city libraries, there were substantial increases in these activity figures in the adjacent and nearby suburban communities. Demographic and migration data are offered to explain these changes in part, but the implications for library support fiscal policy are clear. If these changes reflect a need for different kinds of library services as between core cities and suburban and rural areas, if this pattern is generic to most or all metropolitan areas, and if the different services required vary markedly in nature and cost factors, then clearly library fiscal policies and mechanisms might require major

¹⁵Kathleen Molz, The Federal Role in Support of Public Libraries, Issue Paper; USOE draft 2/18/72, pp. 9-10 (unpublished).

adjustments and revisions to insure that differential needs are supported and met equitably in all jurisdictions.

The problem of marked differences in core city and suburban public library utilization is compounded by the fact that expenditures for the diminishing services of core city libraries are, nonetheless, increasing significantly. The Issue Paper, previously mentioned, points out that per capita expenditures of library systems serving populations over 100,000 doubled from 1960 to 1968. These increased costs may reflect expanded efforts of urban libraries as they seek to meet new challenges and new service needs. They also may reflect the more or less fixed expenditure patterns of library bureaucracies whose traditional services are increasing in cost, but not in relevance for meeting the needs of core city residents. In either event, hard-pressed city budget administrators and executives are likely to require more justification for their support of these services, or to reduce budgets accordingly. The role of state and Federal fiscal policies and mechanisms in this kind of situation seems clear. They should provide leadership and guidelines for local government officials to follow in the support of public libraries, and, to the maximum extent possible, provide a flow of funds which can best assist and match local fiscal effort.

4. The problem of differing ability to support services

The question of who should pay for library service is also critical in today's scene. The need for library service and the ability to pay for such services are not distributed uniformly across the nation or even across an individual state. A relatively poor jurisdiction has greater difficulty raising sufficient tax revenue to support adequate library service. Such a district is poor, among other reasons, because of its restricted tax base and, frequently, because of higher overall municipal service costs. The issue of municipal overburden is rarely resolved by current library subsidy mechanisms and fiscal inequities in providing basic services, including libraries, continue to exist.

Equalization of resources has been recognized as a challenge which faces most aid and subsidy systems. In the 1969 Report of the Office of Education's Library Planning Group, one of the four goals for library development was "to provide greater equalization of State and local resources for Library programs and services." At the State level, the ALA established the standard that "State financial aid for libraries should equalize resources and services across the state by providing extra help for those least able to finance sound services and facilities."¹⁶

¹⁶ American Library Association, Standards for Library Functions at the State Level (Revision of the 1963 edition), Chicago, 1970.

5. Constitutional issues and fiscal support.

Local governments, particularly urban jurisdictions, are facing financial crises of major proportions as they seek to provide funds for essential services. As previously indicated, experienced observers are already citing the limitations of general and special revenue sharing to relieve the increasing financial strain at the local level. Further, the Rodriguez v. Texas case, based on the Serrano-Priest issue, recently decided by the U.S. Supreme Court, and the many similar cases in the various States have raised basic constitutional questions related to the use of local taxable wealth as a determinant in the fiscal support of public education. The Supreme Court in the Rodriguez case decided that the issue should be resolved by state legislatures rather than by the judicial agency, on constitutional grounds. The Court, however, gave added legitimacy to the issue. This fact, plus a strong dissenting decision of four of the Justices, suggests strongly that the issue will have to be resolved at either the legislative or judicial levels. Resolution of this issue is likely to have a spill-over effect on State-local fiscal relations in the support of other essential services for which the State bears primary legislative responsibility, such as public libraries. The National Commission on Libraries and

Information Science in recognizing this critical problem argues that if the current method of funding public schools is changed, library funding must change too. Their reasoning is that it would be "unfair" to have schools operating on a broad-based tax structure and libraries controlled by a more restrictive tax base.

6. What is an adequate basis, level and distribution scheme for fiscal support?

It is true that public libraries receive a low level of fiscal support compared to other governmental services provided by State and local governments. Public library expenditures in FY 70 amounted to only .5 percent of all state and local governmental expenditures. This fact, however, provides little by way of demonstrable evidence to determine whether the percentage is low, high or about right. Moreover, cursory examination of data indicates that over a ten-year period 1957-1967, the increase in expenditures for local public libraries has kept pace fairly consistently with increases in other local government expenditures. Analysis of data for later years confirms this judgment, but does not provide any additional justification as to what the rate should be.

Perhaps a better indication that public library expenditures are low, and are inefficiently distributed

is provided by a quite recent study of state library policy. The researchers correlated state appropriations per capita for direct library programs with a whole series of variables including percent change in urban population, personal income, state and local revenues from property taxes, state general revenue totals, and other political, economic and demographic factors. The correlation coefficients were quite low for the series - the highest for any of the specific variables identified above was an "r" of $-.354$, a value which accounted for only 12 percent of the total variance. The authors conclude: "These low correlations suggest that State spending for library programs is largely unrestrained by the economic, social, or political circumstances existing in the State. So far as these measures are concerned, any of the fifty states is in just as good a position as any of the other states to receive either the highest or lowest appropriations."¹⁷ While the authors did not attempt to reach causative conclusions, it is possible at least that library expenditures are at such low level as to be unaffected by "economic, social or political circumstances" which, normally, would be expected to exhibit a higher

¹⁷ State Library Policy: Its Legislative and Environmental Contexts. St. Angelo, Hartsfield, Goldstein, American Library Assoc., Chicago, 1971, p. 30.

statistical relationship to these data. Moreover, if variations in these expenditures among the states are a product of chance, or the operation of unknown, unrelated factors, the further judgment is suggested that there is a lack of consistent fiscal policy and policy mechanisms among the States in support of public libraries. This kind of judgment, if valid, should, of course, be a matter of serious concern to the Congress, Federal, state and local officials and administrators whose responsibilities include the continuous development of adequate public library services in all parts of the nation.

Further indication of both inconsistency and inefficiency in state fiscal policies and, equally important, the lack of meaningful relationships between Federal and state fiscal policies in support of public libraries is suggested by another finding of the study. Efforts to correlate per capita Federal grant obligations in FY 1967 with variables representing state resource characteristics and library program standards also produce quite low coefficients of correlation. The researchers concluded: "Neither State resources nor library programs have meaningful impact upon the distribution of Federal aid to the states."¹⁸

¹⁸Ibid., pp. 32-33.

Intergovernmental fiscal policies in any functional area should exhibit some degree of meshing and inter-responsiveness if they seek to achieve common goals. The fact that these analyses demonstrated only moderate or low correlation may be significant evidence that Federal and state fiscal policies and mechanisms have little co-responsiveness in providing support for public library services. The fact that Federal and state funds provide only a small percentage of local public library expenditures further highlights the need for greater consistency in Federal and state fiscal policies. Under such conditions it is essential that Federal and state funds, together, be utilized strategically to fill service gaps and provide incentives designed to optimize the expenditure of local funds.

7. Balance among the sources of funding

The question of a fair-share formula specifying an "equitable" division of financial support among the local, state and Federal levels has been debated for at least twenty years. In their report prepared for the National Advisory Commission on Libraries, the Nelson Associates urged that fair-share formulas be developed and argued systematically. They report:

"The development and general acceptance of a 'fair-share' formula is one of the important items of business on the library agenda."¹⁹ Opinions on this subject have varied a great deal. In 1948, Amy Winslow and Carleton Joeckel proposed a formula for public library support of 60% local, 25% state and 15% Federal. As part of an Allerton Park Institute in 1961, Hannis Smith proposed the formula: 40% local, 40% state, and 20% Federal support. In 1964 Lowell Martin considered that a reasonable formula would be 50% local, 30% state, and 20% Federal support. These proposals and opinions are in sharp contrast to the present support pattern reported for FY 1970, which is approximately 88 percent local, 7 percent state, and 5 percent Federal. Clearly, there is no consensus concerning an appropriate distribution of public library cost among levels of government. Decisions relating to this distribution continue to be made on a highly decentralized and independent basis by the different levels of government. The amount of support each provides is the result of political, economic, and social factors in the absence of guidelines reflecting total library service needs and providing adequate bases for cost distribution.

¹⁹Nelson Associates, Inc., Public Libraries in the United States: Trends, Problems, and Recommendations, report prepared for the National Advisory Commission on Libraries, 1967, p. 24.

Public libraries today are thus confronted with many challenges. Financially strapped, struggling to compete with more glamorous forms of information sources, sometimes attacked as "irrelevant" by their own users, libraries must face these challenges squarely if the institution is to respond adequately. The problems are many, the solutions difficult, but the ability to respond to change and improve service has been a tradition in the history of public libraries.

The Future Scene

In an ending section of a recent appraisal of state library policy, the authors state:

The overall conclusions on the materials presented in this chapter are both surprising and delightful. Much of the previous work on general state policy has suggested a social or economic determinism. For example, some research has stressed that extensive state education programs require favorable social and economic environments. The analysis of this chapter clearly implies that good state library programs are an act of free will. A state does not have to have a highly favorable economic or social environment before it can develop a leading library program. Moreover, there are no particular political configurations which favor library programs. Strong library programs can exist in any of our state political environments. In a reaffirmation in the faith of the ability of man, these data say that good library programs are the result of leadership.²⁰ (Emphasis added)

The ebullient optimism reflected in this conclusion should be viewed with great caution. A less sanguine

²⁰St. Angelo, Hartsfield and Goldstein, op.cit., p. 42.

reading of the statement, and the data on which it is based, is that top political leaders and forces in this country do not care all that much about public libraries and public library development. No one's ox is being gored; let the institution continue to dangle on the periphery of the social and governmental scene; libraries were once supported by private largesse, let them continue to survive on the bits and pieces of government fiscal surplus. Probably it is true that neither view is an accurate and complete portrayal of future options. The authors, after all, were mainly commenting on the need for leadership and the apparent latitude within which leadership can operate.

But, what of the future? What evidence is now available to depict the environment in which public libraries will operate? Will they continue to have a role as a societal civilizing force? Definitive answers to those questions are not within the constraints of this paper, but a basic affirmative or negative answer with respect to future roles is fundamental to governmental financing. A listing of relevant, current and projected data include the following items:²¹

²¹Data developed from a review of various sources including three primary references: Population and the American Future, Report of the Commission on Population Growth and the American Future, U.S. Government Printing Office, 1972; Conrad Tauber, "Population: Trends and Characteristics" in Indicators of Social Change, Russell Sage Foundation, New York, 1968, and Pocket Data Book, USA, U.S. Bureau of the Census, 1971.

1. Population

- A population leveling-off at almost 205 million in 1970, with birth rate declining from 27/1000 in the 1950's to 18/1000 today, and death rate declining even more markedly.
- Life expectancy at 70 years, 23 years longer than 1900.
- A current annual growth rate of 1.1 percent, adding 2.25 million to our society each year.
- Females outnumbering males by 5.5 million in 1970.
- Twenty-six million (12.5 percent) members of minority races in 1970, up 5 million from 1960.
- One-half the population under 28 years and one-sixth over 65.
- An expected 33 percent increase in annual household formation, in smaller family units.

2. Urbanization

- Seventy percent of the 1970 population in Standard Metropolitan Statistical Areas.
- Increasing metropolitan growth from 1960 to 1970, at double the U.S. rate of growth.

- Nearly all metropolitan growth taking place in the suburbs.
- Twelve areas with populations of over 2 million, and 132 cities of over 100,000.
- The metropolitan population concentrated on less than 1 percent of the nation's land area.
- Seventy-eight percent of all Blacks living in central cities.

3. Education

- A decline in the number of illiterates.
- Thirty-three percent of persons over 25 years with 12 or more years of school completed in 1970, more than double the 1940 proportion.
- Median year of school completed 12.1 years in 1969, up from 9.3 years in 1950.
- Dramatic increases in school enrollment of 18-24 year olds, 78 percent in 1970.
- Four times the number of Bachelor Degrees in 1969, compared to 1940; more than seven times the number of Master's Degrees, and eight times the number of Doctorates.

4. Labor Force and Occupations

- Ninety million in the labor force, 74 million in non-agricultural jobs.
- Increases in the percentage of professional and technical workers, managers, clerks, service oriented jobs and government workers.
- Decline in unskilled manual workers.
- Forty-two percent of female population in the labor force and increasing.
- 4.5 million out of work and seeking jobs.

5. The Economy

- A GNP of \$724 billion in 1970, up almost 50 percent over 1960 (1958 dollars).
- Personal income up about 8.5 percent, 1972 over 1971.
- Median family income of almost \$9,600 in 1970 compared to \$5,700 in 1960.
- A decrease of 15 million in the total number of people below the poverty level, 1959 to 1969, and an even greater percentage decrease in this number for Blacks.
- A greater incidence of poverty in non-metropolitan areas.

- A 12 percent increase in spending on durable goods, and an 8 percent increase for non-durable goods and services in 1972.

6. Leisure Time

- During 1960-1970, workers gained 50 hours per year in free time, added 15 hours of vacation time, 4 hours to holidays and reduced by 31 hours the time spent working.
- A 1960-1970 increase of 100 percent in money spent on all forms of recreation.
- A prediction that by the year 2000, retirement at age 38 will be commonplace.

One could extend this brief list of facts, factors and projections of the future. But the list seems to provide more than enough evidence to indicate a future society featuring more of everything -- including problems. The data project a society in which the pace of knowledge, skill, economic activity and human relationships is on the ascendancy. The ways in which we are able to guide, control and direct these dynamic forces will determine whether wisdom and the sustaining qualities of the good-life, are also on the ascendancy. But most certainly, it is a future world requiring high responsibility and commitment to sustaining and expanding the basic sources of information

and knowledge which are the ingredients of the social wisdom required. As David Bell points out, the distinguishing features of our time which sets it off from the past are the acceleration of the rate of information, the "idea of exponential growth curves," the change of scale in our daily lives, and the number of persons each one of us knows which has altered the way in which we experience the world. These changes naturally cause "structural differentiation", consequences which include:

1. The creation of a service economy;
2. The pre-eminence of the professional and technical class;
3. The centrality of theoretical knowledge as the source of innovation and policy formulation in the society;
4. The possibility of self-sustaining technological growth; and
5. The creation of a new "intellectual technology".²²

Whether the reality of the future will reflect accurately Bell's predictions cannot be known with surety. What can be known with surety, is the present need to sustain and enhance

²² Bell, David, "The Measurement of Knowledge and Technology," in Indicators of Social Change, Russell Sage Foundation, New York, 1968, p. 41.

public libraries as an accessible storehouse of public knowledge vital to achieving desirable future goals for the whole of society.

III. A SUMMARY OF BASIC ISSUES

Our federal system is usually described as a partnership of the Federal, state and local levels of government. The powers and duties of the Federal government are expressly stated in the Constitution. All powers not delegated to the Federal level, except those specifically denied by the Constitution, are left to the states for performance and implementation. Local governments, of whatever form, are creatures of the state and are charged with performance of responsibilities and functions expressly delegated to them by statute or, under a broader, more generalized grant of power, by state authorized home rule charter provisions.

Strict constructionists of the Constitution and other observers argue, with respect to public library services and development that no Federal role exists. The facts are, however, that the Federal government has been instrumental in launching and sustaining hundreds of domestic programs and fiscal support measures in a wide variety of functional areas and likely will continue to do so. A much higher degree of consensus exists in support of the principle that prime responsibility for public library services belongs at the state level. Clearly, the state is the most theoretically and strategically appropriate level of government to

insure the provision of adequate public library services for all citizens. It follows, then, that the state has the latitude for utilizing local government in whatever ways it may deem appropriate in developing public library services.

This nice, pat description of the division of responsibilities and duties with respect to public libraries is by no means an accurate portrayal of how the system works. John Bebout characterizes governmental operations as a whole web of intergovernmental relations focused on key principles essential to make the partnership viable including the goal of equality of opportunity in all jurisdictions, the irrelevance of jurisdictional boundaries in many instances, the existence of governments with widely varying fiscal capacities, recognition of the special problems of metropolitan areas, and the need for new regional organizational arrangements. As he stated:

If these principles are not fully realized in practice, they at least characterize a concept of American federalism that seems to be emerging. I have been calling it "partnership" federalism. Others have called it "cooperative," "creative," or "new" federalism. President Lyndon B. Johnson's expression "creative federalism" suggests the dynamic qualities inherent in its pluralism and the capacity, it is hoped, to fuse a multiplicity of local initiatives and energies in building the national purpose and strength needed for survival in an age of unprecedented complexity and fluidity.

Librarians and their cohorts need to understand these concepts if they are to play a significant role in this venture. The federal partnership is not a company of saints vying with one another

to make sacrifice for the common good. The playing field is rough. The rules are complicated, changeable, and sometimes contradictory. The goals are often obscure, the goalkeepers frequently anonymous, and the rewards uncertain. It is no game for the weak, the timorous, or the uninformed. It is being played for the common good, however variously that common good may be understood by the players. Libraries should have much to contribute to the clarification of goals and the knowledge of the rules by which a civilized society must live and evolve. ²³

In this context, issues relevant to the governmental financing of public library services must be viewed in a broad perspective, inclusive of, but also beyond, the analysis of the various formulae and methods now used to provide governmental fiscal support. Accordingly, this definition and explication of issues confronting the governmental financing of public library services includes questions about role, function, and structure of public library services, as well as basic issues concerning the source, level and method of governmental financing.

1. There is need to sharpen the definition of, and to achieve broader consensus on, the role and function of the public library.

So much appears in the literature in lengthy discussions of the public library's role that one hesitates to identify the role question as a basic issue in the governmental

²³John E. Bebout, "Partnership Federalism" in The Metropolitan Library, edited by Ralph W. Conant and Kathleen Molz, The MIT Press, Cambridge, Massachusetts, 1972, p. 79.

financing of such services. Nonetheless, it seems clear that adequate, sustaining public financing systems for these services are not likely to emerge without better definitions, supported by a broader consensus, of the scope, purposes and functions, in priority array, of public library services. A recent research effort catalogued some 30 somewhat overlapping but different statements describing public library objectives. An excellent general definition is the one provided by Shera:

What then, one may properly ask, is the purpose of the public library? To answer such a question it is necessary to look first at the generic role of the library, what the library can and should do and what no other agency in society does, or at least can do as well. The function of the library, regardless of its nature or clientele, should be to maximize the social utility of graphic records for the benefit of the individual and, through the individual, of society. The library, as a social invention, was brought into being because graphic records are essential to the development and progress of culture; hence, it is important that the citizen have access to those resources that will best enable him to operate effectively in his several roles as a member of society. The public library, as its name implies, has been predicated on the assumption that it could meet this objective for all strata of the population. ²⁴

There are a number of pre-conditions and parameters which should be considered in examining the role issue.

²⁴Jesse H. Shera, "The Public Library in Perspective" in The Metropolitan Library, edited by Ralph W. Conant and Kathleen Molz, The MIT Press, Cambridge, Massachusetts, 1972, p. 106.

a. Political acceptability and accountability. The fundamental purpose of role and function definition is to win, both within and outside the professional library field, political and fiscal support for the program. Increasingly, in the highly competitive fields of public and voluntary finance, needed support can no longer be achieved on the basis of highly generalized goal statements, however noble. Budget and fiscal decision makers want to know specifically what the fund-seeking agency is going to do; how are they going to do it; and above all, how they will measure and evaluate the costs and benefits of the proposed activities. Thus, the task of role and function definition should stimulate and guide the determination of measurable objectives and performance standards based on output measures. This should permit continuing evaluation to demonstrate program impact and the achievement of purpose. Planning-programming-budgeting systems in all areas of government are still evolving; libraries and library systems cannot be expected to go beyond the current state-of-the-art in this area. Nonetheless, the basic concept of accountability and measurement of performance against quantifiable objectives is not

likely to go away. Public libraries must come to terms with this requirement of modern public financing systems.

- b. Public libraries as a single and separate entity. As previously discussed, the public library is a unique social institution. The literature of the field provides evidence that the institution to some extent thinks of itself as separate and apart from all other community, social, cultural and educational agencies. To the extent that this feeling exists, it should be examined critically. Society has a history of responding with only an elusive and partial commitment to those social institutions which aspire to transcendent qualities. Bebout puts it well:

Public libraries that are worth their salt are no longer the somewhat cloistered institutions of local cultural benevolence that many of them once were...As institutions, however, they are caught in a vast web of governmental organizations and practices - national, state, local - that has come to be called partnership federalism. The nation is just beginning to become aware of the complex system of intergovernmental relationships that has evolved out of the relatively simple concept of federalism embodied in the Constitution of 1787. Libraries, quantitatively miniscule elements in the system, have hardly sensed the implication of this evolution for either their institutional integrity or their function in society. ²⁵

²⁵ Ibid, p. 79.

In defining their role and function then, libraries face the need to see themselves as an integral part of a fabric of institutions serving the same or closely related goals. They should consider providing and seeking active support of such agencies. Finally, they should be willing to negotiate with other social and educational agencies in determining their role and function as it relates to a total pattern of community, social, cultural and educational services.

- c. Relationship to government. In working at the task of defining role and function, library professionals have the option of pressing for the inclusion of public library services as viable programs in the mainstream of governmental operations at whatever level. Perhaps because of their private philanthropic origins and their functional nature, there is some evidence that public libraries are considered almost quasi-governmental in nature. The implications of this observation, to the extent it is valid, on structure and finance will be discussed later. From an overall fiscal support point of view, there may be some advantages to a peripheral position in the developmental stages of a new institution requiring funding. However, these advantages are likely to diminish, or even become liabilities, as the institution

becomes of age and requires full, consistent funding at adequate levels of support. In any event, this paper accepts and supports the premise that there exists a profound and increasing need for the services and programs which public libraries can provide. There seems to be little doubt or disagreement that the administration and fiscal support of such activities should flow from government. The goal in seeking "mainstream" status simply accents the need for full responsibility, commitment and funding on the part of the appropriate governmental level, or levels.

- d. Relationship to public education. As Kathleen Molz has put it in an historical context:

The public library, then, was viewed as the last and most independent stage in a hierarchical system of public education that began with the enrollment of the nation's children in the public schools. ²⁶

Review of the literature suggests that the relationship of public libraries to public education is still under discussion and debate and that, to a large extent, the phrase "most independent stage" is an apt characterization of the relationship which now exists.

²⁶ Ibid, p. 3.

It seems clear that in defining and sharpening the conception of role, function and mission, public library professionals must come to more specific terms with questions of organizational, functional and fiscal relationships with public educational systems at all levels of government. This would be no easy marriage to broker under the best conditions, and today's scene in both functional areas is turbulent. Public education has been earlier described as a battleground, and so it is: but it is a battleground in which all the important governmental and political forces are deeply involved and committed to resolution. A substantial part of the struggle in public education, perhaps not as visible as the fiscal, reflects the dynamic forces of basic change which are beginning to become operative. Public education is a highly compartmentalized, bureaucratized governmental institution which is now receiving severe criticism for performance failure and its lack of full relevance to basic societal needs. There is evidence, however, that public education is breaking out of its restraining concepts and rigid forms. The goals of public education are under scrutiny. Hopefully, they will be broadened to reflect a concern for the quality of life, a concern that emphasizes the "sensitivity" about which Molz has spoken in The Metropolitan Library. To the extent that these changes emerge there would seem to be an even greater need for strong, functional linkages between the public education and public library systems.

2. The structure through which public library services are developed and administered at the local and state governmental levels needs to be reexamined and strengthened.

Within certain limits, the structure through which governmental programs are supported and implemented can be considered a variable. There are few hard and fast rules in public administration and organizational theory to define in precise terms which structural form should be used to insure programmatic success. Chances are that if public libraries were receiving adequate fiscal support and were not an endangered species, this paper, if it were written at all, would not deal with the question of structure. Such is not the case. Moreover, there is some relationship between how well an institution is fiscally supported and its structural form; and there are some fundamental, empirically based rules against which structural form should be examined and evaluated.

- a. Service-providing vs. administrative agencies. An earlier discussion in this paper commented on the fundamental differences in orientation, mission, personnel and operational mode between a service-providing agency and one charged with administrative direction and development of a governmental program. At the observable pattern in the development

of public library programs and services seems to feature placement of responsibility in the state library. The literature of the field tends to blur the distinction being made here. For example, the discussion in Libraries at Large on American State Libraries and State Library Agencies under the caption "Role of the State Library" is as follows:

The role of the state in library functions has been defined as follows: States provide library services directly, promote services through other agencies, coordinate the various library measures, aid libraries financially and require service through Standards and Regulations.²⁷

The point to be made is that the "role of the state" and the "role of the state library" with respect to library services development should not be considered synonymous. For reasons already cited, the establishment of a state library and the development of public library services throughout the state are historically and organizationally related. In many states, the state library remains as the agency principally responsible for all of the functions in the definition cited above. ALA's Standards for Library Functions at the State Level fails to honor or otherwise comment on the distinction being made here when it states:

²⁷Libraries at Large, edited by Douglas M. Knight and Shepley Nourse, RR Bowker Company, New York, 1969, p. 400.

Various types of libraries and agencies have been established by the states to carry out library functions. In this document, the term state library agency refers to the appropriate unit of government responsible for the function specified in each standard.²⁸

It is suggested that this question needs to be dealt with directly in postulating the future development of public library services at the level and to the extent desired. Aggressive administrative direction and development of public library services in all jurisdictions of a state are not likely to emerge from the agency responsible for providing services to a state capital clientele. The orientations are too different. Titles are, in some sense, only as important as the incumbents make them, but the distinction between the titles "State Librarian" and "State Director of Public Library Services" connotes vast differences. One wonders about the difference in growth and developmental patterns that might have ensued if the LSCA had included, as a prerequisite to receiving federal funds, the appointment of a director of public library services in each state and outlined his duties in broad terms.

- b. The use of administrative boards and commissions. The use of a plural executive, in the form of a board or commission vested with administrative responsibilities,

28

American Library Association, Standards for Library Functions at the State Level, (Revision of the 1963 edition), Chicago, 1970, p. 1.

is commonly viewed as a weak and inefficient organizational form. This observation has recognized validity even in school district organizations, regardless of whether board members are appointed or elected, or whether they have direct taxing power. In cities particularly, the board-dominated organizational structure is increasingly called into question. In Philadelphia, for example, current efforts to revise the home rule charter include discussion of the alternative of assigning responsibility for school operation to the Mayor as one of the departments of the City government. It is widely recognized that the recent extended teachers strike could not have been settled without the direct, sustained involvement of the Mayor of Philadelphia.

The PAS study points out that in 25 states responsibility for organizing and administering public library services is vested in an independent committee, commission, or board. In reference to the point made in a., above, the report further states that:

A state librarian, or official with a similar title, who may or may not be a voting member of the governing body, is usually responsible for the day-to-day administration of the agency.²⁹

²⁹Patterns Among the States for Supporting Public Library Services, Public Administration Service, Chicago, 1972, p. 18. The numbers of states in each class are taken from a later, updated PAS report: An Inquiry Into The Patterns Among States for Funding Public Library Service, pp. 28-29.

In 14 states, responsibility for coordinating public library services is assigned to the agency which administers public education. In the remaining 11 states, the assignment of responsibility for public libraries varies; in six states, the responsibility is assigned to another department or agency of state government; in three, it is placed in the governor's office; and in two, Indiana and Vermont, it is assigned to a department of libraries.

Clearly, the predominant organizational pattern at the state level features the use of administrative boards and commissions. There are many reasons advanced to explain the less efficient administrative functioning of plural executive heads. The difficulty of developing aggressive policy, the negotiated (and negotiating) position of the chief executive, rapid turnover of board members, or, on the other hand, little or no turnover of board members - all these are among the reasons which limit the effectiveness of administrative boards. Confirming evidence that board-commission structural patterns do not insure strong fiscal support for the operation is cited in the St. Angelo research on state library policy. The report states:

...at present there is no clear pattern of the best relationship within state government for the highest support of library programs. There is evidence to indicate that agencies now located

in state education departments fare somewhat better than other structures maintaining these agencies so far as funds go.³⁰

ALA's Standards for Library Functions at the State Level are mute on the subject of the appropriate use of administrative boards and commissions.

To the extent that similar types of board structure are used in the administration of public library programs at the local level, the same kind of difficulties apply. It is reported that in many communities, public libraries are administered by quasi-public, self-perpetuating boards. The inherent policy and administrative limitations of boards are compounded by these added features.

The obvious alternative to be considered in redefining structure is to restrict the use of boards and commissions to an advisory status.

- c. Permissive versus mandatory state legislation. The point already has been made that local governments can be utilized by the state, in whatever ways appropriate, to develop local public library services. Local home rule charter provisions represent broader grants of power, but even such measures frequently set constraints and general guidelines for the development of local services. Some observers see local governments primarily as delivery systems for providing basic community services, including library services.

³⁰St. Angelo, Hartsfield, Goldstein, Op. cit., pp. 66-67.

In the light of these basic state-local government relationships, the rather standard use of enabling, state legislation for the development and administration of local public library services should be examined. Typically, state statutes permit local units of governments to establish public libraries and grant authority for their fiscal support, frequently in the form of a prescribed maximum tax rate. The problem of prescribed tax rates will be discussed later. Here, the point is that standard use of permissive legislation provides not much in the way of incentive or urgency for the establishment and aggressive development of local public library services. The historical growth of public library and public education systems has been closely associated. Yet, it is interesting to note that there is little in the way of permissiveness in the state delegation of local public education responsibilities. The reasons for the distinction are obvious. However, it is suggested that the closer states can come to a general mandate for development of local public library services, supported by state administrative and fiscal incentives, the sooner such services will be upgraded and expanded.

d. The administrative and fiscal viability of regional library network organization. It has become important as well as fashionable in recent years to press for the regionalization of governmental services in a wide variety of functional areas, including public libraries. There are economic, political and functional reasons that can be advanced to support this developmental trend. Most of such reasons are rooted in the existing constraints and rigidities associated with the unchanging pattern of local jurisdictional boundaries.

Public libraries too, have moved in the direction of regional networks, but progress has been slow in spite of incentive financing measures in some states.

The recent National Commission on Libraries report calls for networks of libraries; certainly the apex of the network, or its clearinghouse/control center, logically should be the state library. But the statement by an outsider - a non-state librarian - is not so effective or meaningful as the same thought voiced by someone with the responsibility for promoting and operating such a network. State librarians, indeed, have pronounced this concept viable; their acceptance of it, however, has not led to any record-breaking speed contest of implementation.³¹

Moves to regionalize other governmental services have also been more active in discussion stages than in specific implementation.

³¹St. Angelo, Hartsfield, Goldstein, Op. cit., p. 65.

While there may be sound justification for the regionalization of public library services, some caution should be stated and observed with respect to the timing and the strategic implementation of regional plans and development. Regional agencies are usually created by negotiation and compromise between levels and among units of government. In embryonic form they frequently lack organizational form, fiscal strength and an active political constituency. Thus, the superimposition of a regional network, with the essential attendant administrative structure, on the existing relatively weak governmental organization for public library services creates some doubt as to its strategic validity. A collection of weak local public libraries operating on the periphery of government does not make for regional organizational strength.

This observation by no means should be interpreted as undermining the library network concept that can be achieved by coordination, required operating relationships, and special fiscal support. But the effective discharge of administrative and developmental responsibility requires an operative political and fiscal base. Moreover, it would seem that proximity of source is perhaps the most vital single factor in establishing and developing general public library

services. Regionalization of selected, and specific kinds of information resources may well be more appropriate and defensible in terms of cost-benefit ratios. Given the history and existing status of public libraries in most states, it is difficult to see that a state-wide system of district or regional libraries would add administrative or fiscal strength towards the development of adequate local public library services. Perhaps a significant factor in insuring the administrative effectiveness of regional library networks would be for the state to delegate to the regional agency its full power to implement the development of regional systems. Regional public library agencies should then be held accountable to the state for development progress.

3. There is a need for systematically researched alternative plans for the distribution of public library costs, at adequate levels of service, among Federal, state and local governments.

Widely varying judgments are expressed in the literature with respect to a desirable or optimum distribution of public library service costs among levels of government. These data, which have been described earlier in this paper, share a common feature in that they all deviate markedly from the present approximate pattern of cost distribution - 88 percent local, 7 percent state, and 5 percent Federal. All reported judgments would significantly elevate the percentage of fiscal support from the state and Federal levels.

Review of the Library Services and Construction Act, as amended, provides evidence that the Congress also has expressed itself in terms of a higher Federal fiscal input for public libraries. Witness the \$207 million authorized in the Act for FY 1972, compared to the \$58.6 actually appropriated; and, of course, funds made available under the continuing resolution are significantly below the 1972 level. The authorization - appropriation gap is a problem which extends far beyond the public library field and is a part of the on-going struggle for fiscal

power between the Federal legislative and executive branches. The deeper problem is that there seems to be little knowledge available about the total cost of equipping the nation with an adequate pattern of public library services. This is no easy task to perform, and it clearly involves some of the issues cited which deal with role, organization and structural questions. Nonetheless, it does not seem to be an insurmountable problem to develop reasonably valid estimates which reflect the current inventory of public library facilities and programs and the costs required for augmentation, expansion and upgrading to some level of service which has general acceptability. A measure of the gap between existing and goal oriented service levels should provide better information about the differential need for funding among states and jurisdictions within states. This kind of hard information and data is required to formulate viable fiscal support policies, including a more rational determination of the percentage of funding to be underwritten by the three levels of government. The oft cited statement that the support of public libraries is "fiscally insignificant" is neither a precise nor persuasive argument in the increasingly competitive battle for the public buck. New systematic research efforts to develop total cost estimates may validate that argument.

Notwithstanding the need for additional basic research on costs, there are other factors to be considered in resolving the issue on funding source and cost distribution.

a. Federal level. It is obvious that the amount and extent of federal funding has been small and has far from realized the expectations of the LSCA designers. The impact of revenue sharing could be extremely severe on the future development of public library services because it (1) cuts off further federal funding, (2) provides the states an opportunity to reduce or eliminate their matching fund contribution and, (3) leaves local public libraries with the need to face local political and fiscal decision-makers with increased budget requests due to Federal and state cut-backs. The problem will be especially severe in urban areas because of the mismatch of needs and resources, and with respect to regional library networks which operate on a state-provided fiscal base. Preliminary data indicating actual and proposed distribution of revenue sharing funds does not provide much hope that public libraries will receive priority consideration in applying for these funds.

Beyond the political dimensions of the current revenue-sharing versus categorical grant battle there is broad justification for continuation of substantial Federal funding. Public libraries do represent an activity and service, the benefits of which, in the terminology of modern public goods theory, extend beyond the individual and his local community. Moreover, for the reasons cited earlier, funding in support of public library services is a relatively late entry into the state and Federal financing scene. Substantial and direct Federal financing is particularly appropriate to assist in the up-grading of this service to a desired level. The continuing importance of public libraries as an information resource and a civilizing force in an imperfect modern society is ample evidence of need for continued Federal involvement and support.

- b. State level. Considerations affecting state level involvement in funding public libraries are obvious. Clearly, in terms of public finance theory and practice, the state has basic responsibility for the development of public libraries which meet the needs of all its citizens. The

state has the fiscal resources to implement this responsibility. However, a reading of the data in the public library field describing the state pattern of development, the level of state fiscal support makes it abundantly clear that the vast majority of states have not adequately met this responsibility. Nor has the LSCA achieved great success in triggering more than a modest flow of additional state dollars.

In determining an appropriate level of public library funding from state sources, consideration should be given to developments in public education financing. In that field, a recommended course of action made by a number of prestigious study groups, including the Advisory Commission on Intergovernmental Relations and the President's Commission on School Finance, call for full state funding (90 percent level) of the costs of public education. The basic factors which support these conclusions are also germane to the public library field: (1) differential need for educational services to meet the requirement of equalized opportunity, and (2) intra-jurisdictional fiscal disparities for the equitable support of public education. The Serrano v. Priest case carried this issue

to the courts. The Rodriguez v. Texas decision by the U.S. Supreme Court invalidated the Constitutional, but not the social and fiscal relevance of the issue. The President's Commission recommendation is instructive:

The Commission recommends that State governments assume responsibility for financing substantially all of the non-Federal outlays for public elementary and secondary education, with local supplements permitted up to a level not to exceed 10 percent of the State allocation.

The Commission further recommends that State budgetary and allocation criteria include differentials based on educational need, such as the increased costs of educating the handicapped and disadvantaged, and on variations in educational costs within various parts of the State.

To aid the States in moving toward this objective, the Commission also recommends a general purpose Federal incentive grant that would reimburse States for part of the costs of raising the State share of total State and local educational outlays above the previous year's percentage. This would be contingent on the submission by a State of a plan for achievement of full State funding over a reasonable period of time.³²

- c. Local Level. The central consideration in local government source funding is the property tax. In 1970, local governments raised \$39 billion in revenue from local sources; \$33 billion (85 percent) of this total was derived from property taxes,

³²Schools, People & Money, The President's Commission on School Finance, Washington, 1972, pp. 36-37.

primarily the tax on real estate. Nearly half (\$17.4 billion) of all local property taxes were expended for public education, and the relative portion has probably increased since 1970.³³

The difficulties with the real property tax are many and well-known. The tax is determined on an ad valorem basis which means that the amount of the tax for each property owner is directly proportional to the appraised value of the land and buildings. The prime difficulty lies in determining and setting the appraised or assessment value. Most state laws or constitutions call for an assessment value on each property reflecting what a willing buyer would pay to a willing seller under open market conditions. Some states prescribe that market value shall be considered but not controlling. The difficulties increase infinitely in determining assessment values for industrial, commercial and natural resource property which, under the laws of many states, must be assessed and taxed at uniform rates of taxation.

³³Ibid, p. 27.

Assessment administration is usually a function of local governments, under a varying pattern of state supervision and oversight. The function is technically difficult to administer and, not surprisingly, is most vulnerable to direct and indirect political pressure. Problems with respect to assessment administration developed in most acute form in relation to state educational financing systems. Because the total assessed valuation of real estate was used as a measure of the fiscal capacity of local jurisdictions, and because it represented a widely varying percentage of "true" or market value, states were forced to develop separate estimates of market value, and to determine the average assessment ratio in each local school district. Efforts to bolster and improve assessment administration go on apace, but practices still vary widely among jurisdictions.

There are still more difficult problems with respect to ad valorem property taxation. To some extent, it is inherently regressive in impact: the poor property owner pays a higher percentage of his income under this tax than the rich, and sometimes he is regressively assessed.

The income-property value relationship varies also among classes (residential, agricultural, industrial, etc.) of property. Only a few states have responded to the need to provide a classified property tax permitting differential rates of taxation which would reduce the income-equity problem. In the 1973 primary election in Pennsylvania, for example, voters authorized a constitutional amendment which will provide differential assessment of agricultural land.

Difficulties related to property taxation are felt in all types of jurisdictions, but particularly in urban areas. Hence, burgeoning metropolitan area growth coupled with the flight of the white middle class, has left core cities with a restricted property tax base, high tax rate, and increasing funding requirements to meet local needs. The clamor of the so-called taxpayers' revolt focuses, perhaps mistakenly, on the property tax. Presidential response to this pressure late in 1971 resulted in a request to the Advisory Commission on Intergovernmental Relations to explore the use of a value-added tax as a substitute for the residential property tax used for school purposes. The investigation did not recommend such a change, but

it did opt for improvements in property tax administration.

Adjustments, corrections and improvements can be made in the utilization and administration of property taxation. Most observers feel, however, that it will continue to provide the basic source of revenue of local government. State take-over of public education funding would, of course, provide much local relief. That course of action remains only a promise of the future in the vast majority of states.

These are the factors to be considered in appraising the continuation of local funding of public libraries at the present high level. They provide heavy evidence that a substantial shift is required if we hope to sustain a viable pattern of public library services.

4. More responsive, strategically designed methods of financing public library services, featuring tighter accountability and performance improvement requirements, should be explored.

Governmental financing mechanisms reflecting enunciated goals in any functional area should be strategically designed to achieve those objectives. This means that efforts must be made to identify goals and objectives in specific terms, and to fashion a subvention system related thereto. Fiscal accountability and the possibility of sustained support for the program is thus maximized. Inter-governmental financing systems - where support funds come from more than one level of government - should be integrated or sufficiently coordinated so that the combining of funds enhances the impact of each component. We are talking here about direct support governmental funding systems, not revenue sharing or tax redistribution measures. The objective of direct support aid systems is to insure the provision of specific services, at stated levels of performance, in accordance with identified, differential patterns of need, and reflecting differential abilities of subordinate governmental units to provide complementing fiscal support. The objective of tax redistribution mechanisms is to do just that -

to redistribute equitably revenues collected by a higher level of government in accordance with generalized measures of fiscal need, and/or measures reflecting the relative amount of tax revenues paid by residents of subordinate jurisdictions. The point is that these objectives are different, requiring quite different bases and methods of fund distribution. The first is a function or service oriented fiscal aid system; the second has a purely fiscal orientation. Fiscal aid systems which combine these separate objectives tend to thwart or dilute the achievement of either. Nevertheless, legislative development of fiscal aid formulas provides wide opportunities for bargaining, the result of which produces "pot-sweeteners" and a variety of adjustment factors which may blur objectives.

Federal aid to public library systems has existed in organized form since the 1956 Library Services Act. Some state-aid systems for libraries existed before that time; in addition several states established or revised their aid systems as a result of LSA and the LSCA. The history of local aid to library systems is much longer. Each of these types of aid systems should be reexamined to determine their efficiency and validity in the light of restated objectives and current library development and need patterns.

- a. Library Services and Construction Act. The fiscal support provisions of this act have proven to be an effective, perhaps crucially important, stimulus in the development of public library services. The possibility of making substantial improvement in the mechanism should be explored, however.

The three separate titles of the act relating to (1) services, (2) construction and (3) development of library networks represent an effort to allocate and target the funds toward specific purposes. The 1970 amendments called for strengthening state library agencies, a special emphasis on services to the disadvantaged, and an effort to use metropolitan libraries as resource centers. It was hoped that additional funds could be provided to support the statement of new emphases, but that hope was not realized. This effort is noteworthy because it represented an attempt to include a differential need for library services, not otherwise reflected in the act.

The strategic administrative implications of developing network arrangements (Title III) has already been discussed and should be evaluated in the light of the special funding of this activity. The legislative and administrative bases for the allocation of funds among the different titles is not known and should be further researched as part of an overall

planning effort. By far the largest amount was used for Title I expenditures covering, in general, the following items:

- (1) The administration of the Federal program;
- (2) Grants-in-aid to local public libraries;
- (3) Statewide library programs, such as book-mobile service, consultancy service, workshops, etc.;
- (4) Strengthening State library agencies;
- (5) Special projects, such as service to the economically disadvantaged and physically handicapped;
- (6) Training and fellowships;
- (7) Centralized processing of books and other materials;
- (8) Other services.

Surprisingly, only about 13 percent of the total LSCA funds in 1971 and 1972 was expended for grant-in-aid programs in support of local public libraries. In view of the status of their development and the difficult financial conditions of most local governments, this modest allocation should be evaluated. In 1971, nearly half of all LSCA funds were expended for multi-unit project services, and half of that amount (28.5 percent) was used in support of statewide program development. The need to upgrade statewide agencies and their programs has been supported in the literature. The emphasis on national priority projects resulting from the 1970 amendments caused

a pronounced increase in these expenditures, mainly in response to state requested augmentation of services for the handicapped and disadvantaged and similar programs. In the absence of additional Federal funds for these purposes, the data show a shift of funding from multi-unit project services to the newly defined priorities.

As a fiscal subsidy method, the LSCA provisions represent a rather crude mechanism utilizing factors more appropriate in a tax redistribution scheme than a goal oriented aid system. The total cost of the "floor" (\$200,000 - Title I, \$100,000 - Title II, and \$40,000 - Title III), representing the minimum grant to each state, could equal \$17 million, or nearly 30 percent of the 1972 total appropriation of \$58.6 million. That seems to be an expensive underwriting of the status-quo in a functional area where directed expansion and development are needed. Undoubtedly, some needed development was provided, but it is difficult to achieve planned objectives under this kind of arrangement. Population ratios used in fund allocation and per capita income ratios used in determining state matching requirements are also crude measures, without much if any relationship to the differential need for public library services and the differential ability to provide such services.

The LSCA also makes heavy use of the plan device in the administration and utilization of federal funds. This is a valid technique, but difficult to use because it requires intensive staff evaluation, including revision, of submitted plans, and a real ability to reduce or cut off funds if the state plan or its implementation does not meet standards. It is doubtful that any state funding under LSCA was reduced or eliminated through enforcement of the plan requirement.

Another area to be considered relative to federal funding is the need to consolidate or better coordinate the many separate federal funding programs and mechanisms impacting on public libraries. The ideal solution is to consolidate such funding activity under one agency and program. A second way is to place consolidating and coordinating responsibility and authority in the agency principally responsible for public library development.

b. State Public Library Support Programs. As previously indicated, a total of 35 states authorize some form of state aid to public libraries. As of 1970-71, however, only 23 states made appropriations for this purpose. The total amount appropriated was \$52.5 million. The interesting point is that of this total, 9 states appropriated \$45 million, or 82 percent of the total for all states. Moreover, New York State alone appropriated \$15.5 million, or about one-third the total for the 9 states. This indicates, of course, that in the majority of states the aid system for local public libraries operates at a nominal level.

This fact is substantiated by a recent USOE analysis of the effect of phasing out LSCA funding. Of 17 "high income" states, 4 had either no state subsidy program or one that represented an appropriation of less than \$200,000. Of 33 "low income" states, 18 were in this zero or nominal aid category. The distinction between high and low income states was based on whether the states were required to match federal funds at above or below the 50 percent standard level.³⁴ Incidentally, it can be deduced from this analysis that neither high nor low income states will fare well in the amount of funds

³⁴ The Effect of the Phasing Out of The Library Services and Construction Act on High and Low Income States - Summary Analysis, USOE, 1973 (unpublished), Tab C.

available under LSCA compared to preliminary allocations of local revenue sharing funds. This confirms an earlier point made.

The PAS study on patterns among the states for supporting public libraries makes clear that there are three primary types of systems for disbursing state aid. Four states, California, Illinois, Michigan, and New York, use the plan device and require local libraries to submit plans stipulating reorganization of the library system as a "separate legal entity," providing wide access, designation of a headquarters library, and providing "adequate" local tax support. A second model is used by Pennsylvania, Rhode Island, Massachusetts and New Jersey. This approach uses elements of the total system notion and establishes several strata of libraries with regional or district level responsibilities. Such libraries may receive separate state funding. A third method, described as the Maryland approach, is a modified matching system in which the state provides a fluctuating percentage of local library revenues.

The general standards and criteria suggested earlier against which financing methods can be examined are equally appropriate with respect to state subsidy methods. Further emphasis should be given at the state level to subsidy factors and

criteria which provide and implement discriminating measures reflecting differential library service needs, as well as differential ability to support such services. Adjustments to take cognizance of municipal overburden factors are of special importance. None of the plans examined in broad outline form seem to fully or adequately reflect these factors. ALA's Standards for Library Functions at the State Level contain good general criteria for the evaluation of current state subsidy systems.

The general finding of the St. Angelo study is confirmed by this analysis:

Continuing review should be made of grants-in-aid programs and their relationships to local appropriations for local services. Legislation may be needed either to correct inequities or to provide a better sharing of responsibilities. Special reference to metropolitan areas and services to low-income minority groups should also be reviewed.³⁵

- c. Local Support Systems. It is clear that the primary determinant of local public library support systems is the availability of local tax revenues, principally real estate tax proceeds. In the main, local public libraries can expect only the right to compete with other demands for a share of the local government operating and capital budgets.

³⁵St. Angelo, Hartsfield, Goldstein, op.cit., p. 64.

Special taxes and sequestered funds, earmarked for library services, are subject to their own risks and limitations. Moreover, they represent poor public finance policy in most instances. Local tax rate limitations, built into so many state library statutes, were probably designed to guarantee at least minimum funding. In some cases they now may well represent maximums, and could inhibit the continued development of needed library services. In any event, sound public finance policy would support their elimination.

Regional taxing and fiscal support schemes, often discussed as a desirable way to correct the mismatch of needs and resources at the local level, offer little immediate hope of substantially altering existing fiscal imbalances among local governments. Even the much discussed Twin Cities "share the growth plan," developed under the aegis of the St. Paul-Minneapolis council of government organization, represents only a primitive beginning towards the solution of a most serious metropolitan area problem. The ideas are noble; the political and practical obstructions to progress remain.

So, an important part of public library funding is likely to remain at the local level, subject to all the vagaries and problems current in the local government finance picture. It is hoped that substantial shifts in the burden of funding can be made to achieve a better balance. It is also hoped that the mechanisms of financing, at all levels of government, can be made more responsive and discriminating. Such developments are appropriate in terms of the fiscal and functional dimensions of providing the full range of public library services to meet the present and future needs of modern society.

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ABSTRACT

Project SEIC (State Educational Information Center) was funded to increase the demand for and use of educational information, especially ERIC (Educational Resources Information Center) information, and to make more cost effective delivery of information services. To accomplish these goals Project SEIC first assessed the state-of-the-art of computer technology, validating that software packages capable of meeting Project needs existed. The appropriate packages were installed at a computer facility, while governance, privacy, and confidentiality issues were being resolved. The Project also focused on defining the problems in information dissemination and utilization, and on the relationship between these functions and the diffusion of innovations. Systems and management insights were applied to supplement the understanding of the diffusion process originally observed by psychologists and sociologists. The Project itself was cast into a framework of planned change. A systematic program of dissemination/diffusion was developed known as RSVP (Responsive Services for a Variety of Practitioners). This first volume of the three volume report relates the story of the SEIC Project: its goals, how they were accomplished, and conclusions and recommendations. (JY)

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Massachusetts State Educational Information Center (SEIC)
 Final Report
 Submitted by
 MASSACHUSETTS DEPARTMENT OF EDUCATION

FEBRUARY 1975

This project was conducted under a contract from the National Institute of Education by the Massachusetts Department of Education with the Assistance of The MITRE Corporation and the Institute for Educational Services.

U.S. DEPARTMENT OF HEALTH,
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Massachusetts State Educational Information Center (SEIC)
Final Report
Submitted by
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FEBRUARY 1975

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ABSTRACT

Project SEIC (State Educational Information Center) was funded by the National Institute for Education for three major purposes:

1. to increase the demand for educational information, especially ERIC (Educational Resources Information Center) information,
2. to increase the use of educational information, particularly in decision making, and
3. to make more cost effective the delivery of information services.

To accomplish these goals the Project SEIC developmental team first assessed the state-of-the-art in computer technology, validating that software packages capable of meeting Project needs existed. This resulted in selecting the appropriate packages for installation at a "neutral" facility, i. e. , the MITRE computer facility, and in achieving a prototype operational system during the first year of the developmental effort while governance, privacy, and confidentiality issues were being resolved. Concurrently, the Project focused on defining the problems in information dissemination and utilization, and on the relationship between these functions and the diffusion of innovations.

Two major design considerations were applied in accomplishing these goals. First, systems and management insights were applied to supplement the basic understanding of the diffusion process originally observed by psychologists and sociologists. Second, the Project itself was cast into a framework of planned change. This approach and these insights enabled the conception of improved dissemination and diffusion services. The computer then was used to lower the cost of delivering services as well as to

provide the governance and linking agencies with fine-grained community and target-group profile data. This, in turn, stimulated greater understanding of needs and led to more systematic management of a more coherent dissemination/diffusion process known as RSVP — Responsive Services for a Variety of Practitioners.

A feature of RSVP is that it assists first-generation information users more easily access responsive low-cost information which they both define and evaluate and, during later stages, helps them introduce and implement the innovation identified on the basis of more informed judgment. Significant progress has been made over the past three years in the conceptualization, development, and implementation of this information dissemination and innovation diffusion process, which should serve as a national model.

Specific activities carried out under the contract include:

1. differentiating the roles among the governance agency, the service network, and the users;
2. evaluating existing ERIC computer system options and selecting one for adaptation to the MITRE computer;
3. developing an information dissemination and innovation diffusion process within the framework of a planned change strategy;
4. providing a variety of operational services for the whole educational community;
5. developing and implementing strategies to ensure self-sustaining information service operations;
6. implementing strategies to ensure continuous enrichment and evaluation of the service; and
7. building a sound basis for future developmental efforts focusing on a shared governance approach to delivering multipurpose information services for the Massachusetts State Department of Education, its regional offices, and local districts.

Volume I of this report is a stand-alone document which relates the story of the SEIC Project: its goals, how they were accomplished, and the conclusions and recommendations. Volume II details and amplifies the material in Volume I. Volume III contains the analysis of the statewide practitioner evaluation of comprehensive information services including RSVP and SID (Searches-in-Depth).

Volume II is available only from Massachusetts Department of Education

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* Presently Head of the Office of Science Information Services, National Science Foundation.

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In the last stage of this Project a number of insights were also acquired through discussions with the Associate Commissioner, Division of Special Education, Robert H. Audette. These insights should enable the Massachusetts Department of Education to build toward more valuable regionally delivered information services which satisfy the needs of teachers and administrators dealing with children with special needs. However, the generalized design approach envisioned should also enable the delivery of services to various educational users within state, regional, and local agencies.

Because of the initial hand-in-glove funding of Project SEIC and a related information dissemination project (Project LINKER), close coordination was necessary to ensure the compatibility of both efforts. The advice and assistance provided by Richard J. Lavin, Director, Merrimack Education Center, INC., (MEC), facilitated the resolution of the many complex issues and considerations.

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The late George King, Assistant Superintendent, Framingham Public Schools, David Crandall and Joyce Bowden of The Network of Innovative Schools, and the staff members of the Far West Laboratory, the Northwest Laboratory, the Stanford Center for Research and Development in Teaching, the New England Program for Teacher Education, and the Greater Boston Teachers Association are acknowledged for their contributions to the Teacher Effectiveness portion of RSVP.

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- Representatives from higher education: the Massachusetts State Colleges, the University of Massachusetts, and private colleges including Boston College, Boston University, Northeastern University, Harvard University, and Lesley College.

Primary responsibility for technical support to the project was delegated to The MITRE Corporation, Bedford, Massachusetts. Within MITRE, administrative guidance was provided by Eugene D. Lundberg, Management Systems Department Head. Computer support, including a shared responsibility for the technical analysis of information retrieval options, was provided by John N. Boolukos and John T. Connolly.

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TABLE OF CONTENTS

		<u>Page</u>
SECTION 1	INTRODUCTION AND OVERVIEW	1
	THE DISSEMINATION OF INFORMATION AND THE DIFFUSION OF INNOVATIONS: A CONTEXT FOR DESIGNING PROJECT SEIC	1
	TOWARD A NATIONAL MODEL FOR THE DIS- SEMINATION OF INFORMATION AND THE DIFFUSION OF SUCCESSFUL PRACTICES	5
SECTION 2	PROJECT ORGANIZATION: DEFINING ROLES AND IMPLEMENTING A VIABLE DEVELOPMENT PLAN IN A COMPLEX ENVIRONMENT	8
SECTION 3	INVESTIGATION OF COMPUTER SYSTEM OPTIONS FOR DELIVERING STATEWIDE SERVICES	24
	INTRODUCTION	24
	ANALYSIS	26
	On-Line Systems	26
	Query Services	28
	System Acquisition	29
	INSTALLATION OF THE SELECTED COMPUTER SEARCH SYSTEM	31
	Data Bases	34
SECTION 4	THE RSVP APPROACH TO PLANNED CHANGE: FROM GENESIS OF A CONCEPT TO DEVELOP- MENT OF A PROCESS	35
	INTRODUCTION	35
	Concerns at the Federal Level	35
	The Changing Role of the State Educational Agency	38

TABLE OF CONTENTS (Continued)

	<u>Page</u>
Other Key Factors	39
Some Basic Propositions	41
RSVP — RESPONSIVE SERVICES FOR A VARIETY OF PRACTITIONERS	42
Unique Features	42
RSVP: Searches of Common Versus Unique Questions	44
Overview of the RSVP Process	48
OPERATIONAL ASPECTS OF RSVP	54
Adoption of the Concept and Implementation of the Process	60
Description of the RSVP Information Package	64
Announcement of Services	65
BENEFITS OF THE RSVP SERVICE	66
SECTION 5 OTHER INFORMATION SERVICES EVOLVED UNDER PROJECT SEIC	68
NATURE OF THE EVOLVING INFORMATION SERVICES	68
SEARCHES-IN-DEPTH (SID)	68
Evolution of the SID Service	68
Description of SID Information Packages	71
COMPREHENSIVE INFORMATION SERVICES PROGRAM	71
MANAGEMENT INFORMATION SERVICES	72
SECTION 6 TOWARD SELF-SUSTAINING OPERATIONS	73
MARKETING	73
SID SALES	76

TABLE OF CONTENTS (Continued)

	<u>Page</u>
DEMAND FOR SID SERVICES BY TARGET GROUPS	78
RSVP SALES	79
DEMAND FOR RSVP SERVICES BY TARGET GROUPS	83
SECTION 7 USER EVALUATION OF THE SID AND RSVP INFORMATION SERVICES	85
USER EVALUATION OF THE SID SERVICES	85
Results of Individual SID Evaluations	85
Results of the Annual SID Evaluation	86
USER REACTION TO RSVP SERVICES	87
Results of the Individual and Annual Assessments	88
Results of the Information Utilization Workshop Evaluations	88
ANNUAL EVALUATION OF INFORMATION SERVICES	91
SECTION 8 THE CURRENT VALUE AND FUTURE PROMISE OF THE SEIC PROJECT TO MASSACHUSETTS STATE, REGIONAL, AND LOCAL EDUCATIONAL AGENCIES	92
MDE CENTRAL HEADQUARTERS	92
REGIONAL CENTERS	93
LOCAL EDUCATIONAL AGENCIES	94
TOWARD A COLLABORATIVELY MANAGED INFORMATION SERVICE GOVERNED BY REGIONAL AND LOCAL EDUCATIONAL AGENCIES	94

TABLE OF CONTENTS (Continued)

	<u>Page</u>
SECTION 9 CONCLUSIONS AND RECOMMENDATIONS	97
REFERENCES	101
GLOSSARY	103
ACRONYMS	105
TABLE OF CONTENTS FOR VOLUME II	107

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1	Project SEIC: Organizational Perspective	10
2	Project SEIC Plan: July 1971 - December 1972	15
3	Trends and Their Impacts Considered in Designing Project SEIC	36
4	Evolving Operational Environment: SID Service	46
5	Evolving Operational Environment: RSVP Service	47
6	Overview of the RSVP Approach to Planned Change	49
7	Overview of Development of Information Packages	55
8	Teacher Effectiveness Grid	56
9	Open Education Grid	57
10	Educational Finance Grid	58
11	Monthly SID Sales: November 1972 - August 1974	77
12	Monthly RSVP Sales: July 1973 - August 1974	80
13	SID and RSVP Sales: July 1973 - August 1974	82

LIST OF TABLES

<u>Table</u>		<u>Page</u>
I	Key Non-Technical Features of Each Search System Considered	27
II	How the Candidate Systems Meet our Criteria	32
III	Percent of SID Requests from Major User Groups	79
IV	Percent of RSVP Requests from Major User Groups	84

SECTION 1

INTRODUCTION AND OVERVIEW

THE DISSEMINATION OF INFORMATION AND THE DIFFUSION OF INNOVATIONS: A CONTEXT FOR DESIGNING PROJECT SEIC

The goals set by the National Institute of Education (NIE) for Project SEIC (State Educational Information Center) and its national counterparts required the consideration, examination, and evaluation of numerous complex variables in order to design a study that would produce pragmatic and implementable results. In essence, these goals were as follows:

- increase the demand for educational information, especially that contained in the already vast and constantly growing knowledge banks of ERIC (Educational Resource Information Centers);
- improve the information service-delivery system, including if necessary, the design of computer software packages; and
- improve the utilization of information by the educational practitioner.

Achievement of these goals required the expertise of an interdisciplinary team, knowledgeable not only in the area of computer-based information systems but in areas such as the management of complex systems and the planned change process. In translating these broad goals into manageable objectives for an innovative project, the Massachusetts Department of Education (MDE) asked assistance from The MITRE Corporation, a not-for-profit organization which had, for several years, served as a technical consultant to the Department on other projects. In essence, the following

objectives* guided activities carried out during the life of the project:

1. identify balanced, differentiated roles among the governance agency, the service network, and the users (see Section 2);
2. evaluate alternative existing ERIC computer system options and select one for adaptation to the MITRE computer (see Section 3);
3. develop an information dissemination and innovation diffusion process within the framework of a planned change strategy (see Section 4);
 - increase awareness of and interest in educational information among the whole educational community: administrators, teachers, students, parents, and nonparent citizens;
4. provide a variety of operational services for the whole educational community (see Section 5);
 - identify the information requirements and services, and develop products to address the separate needs of the first-generation information user and more sophisticated information users;
 - identify the user and service networks;
 - select a linking agency to act variously as catalyst, resource linker, problem solver, and facilitator throughout the various stages of the process; and
5. develop and implement strategies to ensure self-sustaining information service operations (see Section 6); and
6. implement strategies to ensure continuous enrichment and evaluation of the service (see Section 7)

Preliminary Project activities carried out by the MDE and MITRE followed two main thrusts. One focused on assessing the state-of-the-art in computer technology, a study that validated the expectation that off-the-shelf

* A detailed analysis of project accomplishments is included in Volume II, Section 1.

software packages capable of meeting Project needs existed. This led to a redirection of software design efforts to those necessary to adapt the selected packages for use on the MITRE computer during the pilot-test stage. It also resulted in an operational system before the end of the first year of the Project.

The other thrust focused on defining the problems of information dissemination and utilization, and on the relationship between these functions and the diffusion of innovations (see Volume II, Section 2).

Fact: Earlier studies of the education diffusion tradition disclosed that a considerable "time lag" occurred between the invention and adoption of new educational ideas. Some researchers found evidence to substantiate the fact that, on the average, American schools suffer a lag of 25 years between invention and adoption of the best practices.^{1}*

Many reasons have been advanced to explain this lag, among them the lack of change agents to promote new educational ideas, the lack of incentives to implement innovations that would seriously disturb the bureaucratic structure of the school or redistribute authority within that structure.² But at least some of the 25-year lag can be attributed to the information dissemination process itself, a process that has been found to be extremely long and slow.³ Both the formal and informal communication networks are extremely diffuse, causing a large interval of time to elapse from the start of a piece of research until its integration into the archival body of scientific knowledge.⁴ Once integrated, it often is difficult to locate;⁵ once located, antiquated procedures often are applied in processing it.⁶

*Superscripts denote references; see pages 105 to 106.

Fact: Quite often the linking agent between education R&D and practice is the education publisher. The publishing industry is diverse and highly competitive. There are a few large companies and hundreds of smaller ones, resulting in fragmentation. There are problems of articulation between developers and publishers: the former is not involved in the distribution process and therefore cannot assist effectively in providing teacher training and other support services to the school, the latter becomes involved only when development is complete and therefore cannot help shape the product to make it more marketable.⁷

The publishing industry, motivated by a profit incentive, cannot afford to spend time and dollars on building local problem-solving capacity through the use of better information. Marketing strategies are understandably "producer-push" in nature rather than "consumer-seeK". This has heightened the problem of effective resource utilization. Alternative solutions exist but are not disseminated. The most urgent requests are for the synthesizing of available knowledge to meet local needs.⁸ Unless people in the schools possess the capacity to identify and generate or examine alternative solutions for their problems, little in the way of beneficial reform will occur.⁷

The Educational Resource Information Center (ERIC) can be viewed as an alternative linkage model for communicating the results of research to the educational practitioner. However, studies of the ERIC system show that improved methods are needed to bring the ERIC knowledge base to the attention of practitioners.⁹ According to NIE, new approaches of information communication need to be based on the characteristics of potential users and their communication behaviors and information needs. These approaches should also provide for user feedback to assist in modifying the system.⁷

Fact: Two trends – the technological revolution, which produced the computer and new, e.g., digital, communications systems, plus the knowledge explosion, generated in part by the technological revolution, have created an information overload.

A further complicating factor is the geometric growth of the knowledge base;¹⁰ over 365,000 books alone are published annually.¹¹ As computers grow in size and power, it becomes increasingly important to expand their data bases with diverse inputs so that in serving a variety of clients economic justification for the investment can be rationalized. Still research findings show little direct use by practitioners of the vast banks of educational knowledge.¹² The data bases are not organized systematically to link solutions to problems; hence, they cannot be cost effectively accessed.

TOWARD A NATIONAL MODEL FOR THE DISSEMINATION OF INFORMATION AND THE DIFFUSION OF SUCCESSFUL PRACTICES

The results of the literature survey, reinforced by the outcomes of interviews with the staffs of three national and several local information centers, validated several percepts regarding the nature of an improved process for the acquisition and dissemination of information, and for the diffusion of innovative practices.

First, the process must involve the user in identifying his informational needs and, at the same time, reveal insights about the nature of the information user — his characteristics, and his readiness for change.

Second, it must ensure ready access to relevant, selected information at the time and in a format convenient to the user.

Third, the process must enhance the ability of the information users to contribute to the solution of problems.

Fourth, the process must ensure the establishment of linkages between the external research and development system and the educational community, using information to (a) develop a comprehensive statement of needs, (b) structure alternative approaches to a solution, (c) select a solution, and (d) to define and implement a plan for the acquisition and diffusion of the innovation.

Fifth, the process must account for balanced and differentiated roles among the user, the service agency and the governance agency, who are both producers and consumers of information.

Sixth, the process must identify gaps in research and/or the literature and include in its design a mechanism to facilitate the communication of such findings to NIE.

The approach conceived and developed under Project SEIC — RSVP (Responsive Services for a Variety of Practitioners) — takes the form of a multi-stage process, cast within a planned change framework. In essence, RSVP enables management of a process that builds on the findings of psychologists and sociologists. The computer is used to supply information about innovations, about general issues, and about specific questions, and then message data collected from the user's evaluation of the service in order to determine ways of improving it and to find out more about him. It is a process that (1) encourages the identification of information needs by especially the first-generation information user, (2) prepares information packages in response to questions he has asked about a specific issue ("hot" topic) in order to provide him with new insights on the subject, (3) brings him into contact — across publics, school districts and regions — with others concerned about the same issue, (4) when necessary, steps him through a problem-finding/problem-solving effort during which he works with a task force to scope the problem of introducing change, identify alternative solutions and develop a collaborative action plan, (5) provides him with support in implementing the plan, and (6) requires him to document his experience for inclusion in future information packages. From start to finish, the process is supported by a linking agency that serves variously as a resource linker, a solution giver, a catalyst, a facilitator, and an organizer of technical assistance teams with interdisciplinary skills capable of responding to specific user needs.

To date, that portion of the process focusing on the acquisition, dissemination and utilization of information has been developed, pilot-tested, refined and implemented as a self-sustaining service. Budgetary constraints excluded the further development of that portion of the process concerned with the diffusion of innovations. The results of user evaluations indicate strong, positive reactions to the service (see Section 7).

In concept and operation, Project SEIC reflects the guidance contained in the goals of NIE, in the specific objectives identified by the Massachusetts Department of Education, and in the recommendations of leading researchers who have studied the process of change in education, among them, Havelock:

We need to build national systems which allow any school district to plug into the most sophisticated sources of information in such a way that they get knowledge and materials which are relevant, timely, and truly cost beneficial.¹³

Project SEIC, because it developed some essential building blocks, represents a first step in evolving toward this type of system. Its design accommodates the same types of issues that would have to be considered in evolving toward a Regional Educational Management Information System (REMIS) which could serve as a model to be replicated in building national systems. Illustrations of possible types of information services that could be readily incorporated into an expanded SEIC are suggested (see Section 8), along with some recommended next-steps (see Section 9).

SECTION 2

PROJECT ORGANIZATION: DEFINING ROLES AND IMPLEMENTING A VIABLE DEVELOPMENT PLAN IN A COMPLEX ENVIRONMENT

Project SEIC was carried out under an innovative set of organizational arrangements that accommodated the accomplishment of differentiated, balanced roles among (1) the governance agency, the Massachusetts Department of Education (MDE), (2) the service network, composed of the MDE's Bureau of Educational Information Services and Regional Education Centers; the Institute for Educational Services (IES); collaboratives; institutions of higher education, and The MITRE Corporation which provided technical support in designing and developing the Project; and (3) the statewide multiple-public network of opinion leaders and users who, (according to the RSVP concept) would define the information service and evaluate the service network. These organizational arrangements permitted MDE to focus on governance of the Project and enabled IES — the linking agency — to concentrate on the management and delivery of cost-effective services.

The introduction of a linking agency was inspired by the complex political environment in which the Project evolved. At the time of Project SEIC funding, Massachusetts educators already were being provided with a number of options for accessing information. Numerous organizations, some of them based outside of Massachusetts, were offering services either (1) to specific target groups, e. g. , regional vocational-technical high schools, clusters of LEAs or (2) on the basis of specific thrusts, e. g. , career

education, exemplary practices. (In many cases, the user's access to information services was a function of his or her district's organizational affiliation: a teacher or administrator in a regional vocational-technical high school, a staff member at MDE Central Headquarters, district membership in a collaborative, etc.) Thus many organizations had a vested interest in Project SEIC because of their information dissemination activities which were funded through the programs of separate federal agencies — e. g. , the U.S. Office of Education (USOE), the Department of Commerce, and the National Institute of Education — and administered at the state level by various organizational units within MDE: the Division of Curriculum and Instruction, the Division of Occupational Education, the Division of Administration and Personnel, etc. (see Figure 1)

This complex environment fostered a fragmented information-service delivery system characterized by redundant, overlapping services. The "territorial rights" problem mitigated against the formation of natural alliances, within and across districts and regions, among information users concerned about the same issues. This activity is an essential design feature of especially the latter stages of RSVP which focus on the diffusion of innovations.

It was apparent that the accomplishment of Project SEIC's goals and objectives depended upon the introduction of a linking agency that would be perceived as nonthreatening to the existing information service-delivery organizations and which would, in fact, enhance their dissemination function by including selective products of their data bases in building need-responsive information packages for a statewide clientele. To do this effectively, the linking agency would organize the user network *first*, and put the client in immediate command of defining his informational needs

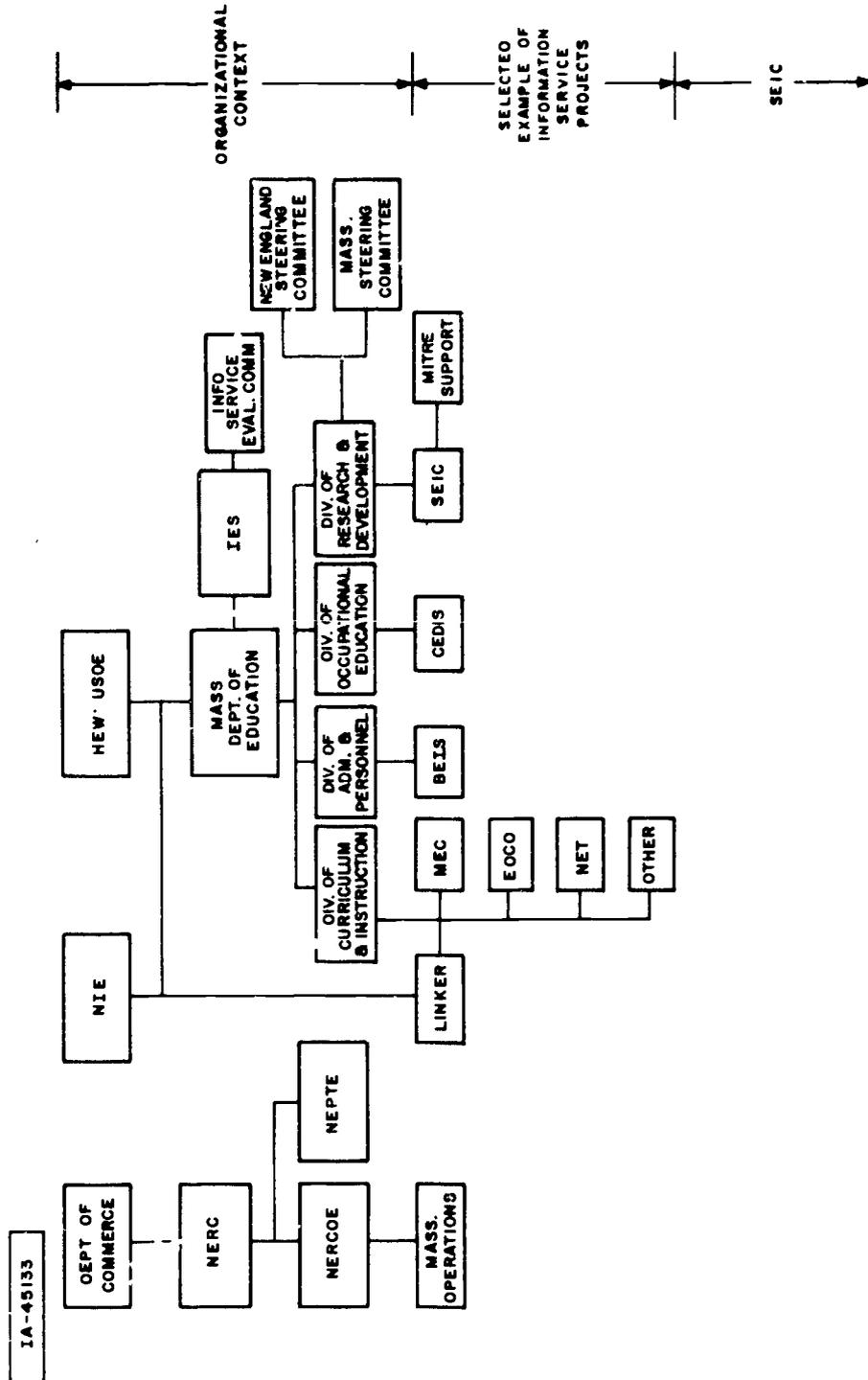


Figure 1. Project SEIC: Organizational Perspective

by "hot" topic, thereby identifying the service network for a given "hot" topic. The extent to which the service network satisfied, through the linking agency, the users' informational needs would be evaluated by the user himself. The governance agency would ensure that appropriate improvements were implemented.

Several agencies were considered as candidates for the linking role. The selection* of IES as this agency by representatives of user networks and the endorsement of that decision by representatives of several existing service-delivery agencies was based on several factors. First, in carrying out its mission of accelerating the pace and improving the substance of planned change, IES works with the client in identifying his needs and then encourages him to seek and implement a solution. To facilitate the process, IES searches for alternative solutions and then federates clients across districts and/or across regions to provide cost-effective implementation of the solution they have selected, whether it be materials, in-service training programs, curriculum, etc. This approach is fundamental to IES's operational style which focuses on working with the client *first* rather than initially promoting a solution of any kind, in any form, by convincing the client that he needs it.

Second, there was concern over the maintenance of the service after the planned withdrawal of federal funds. The follow-on funding strategy included partial support from the state to continue (1) selective development and expansion of the service, and (2) diffusion activities in high-need,

* At the same time the users and service agencies endorsed the recommendation that during the developmental phase of Project SEIC the ERIC data base be housed on the MITRE computer.

low-readiness-for-change districts in order to facilitate access to equal educational opportunity. It also allowed for charging the user a fee for the actual information packages delivered. It was concluded that partial financial support from the user would at least sustain the delivery of services function. This strategy also would furnish an incentive to the service agency for continuous improvement of the quality of the service and, at the same time, provide irrefutable evidence of the value of the service to the user. The fact that the state is not chartered to collect a fee for services further influenced the decision to seek an alternative service delivery agency.

The balanced, differentiated roles and responsibilities among the governance agency, the linking agency, and the technical/management support agency are highlighted below (see also Volume II, Section 3).

The Governance Agency: Massachusetts Department of Education (MDE)

The overall project guidance including development and monitoring of Project plan and preparing reports for NIE.

Organize user design labs (see Section 4)

Negotiate with service agencies

Review service fee

Evaluate cost effectiveness of linking agency and other service agencies

The Linking Agency: The Institute for Educational Services (IES)

Manage and operate services for MDE regional and local agencies

Conduct information utilization workshops

Implement strategies to reduce the cost, improve responsiveness and quality of services to regional and local agencies

Implement marketing strategy

Plan for transfer of brokerage role to regional centers

The Technical/Management Support Organization: The MITRE Corporation

Adapt/modify existing computer software

Provide computer services for development pilot-test phase

Conceive, design, develop, and pilot-test innovative services

Conceive and implement strategies for user involvement

Provide technical support to governance agency and linking agency in planning and executing their responsibilities

The identification of balanced, differentiated roles among the above three key organizations and the user and service networks provided a rational basis for developing a Project Management Plan (see Figure 2) which identified by tasks the degree of responsibility each organization undertook in contributing to the development and operation of services.

This organizational arrangement provided a means of implementing the Commissioner of Education's desire for a collaborative approach (see Volume II, Section 3) to effective dissemination and utilization of information in response to user demands and MDE priorities. It enabled MDE to focus on governance, guiding the efforts of the collaborative service network to ensure responsiveness to user needs. It also was a contributing factor in causing the user/practitioner to seek information which he perceived as originating from credible sources and relevant to improving his participation in the decision-making process.

Upon implementation of the Plan, the arrangements demonstrated that the linking agency, IES, could (1) collect a reasonable fee for the service, leading to self-sustaining operations; (2) facilitate the organization and development of a user network, and (3) market the service and products of other service agencies across regions in response to statewide user demands. The technical/management support agency was able to focus on (1) defining

I Organize SEIC Network	(1)	(2)	(3)											
A Organize Massachusetts and New England Advisory Council ¹	(1)	(2)	(3)											
B Conduct Statewide Workshops, etc., Hosted by MDE and Regional Offices	(2)	(1)	(2)										(2)	
1 Orient Users and Service Agencies to ERIC	(1)	(1)	(1)		(1)	(1)	(1)	(1)	(1)	(1)	(1)			
2 Identify and Orient Multi-Public Change Agents by Region, Gatekeepers and Support Personnel	(1)	(1)	(2)	2	(2)	(3)	(1)	(1)	(1)	(1)	(1)			(1)
3 Clarify Services and Responsibilities by Region	(1)	(1)	2	2	(2)	3	(1)	(1)	1	(1)				2
4 Introduce "Hot Topics" Concept (see C, 3 below)	(1)	(1)	(2)	2	2	(2)	(2)	(2)	2	2			(1)	
5 Solicit & Synthesize Common Informational Problems Associated with "Hot Topics" (Provides basis for initial construct of Information Packages)	(1)	(1)	2	3	2	(1)	2	2	2	2			(1)	3
C Analyze User Informational Requirements	(1)	(1)	(2)	3	3	(2)	(3)	3	3	3			(1)	3
1 Conduct Demand Analysis of MEC/LINKER ERIC Users	(2)	(2)					(2)						(1)	
2 Analyze and Synthesize Massachusetts and Other States' Needs Assessments Studies (Capitalizes on NCEC Funded Needs Assessment and Planning Studies)	(1)	(2)	2	2	2	2	2	2	2	2			(1)	1
3 Identify "Hot Topics" (Initial)	(1)	(2)											(1)	
D Evaluate Existing Network Services (Query, Search, etc.) within Massachusetts and Nationally	(1)	(1)	1	2	1	3	3	3	3	3			(2)	(1)
1 Within NEC	(2)						(1)						(2)	
2 Within Massachusetts Educational Agencies	(2)	(1)	(1)	2	(1)								(1)	(2)
3 Within NERCOE					(2)								(1)	
4 Other States	(1)	(1)											(2)	
a Colorado/BOCS														
b California														
c South Carolina														
d Pennsylvania														
e Utah														
f Oregon														

*1 = Primarily Accountable Numbers in parentheses refer to responsibilities under current contract
 2 = Key Responsibilities
 3 = Related Responsibilities

Figure 2. Project S

Tasks	Interactive SEIC Network Elements and Degrees* of Responsibility											Executive Office of Sec for Educ Affairs
	MDE Governance, Developmental and Needs -- Responsive Service					Developmental and Needs Responsive Service Organizations						
	Res & Devel Division	Admin & Personnel Division (BEIS)	Regional Offices	Curriculum & Instr Division (BLEX) (CS)	Occup Education Division (CEDIS)	IES	MEC	EDCO	Network of Innovative Schools	NERCOE	MITRE	
Current												
II Develop Cost Effective Service Support Capabilities	(1)	(2)				(2)	(2)	2	2	(2)	(1)	
A Acquire Initial ERIC Data Base and Software Capability (Query Unmodified)							(1)				(1)	
B Augment ERIC Data Base and Software Capabilities	(1)										(1)	
1 Identify Alternative Options from Existing Technology	(1)										(1)	
2 Compare and Evaluate Options	(1)										(1)	
3 Acquire and Install RIC and Query II Modified Software Packages (Quick Fix System)	(1)										(1)	
C Acquire and Update Multiple Data Bases	(1)										(1)	
1 RIE												
2 CIJE												
3 AIM ARM												
D Write New Programs as Necessary	(1)										(1)	
1 Program (ERIC IN) to Link RIE and QUERY II Packages												
2 Program to Provide Integrated Search of all 3 Data Bases												
E Perform Trade off analyses to Significantly Reduce Costs, Time and Increase Relevant to Search Products	(1)	(1)				2	2	2		2	(1)	3
F Demonstrate Quick Fix Capabilities to Various Multi-Publics (e.g., MEC - Teachers, Principals, Superintendents, MDE Bureau of Educational Services, Bureau of Library Extension Services, Division of Occupational Education (CEDIS) etc., IEC Title I Parents, Massachusetts Association of School Committees Office of the Secretary of Education, State, Community and Private University, MACE NERCOE Massachusetts Council of Public Schools, Inc., League of Women Voters, etc.)	(1)	(1)	(2)		(2)	(1)	(2)				(2)	(3)
G Analyze and Re-Orient NON ERIC MDE Data to Improve Responsiveness and Reduce Cost	(1)										(1)	
1 Identify Elements of Data Base	(1)										(2)	
2 Examine Input/Output Flows and Problems	(1)										(1)	
3 Hold LEA Users Workshops to Obtain Their Perspectives On Problems	(1)					(2)	(2)	(2)	2		(1)	
4 Recommend Cost Reduction and Responsiveness Actions	(1)										(1)	
H Evolve Improved Management, Service and Network Dissemination Strategies	(1)	(1)				3	2		2	2	(1)	(2)
1 Develop and Test Whole Educational Community Design Lab Concept as a Means of Conceiving Viable Network Arrangements	(1)	(1)									(1)	
2 Design & Develop Information Packages	(1)	(1)				(2)					(1)	
3 Pilot Test Information Packages	(2)	(1)	(2)	2	2	(2)	(2)	(2)	(2)	2	(2)	(2)
4 Evaluate Implications of Massachusetts/ National in Reducing Costs Improving Services	(2)	(1)									(1)	(2)

*1 = Primarily Accountable
 2 = Key Responsibilities
 3 = Related Responsibilities
 Numbers in parentheses refer to responsibilities under current contract

Figure 2. Project SEIC P

III Operate Evolving SEIC Network & Delivery Services	(2)	(1)				(2)					(2)	
A Host Meetings of Massachusetts and New England Advisory Council to Provide Policy Guidance	(2)	(*)	(2)	(2)	(2)							
B Prepare and Execute Marketing Activities†		(1)	(2)			(2)	(3)					
C Conduct Continuous Needs Assessment and Demand Analyses†	(3)	(1)	(2)			(2)	(2)	(2)	(2)	(2)	(2)	(3)
D Coordinate Specialized Training (EIC, etc.) Programs Brokered by Service Agencies	(2)	(1)	(3)				(2)		(2)	(2)		
E Solicit "Hot Topics" from Multipublics†	(3)	(1)				(1)						(3)
F Prepare & Disseminate Info. Packages†	(2)	(1)		(2)	(3)	(1)	(3)	(3)	(3)	(3)	(2)	(3)
G Negotiate Queries, Formulate Logic†	(3)	(1)	()		(3)		(2)	2	(2)	(2)	(3)	
H Prepare and Disseminate Search Products†	(2)	(1)	(2)								(3)	
1 Information Packages Search Products	(2)	(1)	(2)	(2)	(2)	(1)	(2)	(2)	(2)	(2)	(3)	
2 Search In Depth Products	(2)	(1)	(2)	(2)	(2)		(2)	(3)	(2)	(2)		
I Provide Microfiche Hard-Copy Reproductions of Documents Requested†	(3)	(1)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(3)	
J Operate EPD Support Services†	(1)	(2)									(2)	
K Arrange for Conduit of Funds for Network Services (see E through I)	(1)	(1)	(2)									
L Continue Development and Implementation of Cost Reduction Techniques and Strategies (see II, preceding page)†	(2)	(1)	(2)			(2)	(2)	(2)	(2)	(2)	(2)	
M Exchange and Update Fugitive Data Bases from Massachusetts and Other States†	(3)	(1)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)		
N Continue Acquisition of Insights from and Exchange of Lessons Learned with Existing Information Search and Retrieval Centers†	(2)	(1)				(3)	(2)	(3)	(2)	(2)	(2)	
O Continue Development of Variable Pricing Strategies†	(3)	(1)	(2)	(3)	(3)	(2)	(3)	(3)	(3)	(3)	(2)	
P Hire, Contract and Deploy Field Agents to Increase Awareness and Augment Technical Assistance Services†			1	2	3	2	2	3	(3)	(2)		
Q Evaluate Cost Effectiveness of Evolving Support Capabilities, Including Assessment of Implications for Other Networks†	(2)	(1)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
R Select and Deploy On-Line Capabilities as User Sophistication and Volume of Demand Warrant†	1	1	2	2							2	
S Achieve Self Sustaining Operations‡		1	2	2	2	2	2	2	2	2	2	3
† Limited during Current Contract Period												
‡ Totally Dependent on Follow-on Funding												

*1 = Primarily Accountable Numbers in parentheses refer to responsibilities under current contract
 2 = Key Responsibilities
 3 = Related Responsibilities

Figure 2. Project SEIC

IV Documentation	(1)	(2)									(2)
A Prepare Interim Report	(1)	(2)									(2)
B Prepare Progress Report as Required	(1)	(2)									(2)
C Disseminate New Concepts	(1)	(1)				(2)	(2)	2	2	2	(2)
D Prepare Final Report (Including Final Evolutionary Development Plan)	(1)	(2)									(2)

*1 = Primarily Accountable
 2 = Key Responsibilities
 3 = Related Responsibilities

Numbers in parentheses refer to responsibilities under current contract

Figure 2. Project SEIC

and developing the RSVP process, (2) providing, as required, technical assistance to the governance and linking agencies, (3) supplying computer services for the developmental phase of Project SEIC, and (4) conceiving and evaluating strategies for improving the cost-effective delivery of services.

The state thus was free to (1) focus on governance issues such as maintenance of a reasonable fee for services; (2) assure that unnecessary duplication of service by service agencies would be reduced; (3) assure that high-priority common user information needs were identified and addressed; and (4) react to the user evaluations of the service provided to assure continued responsiveness to shifting user needs and enhance the likelihood of early self-sustaining operations. In essence, MDE fulfilled the appropriate role of a governance agency which is perhaps best described by Peter Drucker:¹⁴

The purpose of government is to make fundamental decisions and to make them effectively. The purpose of government is to focus the political energy of society. . . . The purpose of government is, in other words, to govern. This, as we have learned in other institutions, is incompatible with "doing". Any attempt to combine government with "doing" on a large scale paralyzes the decision-making capacity. Any attempt to make decision-making organizations actually "do" also means very poor "doing". They are not focused on "doing", they are not equipped for it. They are not fundamentally concerned with it.

SECTION 3

INVESTIGATION OF COMPUTER SYSTEM OPTIONS FOR DELIVERING STATEWIDE SERVICES

INTRODUCTION

The SEIC Project, as initially defined,* required that there be available an accessible ERIC search capability. This capability would not only provide an opportunity to assess the problems involved in ERIC search and retrieval, but also problems associated with the dissemination of ERIC computer searches to local school districts. Because of the special needs of the SEIC Project, eight major ERIC computer-based search systems were examined in March 1972 to determine one which met the following criteria:

1. available quickly;
2. relatively inexpensive to acquire and use;
3. amenable to additions or modifications;
4. useful in exploring ways of searching the ERIC file and in developing search strategies.

The search system selected would then be acquired and a 6-month study would follow with the purpose of:

1. exercising and evaluating the initial system, modifying it, and adding test features, if possible;

* The immediate and long-range tasks were originally structured by J. A. Evans under the direction of Dr. James Baker, Associate Commissioner, Research, Planning and Evaluation Division, Massachusetts Department of Education, and described in his memorandum to John Coulson, NIE, dated April 14, 1972.

2. determining different needs of various groups in the state for ERIC searches, developing expertise within the state with regard to ERIC search strategies, and identifying the requirements that a statewide ERIC search facility must fulfill;
3. pursuing an evaluation of selected computer-aided systems, with the result of recommending options which would meet the state's future needs.

In March 1972 there were almost 100 locations in the country which received the ERIC computer-searchable tapes regularly. Thus, this investigation was obviously not exhaustive. It did, however, include those users known to the Office of Education as being interested in distributing their ERIC searching computer programs.

There were three major ways of implementing ERIC computer searches (besides producing a system): On-Line Rental, System Acquisition, or Subscription to a Query Service. The following systems and services were identified:

1. On-Line Rental
 - a. DIALOG (Lockheed)
 - b. SDC (Systems Development Corporation)/ERIC
2. QUERY Subscription Service
 - a. BOCES (No. Colorado Ed. Board of Cooperative Educational Services)
 - b. QUERY/Tennessee (University of Tennessee)
3. System Acquisition
 - a. BIRS (Michigan State University)
 - b. GYPSY (University of Oklahoma)

- c. QJERY (modified) (So. Carolina Dept. of Education)
- d. RIC (No. Dakota Dept. of Public Instruction)

ANALYSIS

Based on the information gathered during the course of this study, the key elements of which are presented in Table I, an analysis of the candidate systems follows.

On-Line Systems (See Volume II, Section 5, for a thorough analysis of these on-line systems.)

On-line systems had the great advantage of enabling the user to rapidly modify his search strategy until it produced a reasonable number of appropriate documents. This could also be done with batch systems, but entailed a much longer response time. On-line systems had the disadvantage that the user could not readily add his own data base into the system (e. g., state research reports that are not in ERIC).

The acquisition cost and cost per query was high for both examined on-line systems and became competitive only as the query load increased (see Table I). An on-line system had the potential for being the optimum system for ERIC searches at some future date when the need for ERIC services in Massachusetts was better defined.

SDC/ERIC

The on-line system which seemed most economical, SDC/ERIC, had neither abstracts nor a Boston phone exchange. Since abstracts were not yet available on 28 March 1972, it was decided to wait until both abstracts and a phone exchange (promised in May) were implemented and then reexamine the service offered at that point.

Table I

Key Non-Technical Feature of Each Search System Considered*
 (for IBM 370/155 with
 MVT, HASP, & TSO)

	ON-LINE			SYSTEM ACQUISITION			SERVICES	
	DIALOG	SDC/ERIC	BIRS	GYPSY	QUERY (Modified)	RIC	BOCES	QUERY/Tenn.
Acquisition Cost	\$31,000/Yr. for 2 Hrs./Day	\$7,200-\$13,500/Yr.	\$500 Plus Expenses	\$1,000 Plus Expenses	\$500 Plus Expenses	\$150 Plus Expenses	Min. Subscrip Rate of \$10,000/Year	None
Yearly Maintenance Cost	Included in Above	Included in Above	\$400*	\$1,200-\$2,400*	\$400*	\$300* (plus \$400 if Query not Acquired)	None	None
Cost Per Query If Weekly Load 1/3	\$200/\$60 \$15	\$45/\$14/\$5-\$6	Estimate = \$45	Estimate = \$45	\$35/\$13/\$9	\$15/\$8/\$6	\$64/\$19/\$10	\$15/\$15/\$15
Response Time to Receive Answers	1/2 Week	1/2 Week	1-2 Days After Run Run = Once / Once / 3 Wk / Wk / Times / Wk	1-2 Days After Run Run = Once / Once / 3 Wk / Wk / Times / Wk	1-2 Days After Run Run = Once / Once / 3 Wk / Wk / Times / Wk	1-2 Days After Run Run = Once / 3 / 5 Wk / Times / Wk	2-3 Weeks	2-3 Weeks
Addition of Similar Files or Program Modifications	No	No	Possible	Possible	Possible	Possible	No	No
Use of Syst Encour Develop. of In-House Expertise	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Time To Acquire	6 weeks to 2 Months	Not Available Yet - • no phone line, • no abstracts	Not Available Yet - Trouble with OS Version 20	2-3 Months	2-3 Weeks	1-2 Weeks	1-3 Weeks	1-3 Weeks
Approx. # of Users	5	6	7	7	6	1	5-15	5
Search Limited To	No Limit except that title & abstract not included in search	Only descriptors, authors, publication dates	Same as DIALOG	No Limits	No Limits	Only Descriptors RIE only	(Probably like DIALOG)	(Probably no Limits)
Comments	Quality of answers is probably superior to all others except for services.	For high volume, this on-line system becomes very economical.	Either of these might be applicable to other uses in the State Department of Education. Both are large, complex, general information processing systems	Cost can be cut on this system if subsets of the ERIC file are searched	List of document numbers and counts of number of documents in the answers can be obtained on a daily basis for \$2 to \$5.	One obtains services not only of the computer search, but also of very highly trained and knowledgeable personnel.		

* This information was obtained in March 1972 and may have changed subsequently.

* Includes yearly cost of ERIC tapes as \$200.

DIALOG

Lockheed's DIALOG had the advantage of an on-line Thesaurus lookup and a scope. Searches with DIALOG enabled a person's judgment to intimately affect the search strategy, producing high quality results at the cost of much on-line time per search. DIALOG was quite expensive, both because of the amount of on-line thinking per search it encouraged, and because of the cost of high-quality data lines to Washington. DIALOG was feasible if the Commonwealth were providing a total search service and not charging individual users in order to recover costs.

Query Services

Both BOCES and QUERY/Tennessee services were being used at the time of the search by different groups within Massachusetts. These services produced good results. However, the time delay for receiving a response (two to three weeks) was close to being unacceptable. This time delay also meant that the user must accept the answer received. There was no opportunity to redefine the search and try again. Thus, with no feedback, little learning occurred.

The critical element in searching the ERIC file was not the system used, but the person who searched, and in particular, this person's ability to recognize what was being requested, and to use the 7,000 descriptors in order to zero in on the relevant documents. Use of either BOCES or QUERY/Tennessee would have discouraged development of this kind of expertise within Massachusetts, both because of the large time delay in response, and because these services had experienced people who themselves redefined the search they received in order to produce a more relevant answer.

System Acquisition

Initial acquisition of any of the systems examined was much less than the minimum yearly cost of the on-line systems. Both per query cost and total yearly cost of two of the systems was less than the cheaper of the on-line systems, SDC/ERIC, until the query load was in the 100 to 200 per month range.

One disadvantage was that system acquisition involved a computer on which to run the system and computer personnel to handle the ERIC file and the quarterly updates. On the other hand, this allowed the user to add features to the system, and especially to add documents which were not in ERIC.

During the initial period of low to moderate query load, when state requirements were being explored and formulated, an in-house system would have provided more flexibility and feedback (often at less or equal cost) than either on-line rental or subscription services.

BIRS and GYPSY

Both of these were general purpose storage and retrieval systems. This meant that they not only had the ability to query files, but also to create new files, modify existing files, produce indices, and in a limited way summarize the files. This flexibility meant that the systems were large and complex and that obtaining and maintaining these systems would require a substantial initial learning effort.

BIRS

This system, written in FORTRAN, was designed to be used on non-IBM as well as IBM computers. At that time it was maintained only for the

360 series of IBM computers. BIRS consisted of 10 to 15 individual programs to structure, query, and print. From the original file, a description file was created and it was this description file which was searched. BIRS had the advantage of being useful for other kinds of data. A file could be created and then searched and summarized in a number of different ways. Use of BIRS required an ERIC conversion program to be obtained or written. BIRS had the disadvantage of not permitting searches on title and abstract words. The GYPSY people felt that this was the most significant way to query the ERIC file.

GYPSY

This set of programs had both an on-line capability and a batch mode. It searched the data file as is, enabling the user to specify parts of words in any field. The cost of scanning this way meant that generally an initial batch run through the file was performed the night before to significantly reduce the number of documents to be scanned on-line. On-line iterations through the resultant files were used to narrow down the answer. GYPSY seemed suited for complex questions of language usage, but too expensive for Project needs. GYPSY also presented problems of interface with time-sharing options. However, the question of whether or not this type of search produced more relevant answers was explored.

QUERY Modified by Dr. Dave Altus^{*}

QUERY, like GYPSY, searched the data file as is, enabling the user to specify parts of words in any field. QUERY had nothing else, no file management or modification capability, no on-line or iterative capability. It was therefore a smaller system, less expensive to obtain and operate, but less flexible.

* Head Supervisor, Statistics Section, State Department of Education, South Carolina.

Dr. Altus' version was just one of a number of versions of QUERY which had worked for their users. This one was specified because it was quickly available, inexpensive, and presumably dependable, as witnessed by satisfied customers.

RIC

RIC was a batch system which used the philosophy of BIRS, DIALOG, SDC/ERIC, and others in using indices to the data file. These indices were searched in place of the data file itself, a very efficient method for large data files. RIC was identical in design to the very successful MITRE search system in use on the 60,000 document MITRE-Bedford Library. RIC used the inverted ERIC file, USEMAST, to determine a list of documents which satisfied the query. This list could either be printed out or used by a second program step which pulled off the specified citations from the ERIC data file and printed them.

RIC gave the user the capability to ask "how many documents will I get if I request the following search?", a very nice feature of the on-line systems. It was comparatively inexpensive to use. It had no applicability to non-ERIC searches.

Table II summarizes the initial criteria and how these candidate systems satisfied them.

INSTALLATION OF THE SELECTED COMPUTER SEARCH SYSTEM

In May 1972 an initial exploratory system was installed at MITRE's Bedford facility using the two programs RIC and QUERY modified to search the ERIC data base on the IBM 360/155 computer.

Table II

How the Candidate Systems
Meet Our Criteria

	<u>Available Quickly (1 Month)</u>	<u>Inexpensive to Acquire (\$2500)</u>	<u>Inexpensive to Use (\$15 or Less per Query)</u>	<u>Amenable to Additions</u>	<u>Useful in Learning</u>
<u>ON-LINE SYSTEMS</u>					
DIALOG	No	No	No	No	Yes
SDC/ERIC	No	No	Not at first	No	Yes
<u>SYSTEM ACQUISITION</u>					
BIRS	No	Yes	No	Yes	Yes
GYPY	No	Yes	No	Yes	Yes
QUERY	Yes	Yes	Not at first	Yes	Yes
RIC	Yes	Yes	Almost Immed.	Yes	Yes
<u>SERVICES</u>					
BOCES	Yes	No	Not at first	No	No
QUERY/Tenn.	Yes	Yes	Yes	No	No

RIC, developed by the Resource Information Center, Grand Forks, North Dakota, was chosen because it most closely met the original SEIC criteria. Permitting document selection by subject area and searching an inverted ERIC file, RIC was used as the workhouse of the query system.

Whereas RIC provided an inexpensive way to search ERIC files, it allowed the user to search only on descriptors. The GYPSY people had indicated that searches on abstracts and titles produced the highest rate of relevant documents. For this reason, QUERY was added to the system. QUERY was chosen since BIRS and RIC did not have this capability. Also QUERY was a much simpler system than GYPSY and did not present the problems of interface with Time-Sharing Options that GYPSY presented. As a highly used system, QUERY provided a backup for the newer and less exercised RIC system.

MITRE, as a not-for-profit, developmental organization, was the ideal site at which to develop the testbed. From previous experience with other systems (see Volume II, Section 3) MITRE quickly incorporated the data bases and query programs into its computer and demonstrated a search: what it was, how it operated, and the data bases used. From this low-cost operation it was possible to evaluate what type of system should be selected to serve as the permanent information service for Massachusetts. After careful investigation it was decided to make collaborative arrangements with the San Mateo Educational Resources Center (SMERC) under the directorship of Frank W. Mattas. By having SMERC perform the searches, it was possible to capitalize on the extensive on-line ERIC search capabilities and library collections available at SMERC. Arrangements were made to have SMERC perform the searches and develop multimedia packages in response to user requests that were negotiated by the information specialists supporting the

SID service in Massachusetts. The resultant upgrading of service was performed with no impact on the standard 2-week turnaround time in the delivery of search results.

Data Bases

The search of the ERIC data base is now executed by SMERC, using the ERIC DIALOG computer-based retrieval system which draws on three major files. The first is the Research in Education (RIE) file. This file indexes approximately 100,000 documents in the fast-growing ERIC microfiche collection. The materials are available in either microfiche or hardcopy form from the National ERIC Clearinghouses, five of the MDE Regional Centers, several Massachusetts libraries, and the Merrimack Educational Center, Inc.

The second ERIC data file is the Current Index to Journals in Education (CIJE), which indexes and abstracts more than 100,000 articles published in over 800 education-related journals. These articles are not available on microfiche, but most of the journals cited in CIJE are accessible to IES.

The third file is the AIM (Abstracts of Instructional Materials) and ARM (Abstracts of Research Materials) file. It contains abstracts of documents on technical and vocational education. This data is also available on microfiche, as part of the ERIC collection.

Other data bases are also searched as necessary by the information specialists. A particularly valuable informational source is "fugitive" data, that is, material — usually teacher-initiated or locally developed — which is cataloged and on file, but which is not part of ERIC.*

* These data bases are described in Section 5 and further detailed in Volume II, Section 6.

SECTION 4

THE RSVP APPROACH TO PLANNED CHANGE: FROM GENESIS OF A CONCEPT TO DEVELOPMENT OF A PROCESS*

INTRODUCTION

Had the Project SEIC staff confined its efforts to the development and cost-effective delivery of an improved information service for educators, its original plan would have been executed, but its objectives would not have been satisfied. However, in evaluating the (1) trends of the time (see Figure 3), (2) the concerns at the federal level with knowledge production and utilization in education, (3) the changing role of the state educational agency, and (4) key factors isolated during the early stages of the Project, it was determined that an effective outcome could be achieved only if the Project were cast in a framework of planned change. This perspective contributed to the creation of RSVP—Responsive Services for a Variety of Practitioners—a process that focuses on disseminating information on innovations as well as on the diffusion of innovations.

Concerns at the Federal Level

At the federal level, there was a growing concern with the application of the knowledge produced by research—whether in the form of information of products (materials, practices, curricula, etc.)—to the improvement of the educational system. There appeared to be little factual

* This and portions of the following section are based on a presentation made to the American Educational Research Association Annual Conference by John A. Evans and Patricia J. Chatta in April 1974 in Chicago, Illinois.

<u>TRENDS</u>	<u>IMPACTS</u>
<ul style="list-style-type: none"> ● TECHNOLOGICAL REVOLUTION ● SOCIAL REVOLUTION ● KNOWLEDGE EXPLOSION ● EDUCATIONAL FUNDING CRISIS 	<ul style="list-style-type: none"> ● RAPID CHANGE, DISCONTINUITY, AND A PROLIFERATION OF SOLUTIONS UNCOUPLED TO NEEDS ● SOCIETY WITH RAPIDLY SHIFTING VALUES AND NEEDS; RISING EXPECTATIONS; CRISIS OF CONFIDENCE IN SCHOOLS; DESIRE FOR INVOLVEMENT IN EDUCATIONAL DECISION-MAKING PROCESS ● GROWING DATA BASE NOT NEED-RESPONSIVE' Y ORGANIZED TO ACCOMMODATE INFORMATIONAL NEEDS OF MULTIPLE-PUBLICS; HENCE, NOT COST-EFFECTIVELY ACCESSIBLE ● LEVELING OFF/REDUCTION OF FEDERAL, STATE, AND LOCAL FUNDS DUE TO SHRINKING ENROLLMENTS, INFLATION, AND SHIFTING PRIORITIES ● RECLASSIFICATION FROM CATEGORICAL TO BLOCK GRANTS VIA REVENUE SHARING RESULTING IN INTENSIFIED COMPETITION FOR EDUCATIONAL DOLLARS AT STATE AND LOCAL LEVELS

Figure 3. Trends and Their Impacts Considered in Designing Project SEIC

evidence to support the reports of superintendents and others that their school system was actually applying a specified product or practice. Trained observers who visited classrooms reported that they found a very low level of change—or no change at all. It appeared that often adoption of new materials, e.g., use of new textbooks, was perceived as synonymous with implementation of change. The new materials were acquired and disseminated, but teaching styles, for example, often did not change to facilitate their effective application and integration.

In recent years concern with increasing the impact of educational research and development has nurtured interest in the concept of linkage and support systems to better relate the producers and consumers. In terms of information dissemination, it can be stated that the ERIC network, with its 18 nationally distributed clearinghouses, was established, in part, as a model of a linkage system for the communication of research results. However, it is not clear that it is adequately serving the needs of its multiple clients, particularly practitioners.

Many critics of the ERIC system believe it is almost entirely an instrument for the university researchers and rarely serves the real needs of teachers, administrators, and parents. The potential of the ERIC system has also been hindered by a limited base of information, an inadequate range of services, underutilization of current technologies, as well as insufficient attention to the training of potential clients in its use. New approaches to information communication need to be based on the characteristics of potential users and their communication behaviors and information needs. These approaches should also provide for user feedback to assist in modifying the system.¹⁵

The Project SEIC team, aware that the eventual success of the Project depended neither on developing a computer search and retrieval system nor on the premature installation of on-line terminals (see Section 3), determined that the NIE goals and Massachusetts objectives could be met, in part, by establishing more effective linkages between the user's informational needs and the nationally and locally distributed data bases. This, in turn, required the design and development of a process that (a) involved the neophyte user in determining his informational needs and (b) included a linking agency^{*} to facilitate acquisition of need-responsive information and its cost-effective delivery to the user.

The Changing Role of the State Educational Agency

Since 1965, many State Educational Agencies (SEAs), with Massachusetts among them, had been expanding their traditional responsibilities, i.e., regulatory functions such as teacher certification, building inspections, minimum curriculum and textbook guidelines, etc., and operational functions such as running specialized schools or providing direct services, etc., to include leadership functions such as

- development of long-range planning and needs assessment procedures, 16, 17, 18
- identification and diffusion of successful programs,
- provision of professional support services for innovation,
- provision of information services and technical assistance, and
- redesign of in-service educational programs and revision of certification requirements.

* The rationale for selecting IES as the organization to serve as the linking agency and information broker is described in Section 2.

The Massachusetts Department of Education had, for several years, been providing an information service to a very limited clientele. Budgetary constraints confined the effort to a low level. Its primary users were the in-house staff at the Central Administration Building. Efforts to decentralize the service to the Regional Centers similarly were cut short because of shifting funding priorities. Since, in this case, the provider was also the user as well as the evaluator, the impact of the service was of necessity limited. Expansion of the model to serve a larger clientele necessitated such extensive redesign that it was agreed to focus efforts on the development of an alternative model—one that would appropriately enhance the state's leadership function (see Section 2).

Other Key Factors

One event that impacted on the Project design was a shift in NIE priorities which necessitated abandoning original plans for long-term funding of model projects to ensure their acceptance and integration into the educational system. This raised the question, "if a successful service is developed, what assurances are there of its continuation when federal dollars run out?" Clearly, the state was in no position to absorb the full costs of providing the service because of its own budgetary commitments. The incentive to use the service and to more effectively apply information to the educational decision-making process would be considerably diluted if the user could not be assured of maintenance. Visits to other national centers indicated that the staffs were apprehensive of the impact of federal cutbacks on user demands for the information service. With the exception of California's SMERC (San Mateo Educational Resources Center), most anticipated sharp drops in the numbers of customers served; few expected the school districts to make up the difference for the soon-to-be-missing federal dollar.

The information service provided by most of the national information centers (again, with the exception of SMERC) tended to be of the producer-push or broadcast type. The neophyte user was not involved in determining his informational requirements in any systematic way; the centers tended to focus on delivering ERIC-supplied responses to the structured searches of "elite" information users. While several centers built services for their "neophyte" clients, these often were based on the results of evaluating and synthesizing the searches of the "elite" users. The needs of the non-user thus were perceived—but not assessed or validated—by the information center. This practice intensified the already existing information starvation/saturation dilemma: the user who should have been receiving selective information did not know how to cost effectively access it; instead, he was now even more inundated by the large quantities of data brought to him through computer searches of someone else's queries. Nor was he guided to the more effective utilization of the information he received so that his role as, say, a teacher would be enhanced. His expectations diminished and his frustrations increased; it was fairly certain that he would not endorse or personally support a service primarily responsive to someone else's needs.*

Furthermore, it was concluded that the dissemination of information was only one step in a planned change process: to be fully effective, the process also must account for the diffusion of innovations. Unless this aspect was an integral part of the design, the user would not be able to fully appreciate the value of his role in effecting planned change.

* These insights were derived from interviews with staffs at several national as well as local information centers.

Some Basic Propositions

The preceding trends, concerns, and factors led to the formulation of the following propositions:

- information usually is sought by an elite group, e.g., researchers, graduate students, teachers, and administrators, already familiar with the value and benefits of using information to make better decisions;
- information is needed by the whole educational community in order to effectively involve them, at various stages and to various degrees, in the educational decision-making process;
- at any given time, a large percentage of the whole educational community probably has questions about a rather limited number of pragmatic issues, e.g., open education, educational finance, teacher effectiveness, etc., which, at some level of aggregation, are fundamentally the same; and
- no one asks the vast majority of the public what they want to know or shows them how to use what they have learned to bring about goal-oriented change in education; therefore the public has no real incentive to use information.

It was believed that a process could be designed to effectively and systematically involve multiple publics in the educational decision-making process to the maximum extent feasible by

- providing easy access to information responsive to the users' questions on a variety of topics;
- improving the dissemination and utilization of information sought by the consumer;
- creating natural alliances across multiple publics who collectively and individually are at various levels of readiness for change, using as a cohesive agent their interests in a specific educational issue;

- creating task forces—across publics, across collaboratives, across regions or within single units of each of these—around a specific issue as a strategy for building problem-solving capacity and accelerating the diffusion of innovations;
- creating linkages to resources and to producers of successful practices, e.g., research laboratories, universities, and other agencies, to facilitate acquisition and evaluation of alternative solutions to the needs identified by the task force; and
- facilitating the identification and adoption of the exemplary practice selected by means of, e.g., in-service training, organizational analysis (to identify those affected by or effecting change), etc.

If these propositions could be tested and proven valid, it was believed that this process could cause citizens to seek and use information to make more effective decisions and take appropriate actions.

RSVP - RESPONSIVE SERVICES FOR A VARIETY OF PRACTITIONERS

Unique Features

RSVP was designed to provide information on issues and innovations, and to accommodate the management of diffusing those innovations selected for adoption and implementation. Its design draws upon the research of Ronald Havelock and Everett Rogers; it allows for effective use of the computer to provide information. Information is viewed as the starting point—as the means by which issues are explored, perspectives enhanced, alternative solutions identified—as the sustaining continuum—the basis on which natural alliances are formed and collaborative action plans for the implementation of the selected solution are developed—and as the product—new information for future dissemination and utilization. It is, in short, a viable framework within which strategy can be conceived, designed, and implemented.

The information provided is viewed as a basis for subsequent activities and decisions, as a "magnet" for attracting diverse publics with different backgrounds and levels of understanding to seek information and solutions to common issues of concern to them. It is a basis for relating concepts--e.g., the effective teacher in an open education environment--for collaborative approaches to implementing cost-effective solutions to common problems, for validation that what is being done is effective and on the right track. RSVP begins with organizing the user network as a prelude to defining the service network. It puts the information user in the "driver's" seat by asking him what he wants to know, and why he wants to know it. Input is sought from the whole educational community, not just the administrators, teachers, and other professional staff within the educational system. Thus RSVP enables the aggregation of concerns of single or multiple publics within a single district or region, or of single or multiple publics across districts and regions.

RSVP also includes the concept of a practitioner evaluation board--the users' own "insurance agency"--to evaluate the products and the service network tapped to provide them. The feedback generated by the board enables the governance agency--in this case, the Massachusetts Department of Education--to more effectively exert leadership in governing the overall service.

RSVP also views the change agency as a catalytic broker, a linker of people, ideas, resources, and products, and as a facilitator of planned change. It is a vehicle for identifying, pulling together, and organizing, in a needs-responsive way, the contents of formal and informal data bases housed in various national, regional, and local information centers. Institutionalizing the process gives it continuity in quality and level of effort,

insensitive to changes in personnel. It assigns the responsibility for defining the outputs of the information service to the user—and not the service agency or the governance agency. The user defines what he wants to know thereby identifying the service network to be tapped in preparing responses to his informational needs, and asks the governance agency (in this case, the Massachusetts Department of Education) to assume the role of monitor, based on feedback that he, the user, will provide.

The products of this process begin with information packages designed for the "first-generation" information user as well as for the more sophisticated user. At later stages, the process produces results of needs assessments, collaborative action plans, and documentation of the strategies employed to adopt an innovative practice to enrich future information packages.

RSVP, then, recognizes that dissemination of information is not in and of itself a change strategy but a process that triggers the application and implementation of change strategies. For example, the dissemination of information might show better ways of achieving familiar goals, but the information itself must be acted upon for the desired change to be accomplished. The comprehensiveness of the RSVP process ensures that such actions can occur. Its design acknowledges that while information can, as Lippitt¹⁹ says, create "images of potentiality," change will not be effected unless successive steps are identified and implemented. This is why RSVP is a process that, in part, provides linkages not only to relevant information but to producers of successful practices and to flexible, interdisciplinary teams in order to support the introduction of planned change.

RSVP: Searches of Common Versus Unique Questions

Information requirements of sophisticated users, because of their unique nature, always require the services of query negotiators and, if a computer

were employed, of computer specialists (see Figure 4). For such a user, the process begins with his initial statement of his information requirements. In some cases, this is forwarded to a "gatekeeper," e.g., a librarian who, if qualified, negotiates the query, i.e., interacts with the originator to formulate his question more precisely. In other cases, the gatekeeper might simply forward the query to a field agent or an information specialist who performs this function. Finally, if the data base is housed in a computer, the query is forwarded to a computer specialist who translates it into machine-acceptable format.

Once the response to the query has been generated, the computer specialist transmits the information to the specialist who, in turn, forwards it to the field agent or gatekeeper. Finally, the response is returned to the user, usually with a 2- to 3-week turnaround time and at considerable expense. Statistics shows that this type of service is worth the time and cost to users already familiar with the value of information.

RSVP was designed to specifically capture the "first-generation" information user by developing a product especially designed for him—i.e., "hot" topic information packages (see Section 5). An important aspect of this strategy was to link his requests to "fourth-generation" technology to ensure quality responses from the various data bases at a cost that he could afford and was willing to pay. RSVP did not eliminate the information and computer specialists to develop such products; rather, it eliminated needlessly redundant functions and cumbersome procedures that, while essential to the sophisticated information user, were unnecessary for the service that could satisfy the needs of neophyte information users (see Figure 5).

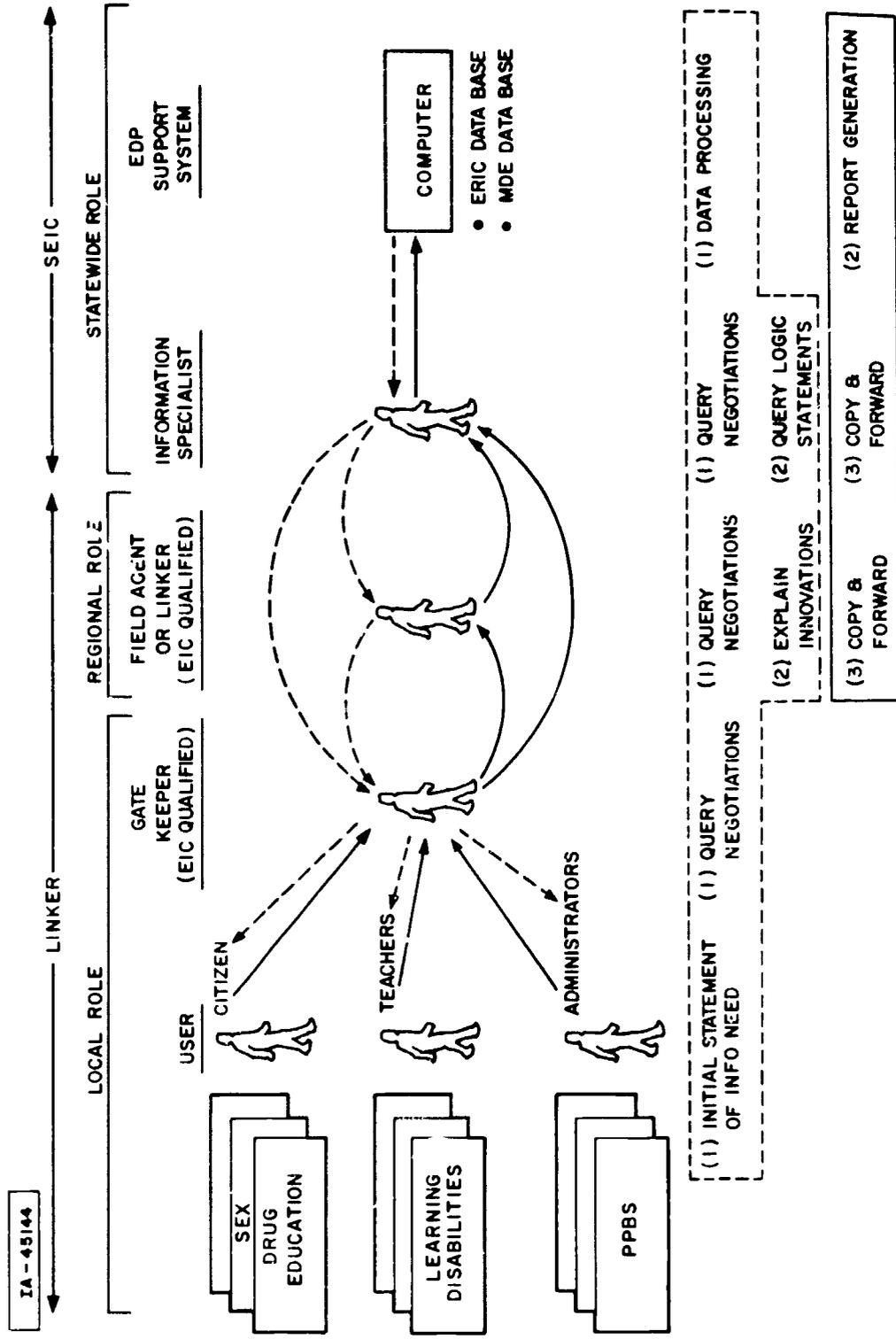


Figure 4. Evolving Operational Environment: SID Service

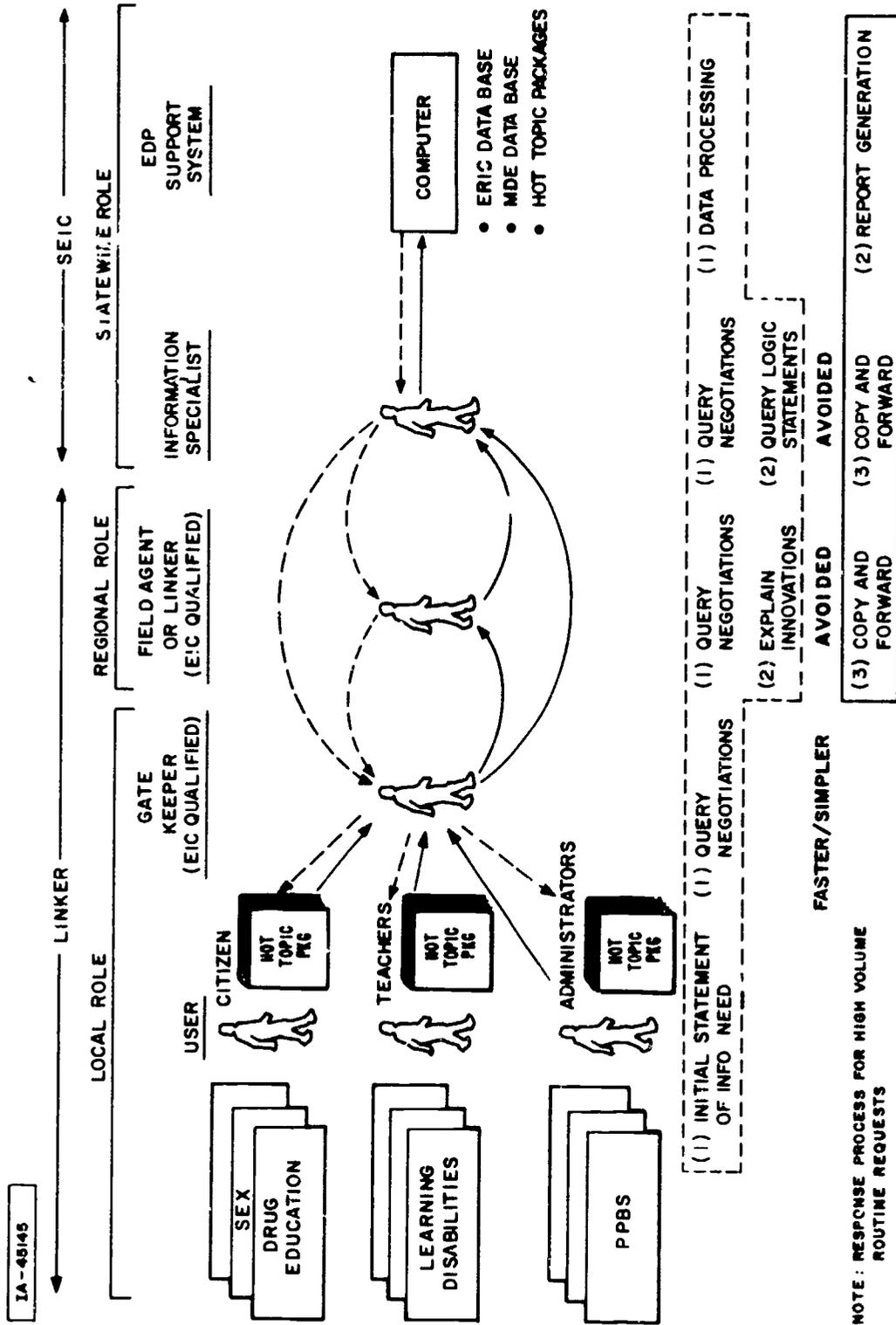


Figure 5. Evolving Operational Environment: RSVP Service

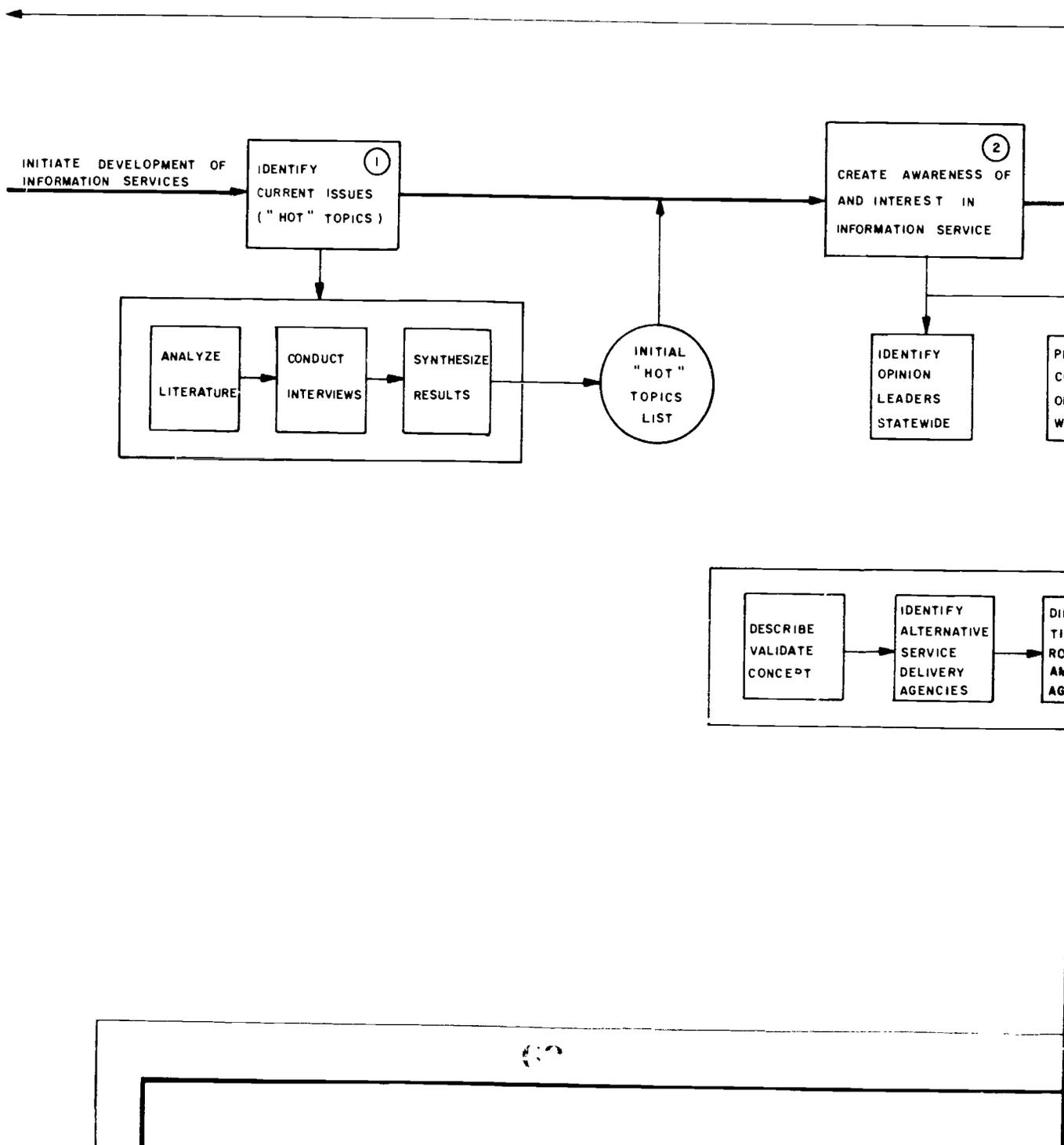
Overview of the RSVP Process

The RSVP process for the "first-generation" user involved analyzing, aggregating, and synthesizing his questions about relevant issues in a way that produced "common" questions for each hot topic. The topics themselves were selected, initially, from a review of the recent literature, and finally, by representatives of various multiple publics on behalf of the user (see Figure 6, Boxes 1 and 2).

Another essential consideration in developing a service for the neophyte user was that of creating awareness (see Figure 6, Box 2). Contact with this target group was simplified by using opinion leaders within existing professional and civic organizations to gain credible entry. The RSVP concept was first presented to this group for their reaction. In effect, these people became "gatekeepers" through whom existing organizational networks were activated. The multiplier effect was built into this step of the process, for each opinion leader had access to opinion leaders on a regional basis (there are six distinct educational regions in Massachusetts) who, in turn, assisted in creating awareness among their local groups.

Through this feature, RSVP reaches out across the state to identify the issues and questions of the multiple publics directly or indirectly related to education. This effort is facilitated by User Design Laboratories coordinated by the governance agency and conducted by the linking agency throughout the six regions (see Figure 6, Box 3). User evaluation of the "hot" topics and questions relevant to those topics are gathered for subsequent diagnosis (see Figure 6, Box 4). By assembling in one large room an array of publics previously unrelated, the process ensures the development of "peer" relationships in a very unique way. Participants learn not only from the process facilitator but from each other as well. Natural alliances

Figure 6. Overview of the RSVP Approach to Planned Change



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OF
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PLAN
CONDUCT
ORIENTATION
WORKSHOP

DIFFEREN-
TIAL
ROLES
AMONG
AGENCIES

SELECT
SERVICE
DELIVERY
AGENCY

REFINE,
VALIDATE
"HOT"
TOPICS

BALANCED ROLES
ESTABLISHED FOR GOV
AGENCY, SERVICE &
USER NETWORKS

USER VALIDATED
"HOT" TOPICS

USER DEFINED
SERVICE DELIVERY
SYSTEM

INTENSIFY
AWARENESS
INTEREST

DEVE
USER
INVOL
STRA
TOOL

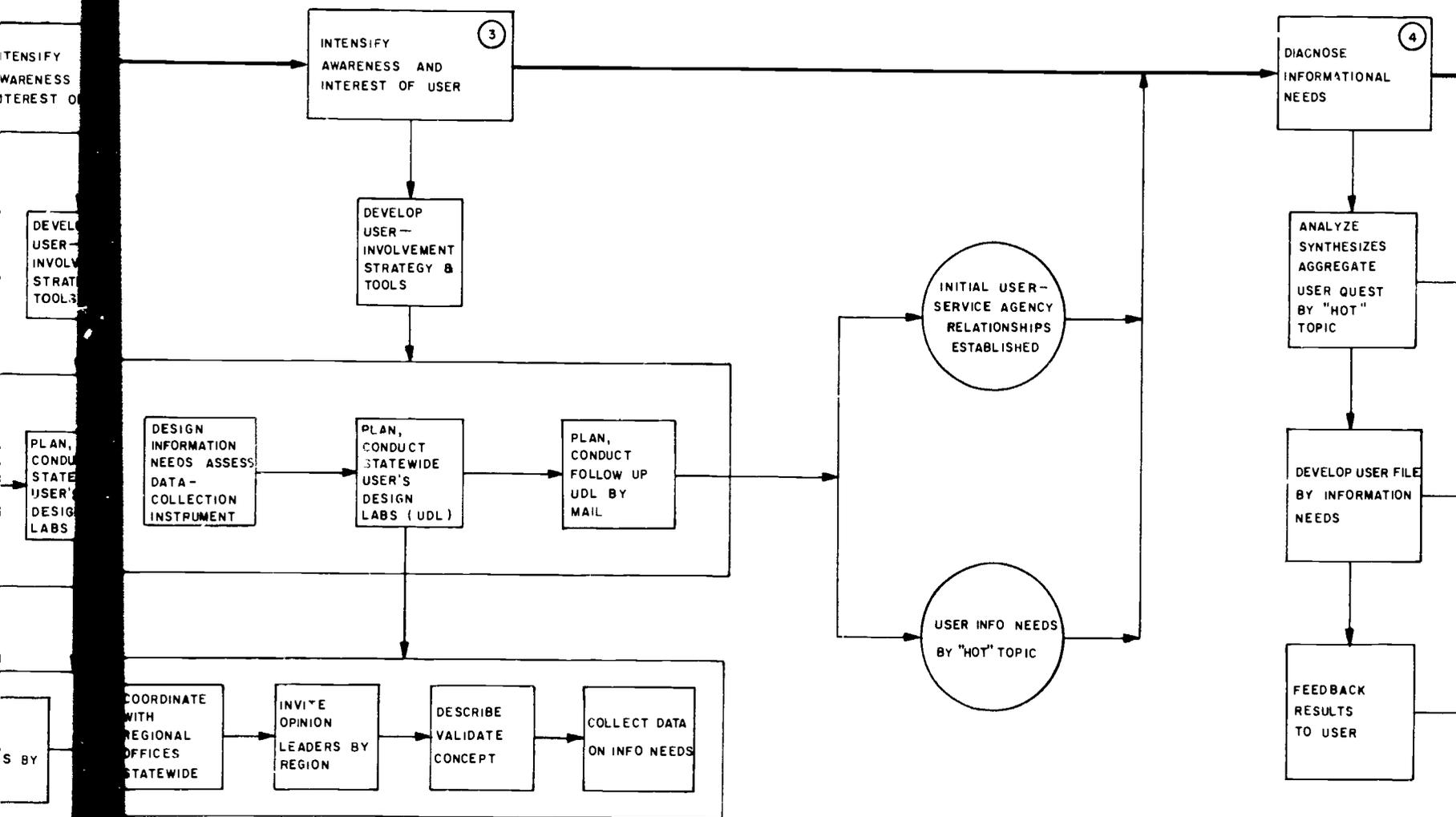
DESIGN
INFORMATION
NEEDS ASSESS
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COLLECTION
INSTRUMENT

PLAN
COND
STAT
USER
DESIG
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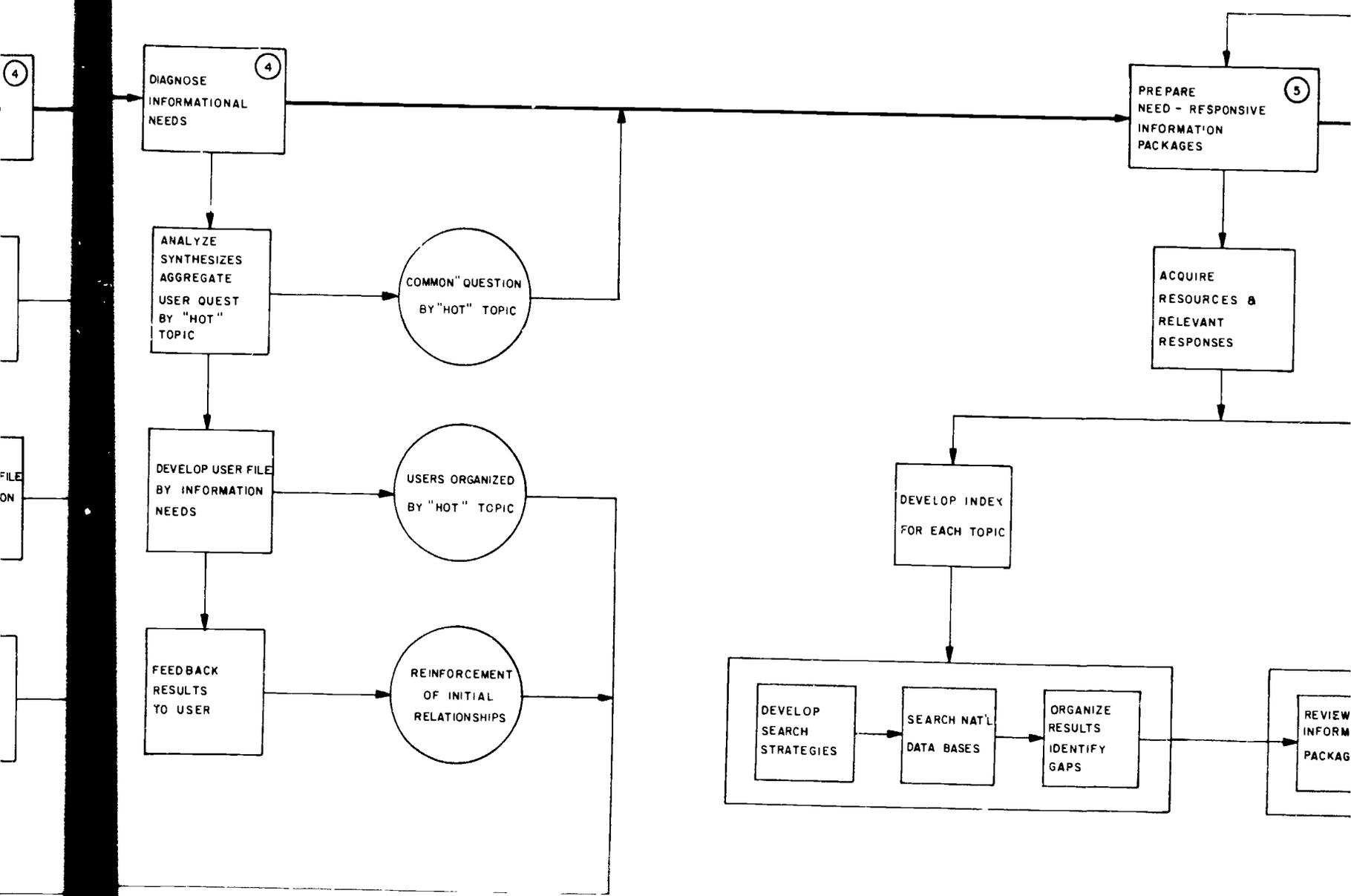
COORDINATE
WITH
REGIONAL
OFFICES
STATEWIDE

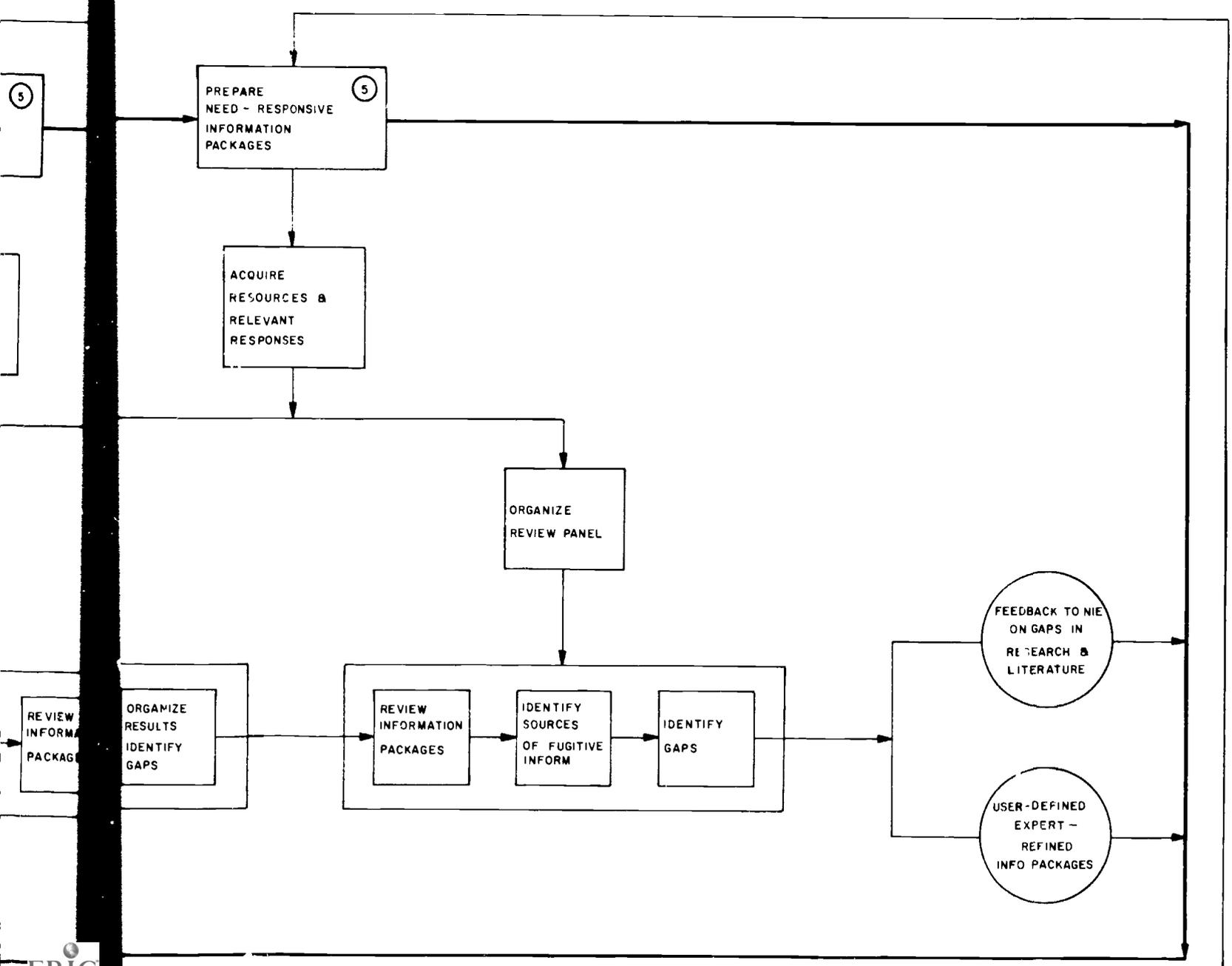
INVITE
OPINION
LEADERS BY
REGION

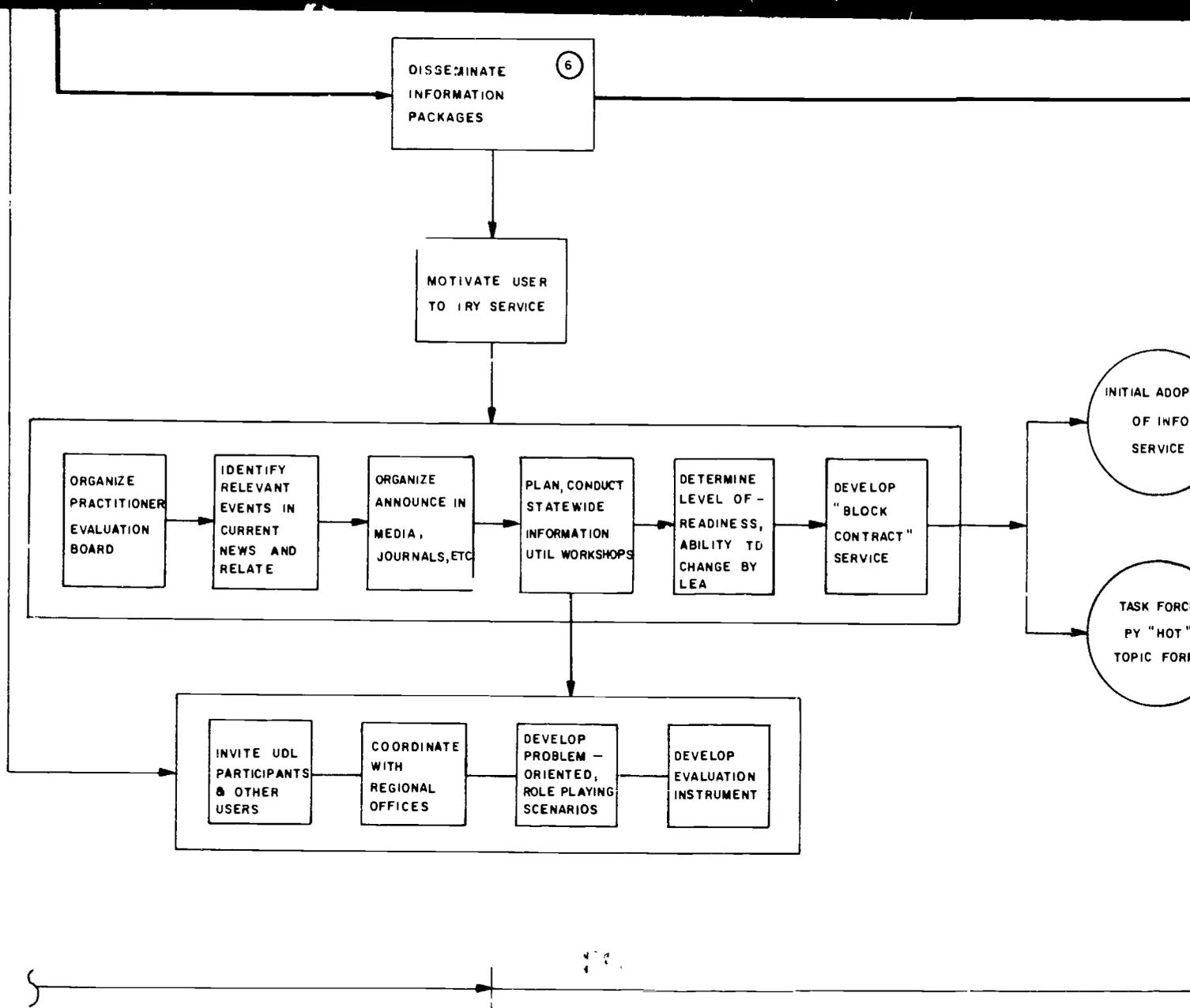
USER-INVOLVED DEVELOPMENT & DISSEMINATION OF INFORMATION ON SELECTED, HIGH-PRIORITY



PRIORITY SELECTED, HIGH-PRIORITY, ISSUES & INNOVATIONS

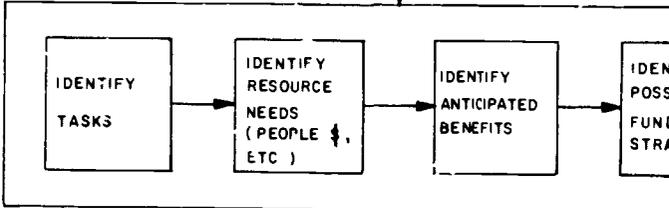
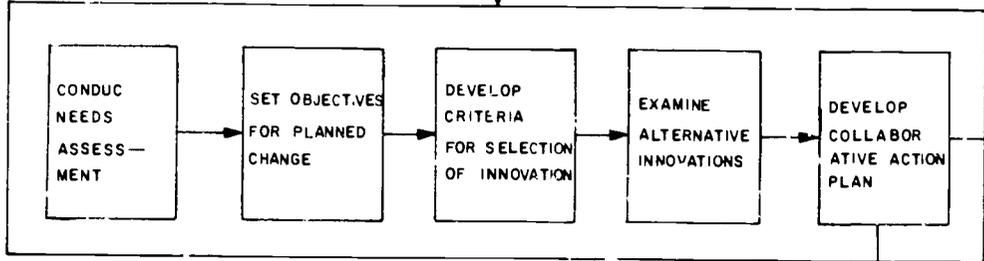






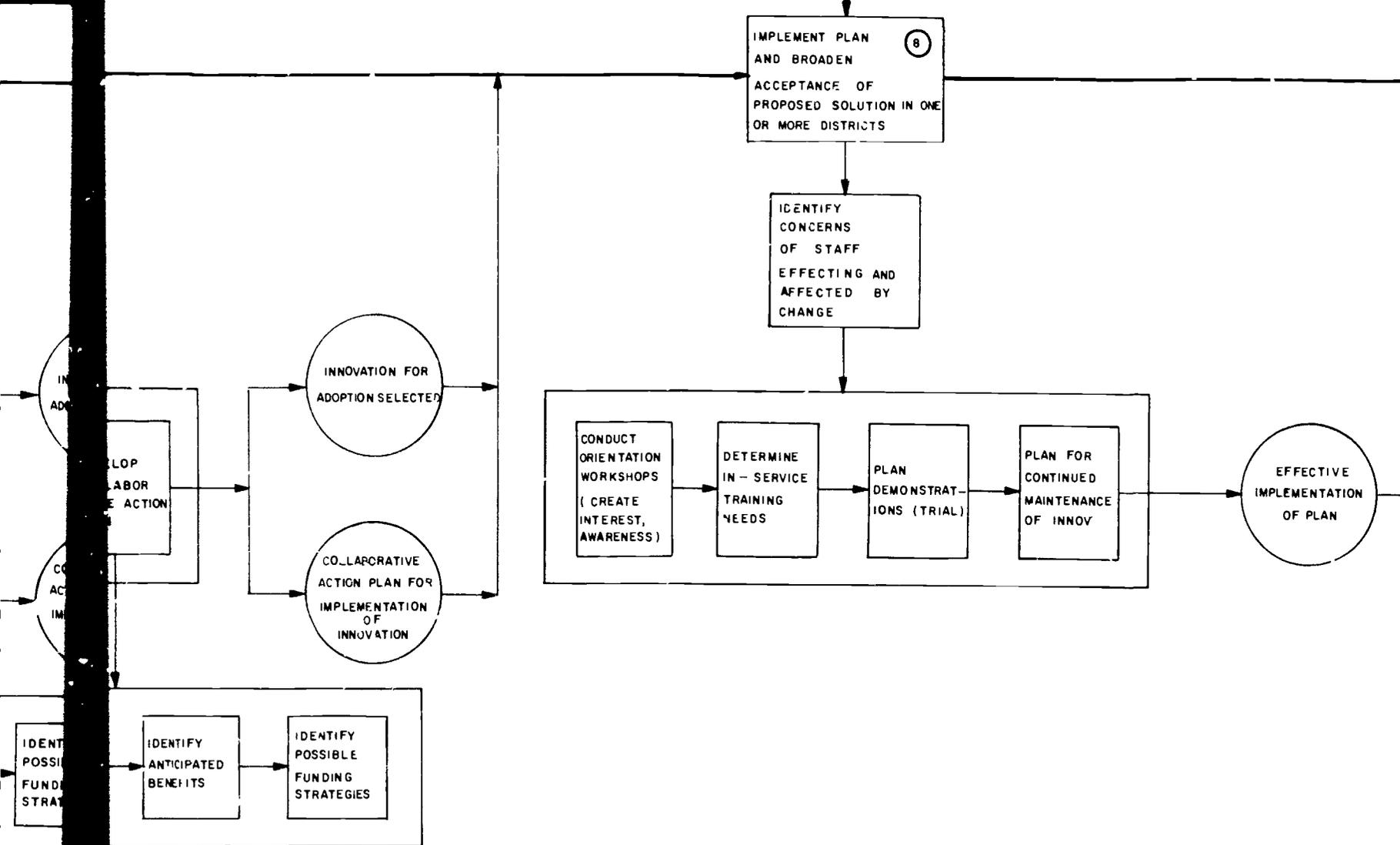
BUILD LOCAL
PROBLEM SOLVING
CAPACITY II.
ADOPTING INNOVATION ⑦

ASSEMBLE
TASK FORCES
BY "HOT"
TOPIC



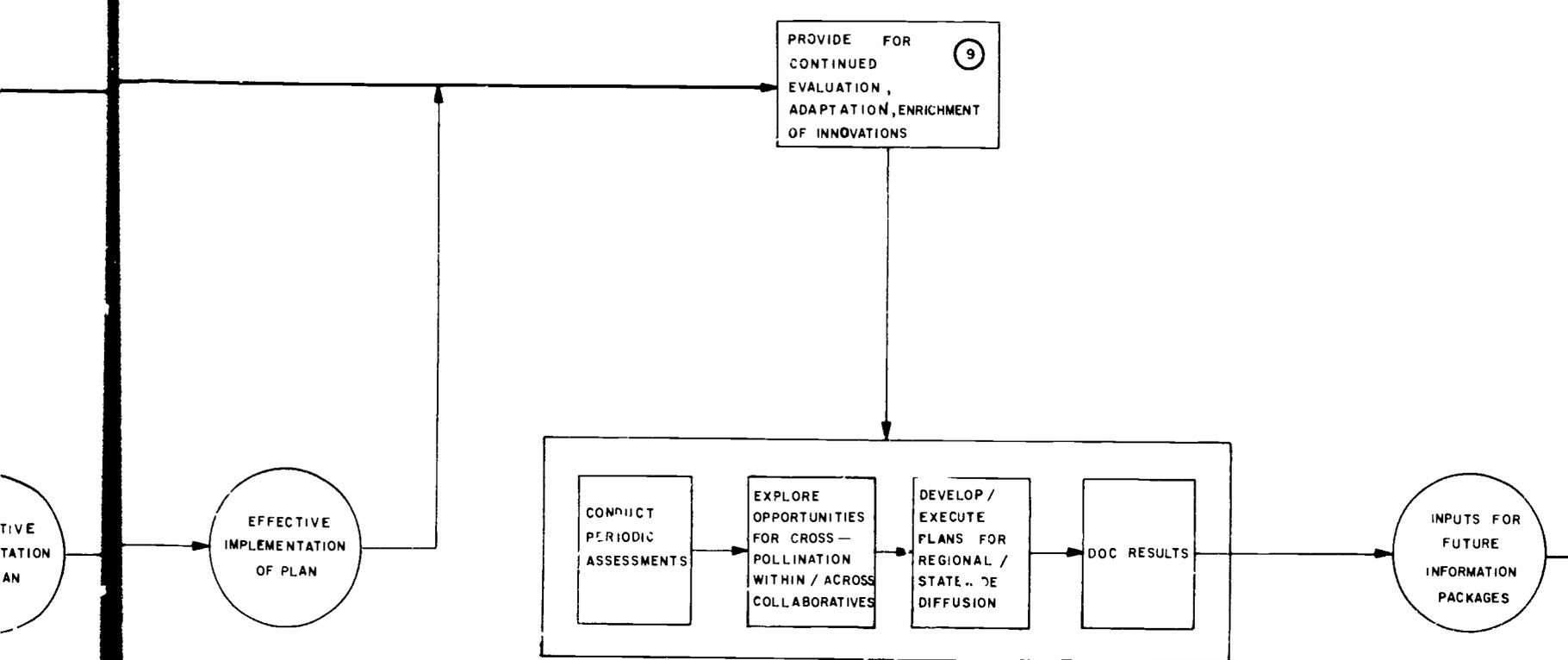
INITIAL ADOPTION
OF INFO
SERVICE

TASK FORCES
BY "HOT"
TOPIC FORMED



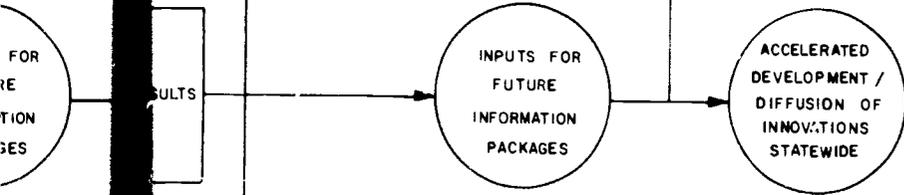
MAJOR STEPS IN ACCELERATED DIFFUSION OF INNOVATIONS

NOT FUNDED UNDER CURRENT NIE CONTRACT



29

CONTRACT



71A

across information users as well as across multiple publics are created. The more informed become "teachers" of the less informed and both are motivated to learn more.

The process enables the production of both types of information packages: that is, a prepackaged service for the neophyte user and searches-in-depth for the more sophisticated user. The first type of service responds to common questions, asked statewide, on issues such as teacher effectiveness, open education, and educational finance. The user questions are aggregated and synthesized to develop "common" questions and search strategies prepared for the computer. The responses are reviewed by local experts assembled for their knowledge of a specific "hot" topic (see Figure 6, Box 5). These packages become a unifying force important to subsequent stages of the process.

Access to the prepackaged service is facilitated by means of grids (see Figure 6, Box 5) which serve as indexes to each "hot" topic. As can be seen in Figures 8, 9, and 10 (see pages 56, 57, and 58), the "common" questions are identified at the top of each cell on the grid. The questions are supplemented by one- or two-word descriptors to provide the user with some insight on the nature of the packaged contents. If he chooses to retrieve packages, he can simply order them from a readily available supply. Periodic updating of the information packages is conducted by the linking agency to assure timeliness of the information.

The more sophisticated user is put in touch with the query negotiator who, through the linking agency, has access to extensive data bases housed at national information centers. The cost and time of the response are greater than in the case of the prepackaged service.

Had the RSVP process ended here, the intent of the funding agency, NIE, would have been satisfied. However, within the context of a planned change strategy, this stage was only a beginning (see Figure 6, Box 6). Through the linking agency's records, it would be easy to identify which publics across the state, regardless of the level of readiness and ability to use information, expressed interest in a given issue. This, in turn, intensified the need for followup action. The linking agency now could organize one of two basic types of workshops: one primarily for the neophyte user that focused on, for example, simulation techniques and problem solving to increase the utility of the information he has ordered; the other to organize task forces of multiple publics across regions, regardless of whether the individuals are neophyte or elite information users, to use the information to formulate concrete next steps (see Figure 6, Box 7).

Thus is born the notion of the task force within the RSVP process. They may come together to discuss what they have learned and to determine that they are satisfied with the status quo. Or, it may be they will conclude that the information they have is a basis for further action. Assume, for example, that the group is interested in the characteristics of an effective teacher. Both types of information searches will have produced the best of what the current literature has to say on this subject. Now the task force may be interested in developing a strategy for (a) determining what their communities perceive as effectiveness in teachers (b) relating the results of that survey to the literature, (c) sharing with their communities their profiles regarding effectiveness and what the literature defines as "good" effectiveness characteristics based on research and pragmatic insights, (d) determining in their communities what, if any, next-steps should be taken to achieve such characteristics, (e) identifying alternative means of

transplanting such characteristics, e. g. , in-service training programs, and (f) developing a plan for doing it (see Figure 6, Box 8).

Finally, there is continuous evaluation of the innovation as it is implemented and maintained (see Figure 6, Box 9). The final outcome of the process is an input for future information packages.

This is a complex process which is subject to early abandonment of effort if a linking agency is not available to ensure its successful outcome. At times, the task force may need the services of outside experts to facilitate setting its own objectives and developing its own collaborative action plan. Or it may need to know the implications of a suggested strategy on the existing organizational structure, or programs, or budget. It may require help in evaluating and selecting a strategy or practice for implementation or it may require help in writing a proposal to secure funding to implement the selected solution.

In all of this, the role of the linking agency is crucial. It must be able to marshall outside interdisciplinary teams to provide the expertise required; it must identify what exists and what works (or why it failed) in order to avoid duplication of effort. It must guide and shape the effort toward goal-oriented change. Finally, it must ensure that what has been learned by the task force is documented as information for future information users, and as feedback to the formal R&D system.

Because of limited funding, the process beyond simple utilization of the information has not been implemented. However, it is believed that the strategy merits implementation and testing for the literature does not appear to testify that this approach has been tried. It is further believed that through this strategy it is possible to build a linkage and support system

between the research and development system and the schools. The process includes not only an information development and delivery service, but procedures for selecting and diffusing information about products and the products themselves to the schools, and a means of building capacities of intermediary organizations that link and help schools implement R&D products and provide feedback to the formal R&D system.

OPERATIONAL ASPECTS OF RSVP

As discussed earlier, a series of information packages is prepared for each common question on each "hot" topic. A model of the initially conceived information package development process for Open Education is illustrated in Figure 7. It shows the five major phases of activity: (1) Grid Development, (2) ERIC Search, (3) Cell Development and Document Retrieval, (4) Content Review, (5) Reproduction of Information Packages. The figure also illustrates the key developmental activities and resulting products within each major phase of activity.

Easy access to these packages is ensured by means of a grid (index) that maps the common questions for a "hot" topic into a classification scheme, e.g., areas of concern, possible alternative solutions, special issues, etc., and assigns a unique number to each question. Clues as to the nature of the information provided on each question are provided by means of descriptors. Access to the information packages is simplified by means of a code assigned to each "hot" topic, e.g., Teacher Effectiveness (TE), Open Education (OE), Educational Finance (EF), and to each common question, e.g., "What are the Characteristics of Effectiveness?" (TE-2), "What are the Various Aspects of the Open Education Curriculum?" (OE-8), "What are Some Alternative Finance Plans?" (EF-8). Figures 8, 9, and 10 illustrate these grids.

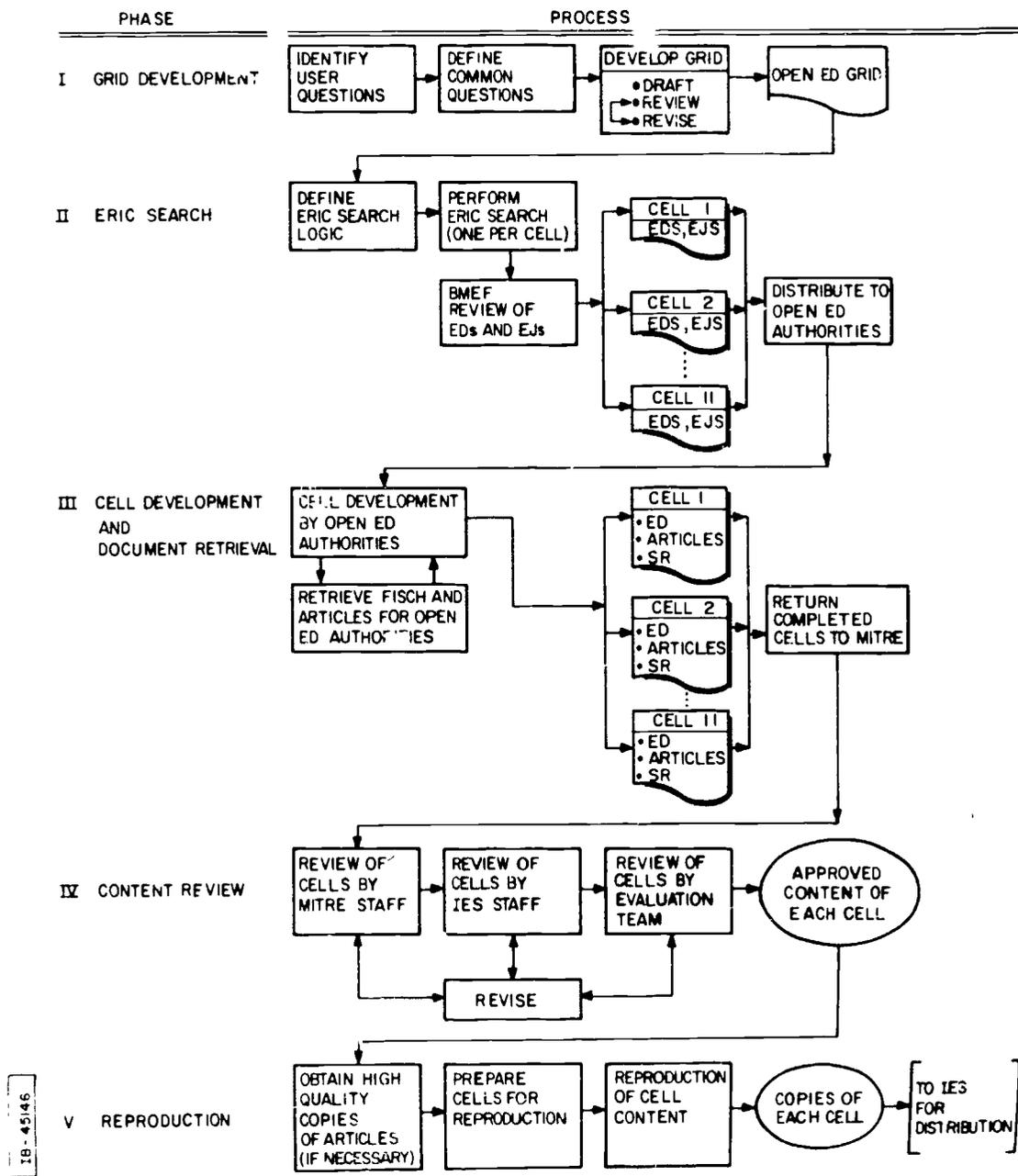


Figure 7. Overview of Development of Information Packages

TEACHER EFFECTIVENESS

Why is teacher effectiveness important?	Areas of Concern		Alternate Actions				Special Issues	
	What are the characteristics of effectiveness?	How can effectiveness be quantitatively and qualitatively measured?	What are the implications for teacher training?	How can pupil performance be improved?	How can hiring practices be improved?	What is the relationship between research and teaching effectiveness?		
<ul style="list-style-type: none"> Relationship to -Achievement Motivation -Accountability -Lifelong Learning Behavioral Change -Educational Quality 	<p>Theory</p> <ul style="list-style-type: none"> • Predictors • Evaluation Criteria • Teaching Skills • Attitudes <p>TE-1</p>	<p>Theory</p> <ul style="list-style-type: none"> • Measurement Validity • Criteria • Research Progress - Classroom Processes - Pretests, Setting and Process Variables <p>TE-3</p>	<p>Theory</p> <ul style="list-style-type: none"> • Model Systems • Alternative Strategies • Performance Based Education • Program Evaluation • Society's Expectations <p>TE-4</p>	<p>Theory</p> <ul style="list-style-type: none"> • Classroom Environment • Training Programs • Motivation • Self-Appraisal Guide • Classroom Performance Standards <p>TE-5</p>	<p>Theory</p> <ul style="list-style-type: none"> • Teaching Styles • Learning Motivation • Academic Achievement • Teacher Influence • Student Self-Development <p>TE-6</p>	<ul style="list-style-type: none"> • Merit Rating Programs • Problems & Alternatives • Accountability Through Merit • Salaries • Motivational Incentives <p>TE-8</p>	<ul style="list-style-type: none"> • Pros and Cons of Tenure • Abolishment • Faculty Evaluation Problems • Accountability • Impact of Teacher Organizations • Academic Freedom <p>TE-9</p>	
<ul style="list-style-type: none"> Who evaluates effectiveness? 	<p>Practice</p> <ul style="list-style-type: none"> • Predictors • Teaching Guides • Teaching Skills • Personal Qualities • National Surveys 	<p>Practice</p> <ul style="list-style-type: none"> • Test-retest • Observations • Self-inventory • Performance Criteria • Tests -Construction -Validity 	<p>Practice</p> <ul style="list-style-type: none"> • Teacher Compet. • Special Programs • Internships • Microteach. • Certification 	<p>Practice</p> <ul style="list-style-type: none"> • Teacher Experiences • Disruptive • Tests • Use of Multi-media • Observations • Techniques • Individual Characteristics 	<p>Practice</p> <ul style="list-style-type: none"> • Teaching Methods • Classroom Observations • Applicable Achievement • Gathering Data • Tools • Failure Factors 	<ul style="list-style-type: none"> • Roles of School Board -Managers -Peers -Students • Use of Feedback • Guidelines 	<ul style="list-style-type: none"> • Collective Negotiation • Accountability & Assessment • Certification • Skull Bill (California) 	
<ul style="list-style-type: none"> • Roles of School Board -Managers -Peers -Students • Use of Feedback • Guidelines 	<p>TE-10</p>	<p>TE-12</p>	<p>TE-13</p>	<p>TE-14</p>	<p>TE-15</p>	<p>TE-16</p>	<p>TE-17</p>	<p>TE-18</p>

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Figure 8. Teacher Effectiveness Grid



OPEN EDUCATION

BACKGROUND AND DEFINITIONS		PLANNING - IMPLEMENTATION - OPERATION			
<p>What are the philosophical and historical foundations of Open Education?</p> <ul style="list-style-type: none"> o Underlying Philosophies & Psychology <ul style="list-style-type: none"> - Dewey - Piaget - Montessori o British Primary Schools <ul style="list-style-type: none"> - Evolution - Characteristics - Success Factors o Beginnings in America o Other Considerations <ul style="list-style-type: none"> - Alternatives - Free Schools - Experimental Schools <p style="text-align: right;">OE 7</p>	<p>What is meant by the term Open Education?</p> <ul style="list-style-type: none"> o Concept of Open Ed o Definitions o Characteristics o Goals & Objectives o Assumptions About Learning and Knowledge o Synonymous & Related Terminology o Biographies on Open Ed <p style="text-align: right;">OE 2</p>	<p>What should be considered in planning Open Education programs?</p> <ul style="list-style-type: none"> o Making the Case for Open Ed o Planning Factors o Transitional Considerations o School-Community Relations o School Board Involvement o Potential Problem Areas o Lessons Learned o Local Accounts <p style="text-align: right;">OE 1</p>	<p>How does space and design relate to the open concept?</p> <ul style="list-style-type: none"> o Space Utilization o Design Considerations o Classroom <ul style="list-style-type: none"> - Furniture - Arrangement o Use of Existing Buildings <ul style="list-style-type: none"> - Remodeling - Open Space - Open Plans - Flexible Space <p style="text-align: right;">OE 4</p>	<p>What considerations should be given to the staffing of Open Education programs?</p> <ul style="list-style-type: none"> o Administrators <ul style="list-style-type: none"> - Leadership - Changes in Style & Role - Accountability o Staffing <ul style="list-style-type: none"> - Differentiated Staffing - Use of Paraprofessionals - Specialists - Teachers o Support Personnel <p style="text-align: right;">OE 5</p>	<p>What kind of training/retraining is required to teach in an Open Education program?</p> <ul style="list-style-type: none"> o Pre-service Training <ul style="list-style-type: none"> - Undergraduate - Graduate o Teacher Development <ul style="list-style-type: none"> - In-Service Training - Re-training - Un-training - Attitudes - Workshops o Instructional Techniques <ul style="list-style-type: none"> - Training Methods <p style="text-align: right;">OE 6</p>

PLANNING - IMPLEMENTATION - OPERATION (continued)		EVALUATION		SPECIAL ISSUES	
<p>How are learners selected, grouped and motivated in Open Education programs?</p> <ul style="list-style-type: none"> o Selection of Students o Grouping of Students <ul style="list-style-type: none"> - Graded - Ungraded - Nongraded o Motivation o Development <p style="text-align: right;">OE 7</p>	<p>What are the various aspects of an Open Education curriculum?</p> <ul style="list-style-type: none"> o Instructional Change o Instructional Theories o Practices and Patterns o Open Curriculum o Curriculum Development <p style="text-align: right;">OE 8</p>	<p>What evaluation has been done of Open Education programs and student achievement?</p> <ul style="list-style-type: none"> o Staff <ul style="list-style-type: none"> - Evaluators - Tools & Techniques o Students <ul style="list-style-type: none"> - Achievement - Development - Evaluation Techn o Programs <ul style="list-style-type: none"> - Comparative Results - Tools & Techniques - Considerations <p style="text-align: right;">OE 9</p>	<p>What is Open Education at the middle and secondary grade levels?</p> <ul style="list-style-type: none"> o Middle Schools <ul style="list-style-type: none"> - Grouping - Programs - Curriculum o Junior High <ul style="list-style-type: none"> - Concepts - Definitions - Curriculum o High Schools <ul style="list-style-type: none"> - Open Campus - Open Corridor - Scheduling - Programs <p style="text-align: right;">OE 10</p>	<p>What resources are available for use and observation?</p> <ul style="list-style-type: none"> o Films o Audio-Visual o Case Studies o Successful Practices o Available Resources o Resource Bibliographies <p style="text-align: right;">OE 11</p>	<p>What are the fiscal requirements and concerns?</p> <ul style="list-style-type: none"> o Budget Considerations o Cost of Open Ed Programs <ul style="list-style-type: none"> - Set-up Costs - Operating Costs - Cost Comparisons - Open vs Traditional - Programs <p style="text-align: right;">OE 12*</p>

*This information package is currently not available due to the limited amount of relevant material

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The RSVP pages are based on a concept developed by The MITRE Corporation. This page was designed by MITRE in collaboration with staff members of Lesky College Project Follow Through, Educational Development Center, the Greater Boston Teachers Center, the Regional Early Childhood Center, and the Common Concerns Collaborative in Open Education, Title III, ESEA.

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Figure 9. Open Education Grid

Educational Finance

BACKGROUND AND DEFINITIONS		CURRENT SOURCES AND FINANCIAL ARRANGEMENTS	
1. What special terminology relates to educational finance?	2. What factors influence educational costs?	3. What roles and responsibilities interact in financing education?	4. What are the present sources of funds for education and how are they allocated?
General Aid Categorical Aid Equalizing Aid Flat Rate Aid Reimbursement Weighting* Foundation Program Resource Equalizing Program Percentage Equalizing Program NESDE Formula (V) Serrano v. Priest Rodriguez v. San Antonio Robinson v. Cahill	Salaries fringe benefits Collective Bargaining Equipment Facilities Inflation Program Enrichment Enrollment Shifts Tenure Identification of "growing needs" FF 2	Citizens School Committees State Board of Education Superintendent and Staff State & Federal Legislature Finance/Advisory Committees Courts City Council Town Meeting Fiscal Autonomy (M) Budget Hearing (M) Open Meeting Law (M) FF 3	ESEA Title I Equalizing Aid Compensatory Aid Headstart METCO (M) Weighting Parent Advisory Councils Economic Opportunity Act Child Development Act FF 5
CURRENT SOURCES AND FINANCIAL ARRANGEMENTS		ALTERNATIVES	
6. How are specific programs financed?	7. To what extent are public funds available to private schools?	8. What are some alternative finance plans?	9. How can schools use their dollars effectively and efficiently?
Special Education* Bilingual Education Innovative Education Construction Libraries Transportation Food Service Open Education Vocational Education	Text Books Support Services Transportation Constitutional Considerations Court Rulings	Common State Plans Federal Revenue Sharing State Tax Exemption Vouchers Alternative Schools Bonds Alternative Sites/Plans Alternative Structures National Educational Trust Fund Redistricting FF 8	New Budget Techniques Management Practices Cost Effectiveness Analysis Year round Schools Teacher Effectiveness* Collaborative Approaches Accountability Performance Contracts Planning FF 9
10. What is the financial impact of meeting special educational needs?			
Present Funding (CH 766) Proposed Funding Reimbursements Entritlements Tapping Other Agencies Programs Relation to Chapters 70 and 797 Collaborative Approaches to Cost Reduction Federal Proposals FF 10			

Materials are geared to elementary and secondary education focus does not include higher education
The RSEF pages are based on a concept developed by The MITRE Corporation. IFS acknowledges the valuable consultation contributed by the following people to the development of this material

- Advisory Panel
- Lyman Ziegler Deborah Locker Catherine Minnick Constance Cox Charlotte Ryan John F. Heffley
- Everett G. Thibault
- Other Consultants
- Robert Ireland/John Perkins Esq. Henry Reeder Elaine Kostakowsky

*Related to Special Education
(M) Massachusetts only
*See Specific Teacher Effectiveness and Open Education packages

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Figure 10. Educational Finance Grid

Because the packages are prepared ahead of time and because user interaction with an information specialist is unnecessary, both the time required to respond to a request and the cost of delivering the service are significantly reduced.

Preparation of packages is guided by an advisory committee organized by IES for their recognized expertise regarding a particular "hot" topic. Individual members of the committee assume responsibility for the final preparation of from one to three information packages by (1) reviewing the ERIC search results, (2) selecting the 10-20 most relevant document abstracts, (3) selecting 5-8 of the most relevant articles (drawing heavily on their own non-ERIC literature sources) for inclusion as hard copy and (4) developing a one-to-two page selected reading list (bibliography) for each information package. Finally, at the end of the cell development process, a group of "not-previously-involved" authorities and practitioners would be assembled to review the information packages as a final content validation measure.

Because input is sought from the whole educational community, and not just the administrators, teachers, and other professional staff within the educational system, the RSVP process can be applied to aggregate the needs of single or multiple publics within a single district or region and of single or multiple publics across districts or regions. By so aggregating the market, RSVP provides a basis for not only identifying criteria for the type of successful practices needed to alleviate the problem(s) but for cost effectively introducing the practice once identified.

The practitioner evaluation board included in the RSVP design is the users' own mechanism for evaluating the products and the service network that provides them. The feedback generated by the board enables the state to more effectively exert leadership in governing the overall service.

Adoption of the Concept and Implementation of the Process

Elaborate measures were taken to ensure that evaluation of the RSVP concept would also facilitate its credible entry as an information service. Announcement of the proposed service was made at a conference that included divisional leaders and bureau chiefs from the Massachusetts Department of Education; heads of existing collaboratives, some of whom were interested in delivering the service; representatives of education-related professional societies such as the Massachusetts Teachers Association, the Massachusetts Association of School Superintendents, and the Massachusetts Advisory Council on Education; the State Board of Education; librarians; and opinion leaders of existing statewide civic networks such as the League of Women Voters. It was believed that if these participants, regarded as credible by their own organizations, approved the concept and recommended it for adoption, they in turn would form a network of opinion leaders who could help to intensify awareness of and interest in the approach among the constituencies each represented.

Once the conferees had been made aware of the nature, scope, and intent of the RSVP concept, their interest was immediately intensified by putting them into the RSVP "driver's seat" by asking them to define the "hot" topics to be initially included in the service and to help select the agency that would be responsible for facilitating both the process and the delivery of the products.

As a result of the participants' inputs, 21 "hot" topics were identified for subsequent ranking through statewide User Design Labs (see below). Furthermore, after extensive and intensive participation in exploring the advantages and disadvantages of having various service agencies, including

the Department of Education, deliver the service, a recommendation favoring IES as facilitator was made and accepted. More important, awareness of interest in the concept stimulated recommendations to continue development of the RSVP approach. As a result, the Department implemented the next steps by scheduling User Design Labs at its six Regional Education Centers (see Volume II, Section 5 for materials on the User Design Labs). This ensured that inputs on information requirements would be obtained from multiple publics across regions within the state.

Adoption of the RSVP process was accomplished in part through six User Design Labs that served as vehicles for creating awareness of and interest in the RSVP process. Participants at these labs were invited because of their identity as regional or local opinion leaders and, in most cases, were associated with an existing network to which they were credible. Awareness and interest were intensified through involvement of the local press as well as through personal letters and announcements.

Participants were not just given a role but were put in charge of defining the nature and scope of the information service to be developed. Needs assessments were facilitated by means of a data-collection instrument designed for this purpose. The results enabled not only aggregation of needs by multiple or single publics within and across regions on the basis of "hot" topics, but provided a rationale for creating, across regions if necessary, natural alliances of practitioners interested in the alleviation of a need of common interest.

Input was sought by means of the instrument (see Volume II, Section 5) as follows: the potential users were asked to rank the previously identified "hot" topics, eliminating any that they considered irrelevant to the informational needs of the organization each represented and adding any they thought

would be of particular interest. They also identified why they wanted information on the five topics each rated highest, and articulated three specific questions on each such topic. In addition, each participant was asked to provide five names of leaders within his or her organization throughout the state, and asked to contact them personally to inform them of the project and its aims.

Special followup packages were designed and mailed to these people who, in turn, were asked to personally deliver the data-collection instruments to key opinion leaders in their own communities. More than 550 returns were received from a one-time mailing of approximately 800 questionnaires. As a result of this statewide assessment of "hot" topics, the following ranking resulted:

- | | |
|------------------------------------|-----------------------------|
| 1. Teacher Effectiveness | 12. Instructional Materials |
| 2. Individualized Instruction | 13. Needs Assessment |
| 3. Community Involvement | 14. Underachievers |
| 4. Curriculum (Design, Enrichment) | 15. Behavioral Objectives |
| 5. Educational Goals | 16. Nongradedness |
| 6. Occupational Education | 17. Differentiated Staffing |
| 7. Educational Finance | 18. Performance Contracting |
| 8. Educational Innovations | 19. Year-Round Scheduling |
| 9. Educational PPBS | 20. Sharing Facilities |
| 10. Special Education | 21. Bilingual Education |
| 11. Open Education | |

This process enabled the Project staff to gather relevant information from potential users throughout the state and, at the same time, created

awareness of and interest on the parts of those who participated. Thus by working through existing organizations, it was possible to quickly collect for analysis credible data that would determine in what order RSVP information should be developed, given the availability of local experts to help refine them.

Analysis and synthesis of the data collected statewide provided the basis for the final design of the service. The topic receiving the highest priority of the whole educational community—administrators, teachers, parents, nonparent citizens, and students—was addressed first (see listing above). Specific data on Teacher Effectiveness (see Volume II, Section 5) then was extracted from the appropriate questionnaires, aggregated, analyzed, and synthesized in order to develop the "common" questions. In the case of Teacher Effectiveness, for example, 13 common questions were identified, 5 of which had 2 aspects: theory and practice.

Search strategies were developed for each question and processed not only through the MITRE computer but through other selected, nationally based information centers as well. In addition, inputs were acquired from researchers nationally renowned for their work in the general area of teacher effectiveness and teacher evaluation.

Information on each question was collected in a variety of formats: printouts of document titles, authors, and abstracts; journal citations; copies of relevant journal articles retrieved by research assistants; and copies of documents provided by experts in the field. The Project staff assessed the information and eliminated those inputs obviously irrelevant to the topic. Through the auspices of IES, local-area experts were invited to participate in selecting the final inputs to each package and to provide additional inputs if their own personal files contained relevant information.

Description of the RSVP Information Package

The contents of each package included information in a variety of formats to satisfy the various requirements of the potential multiple-public user. Abstracts of relevant documents, copies of selected significant articles, and a selected reading list constituted the fundamental package. Also included was an evaluation form to facilitate immediate feedback as the user tried and adopted the service. A variable pricing structure was used to encourage the purchase of multiple packages (see Volume II, Section 7 of this report).

The total content of an RSVP package consists of the following items:

- Table of Contents
A list of ERIC abstracts and articles in each package for each "hot" topic
- How to Interpret an Abstract
Helpful hints to guide users in understanding an abstract
- ERIC Abstracts
Abstracts selected for their relevance to specific information package
- User's Guide
A listing of statewide facilities that can furnish complete copies of the documents described by the enclosed abstracts
- Selected Journal Articles
A package of several articles selected for their relevance to the topic
- A List of Selected Readings
Some suggested references for users who want more information

- An Evaluation Form

A vehicle that enables users to provide suggestions on improving the RSVP service

- Order Forms

Order form including envelope addressed to IES for ordering other RSVP packages

The total package represents the Project's best efforts to provide users with a state-of-the-art of the literature and does not represent any one point of view or opinion.

Announcement of Services

Announcements of the availability of the service were effected through general mailings and selected mass media mechanisms. The responses generated were proof that interested potential users were willing to try, evaluate, and adopt this portion of the service. A more detailed description of the processes used to develop the Teacher Effectiveness, Open Education, and Educational Finance information packages is contained in Volume II, Section 7 of this report.

Yet to be implemented is the segment of the process that links potential consumers with producers of known successful practices. This stage will involve the creation of ad hoc task forces and collaboratives, brokering of successful practices, and support services such as in-service training.

In January and February 1974, IES hosted the first Information Utilization Workshop (see Volume II, Section 8) based on the contents of the two RSVP packages developed at that time: i.e., teacher effectiveness and Open Education. Participants invited included representatives of districts that had already adopted the service and representatives of districts

which analysis showed should adopt the service. In addition everyone who had participated in the original User Design Labs, either directly or indirectly, was invited to one of the two workshops, again intensifying their awareness of and interest in the service.

The participants assembled represented the perspectives unique to different regions, "islands of culture," and different hierarchical levels and were at various stages of "readiness" for change. In forming task forces, the various participants learned about each other's perspectives in working through a simulated problem-solving experience designed to increase their effectiveness in utilizing information. The workshops concluded with a comprehensive evaluation which provided valuable guidelines for future development efforts (see Section 4 of this Volume and Volume II, Section 8).

BENEFITS OF THE RSVP SERVICE

The benefits that resulted from the implementation of the RSVP concept and process are highlighted below:

- The RSVP service increased the relevancy of, reduced the cost of, and made easier access to information of common, high-priority concerns shared by multiple publics of different perspectives across regions, as well as to information on existing successful practices.
- In implementing the concept, an "opinion leader" network credible to the practitioners was created. The network could be activated to intensify awareness and interest among the constituencies each leader represents.
- The service was designed by and for multiple-public users and evaluated by them. However, while the development of the service network was controlled by the user, it was at the same time capable of being more effectively governed by the Commonwealth because of the more credible feedback provided by the users.

- The sequence of user-involved product development process followed by intensified local workshops, formation of collaboratives, and use of the information provided to resolve actual crises or solve problems brought together for the first time multiple publics with different cultural backgrounds, disciplines, and perspectives who shared as a common interest the solution of a high-priority need and who had a common context which transcends those differences and increases the probability that the need could be resolved.
- At a later stage, the process will lead to the brokering in and adoption of successful practices, including the support services such as in-service training required to ensure successful adoption of the practice.
- As collaborative linkages evolve within and across regions and first-generation users more clearly perceive how to apply information in defining and solving problems, users should begin to place more value on obtaining additional information and be able to more clearly define their information requirements. This "consumer seek" and collaborative coalescence process should provide the basis for effective introduction of regionalized access to on-line, interactive, fourth-generation computer technology.

SECTION 5

OTHER INFORMATION SERVICES EVOLVED UNDER PROJECT SEIC

NATURE OF THE EVOLVING INFORMATION SERVICES

In addition to RSVP (see Section 4), Project SEIC evolved three types of information services: (1) Searches-In-Depth (SID) service; (2) a Comprehensive Information Services Program; and (3) the Management Information Services developed by the Massachusetts Department of Education's Division of Research, Planning and Evaluation. These services are described in this section.

SEARCHES-IN-DEPTH (SID)

SID is a personalized search service in which an information specialist works with users of the service to define their information needs in order to retrieve abstracts of the most appropriate materials (curricula, model programs, journal articles, research reports, conference proceedings, bibliographies, etc.) from an automated ERIC data base.

In November 1972, using the Project's computer-based search and retrieval system and operating on the ERIC data files, SID became fully operational.

Evolution of the SID Service

The evolution of the SID service paralleled the two major stages of the project: (1) the Initial Stage, 1971 to 1973, and (2) the Continuation Stage, 1973 to 1974. The activities of the Initial Stage produced a number of studies,

that formed the basis for a testbed system that was defined, implemented, evaluated, and evolved into a fully operational system that effectively served the educational community. Collaborative arrangements with the San Mateo Educational Resources Center (SMERC) during the Project's continuation stage produced improvements in the responsiveness of the SID service to the information needs of its users.

Establishing the Operational System

Prior to defining the requirements for the development of the SID service, the SEIC Project team performed a literature survey that established the state-of-the-art of (1) educational management information systems and computer application in education (see Section 3), (2) knowledge utilization and the dissemination of information, and (3) current theories and practices involving the linkage of local school systems to state departments of education. The results of the survey are contained in Volume II, Section 9.

The initial Project organization and planning activities resulted in the definition and acceptance of a two-phased approach to the development of the SID service. The first phase involved a series of studies that led to the development and operation of a testbed system on the MITRE computer. The purpose of the testbed was to operate and evaluate, over a 6-month period, a computer-based retrieval system for the project. The lessons learned from testbed operations were subsequently used to modify the configuration for the second phase of the approach that involved the operational system that began service in November 1972.

The technical efforts which led to the Project's operational capabilities were performed under the initial guidance of a New England-wide Advisory Committee. The committee held its first meeting in October 1971 at which a selected group of users and information specialists were oriented

to the Project and its goals. In June 1972, a second and somewhat expanded SEIC advisory group met to review the technical developments of the project and identify the roles and self-interests of the existing service organization. This key meeting produced an integrated and balanced perspective among all concerned individuals and organizations that related to the project activities. It was an essential factor in clarifying and structuring (1) the governance role of the Massachusetts Department of Education and (2) the appropriate service roles for other organizations with specialized capabilities and missions.

In summary, at the close of the initial stage of the project in June 1973, the SID service had evolved, under the guidance of its Advisory Committees, from a testbed configuration of an operational system that had processed 270 search requests for Massachusetts educators.

Continuation Year Improvements

From the fall of 1973 through the spring of 1974 measures were taken to provide SID users with search packages that contained not only computer printouts of document abstracts and titles but also microfiche cards and photocopies of journal articles. Moreover, the information package often included "fugitive" data, i. e. , data not captured in ERIC. This upgrading of the service had been a long range goal of the project that was accomplished through collaborative arrangements with the San Mateo Educational Resources Center (SMERC) under the directorship of Frank W. Mautas (see Section 3 of this report and Volume II, Section 10).

Finally, the introduction of the multimedia SID packages provided the opportunity to adjust the selling price of the service to not only reflect the upgrading of the service but also to put it on a more self-sustaining basis in a period of rising production and service delivery costs.

Description of SID Information Packages

A typical SID package consists of the following items:

- a transmittal letter on IES stationery that describes the content of the package and a brief message to the user from the individual who performed the search;
- a narrative that describes how to interpret the computer abstracts;
- computer printouts of up to 50 ERIC abstracts, the 10 best of which are included on xerox copy or microfiche;
- fugitive data;
- a photocopy of one or more journal articles;
- an order form that tells the user how to order ERIC documents, microfiche, and photocopies of journal articles; and
- an evaluation form that the user is requested to complete and return to the Institute for Educational Services.

The above items are assembled, packaged, and mailed to users of the service within the typical 2-week turnaround period. Volume II, Section 11, of the Project SEIC final report, illustrates the above items for a typical SID search.

COMPREHENSIVE INFORMATION SERVICES PROGRAM

A comprehensive Information Services Program is available to school systems and educational agencies on a subscription (block contract) basis through the Institute for Educational Services. In addition to Searches-in-Depth and RSVP services, the Comprehensive Program provides a wide range of useful publications including:

- monthly newsletters;
- annotated bibliographies and resource guides on such topics as Year Round Schools, Individualized Instruction, Behavioral Objectives, Effective Use of Paraprofessionals, Community Involvement in Educational Planning;
- UNIPACS — Over 5000 up-to-date, completely validated, individualized learning packages; and
- fugitive data catalogs which contain indexed materials of local, national, and international interest.

Through this service, school systems have access to equipment such as microfiche, microfiche readers, and a wide variety of support services such as workshops for faculty members, community groups, and school boards. Samples of the materials available under the program are contained in Volume II, Section 12.

MANAGEMENT INFORMATION SERVICES

The Massachusetts Department of Education, Division of Research, Planning and Evaluation, maintains and disseminates a variety of non-ERIC, management-oriented information including financial, pupil, program, staff, facilities, and test and evaluation. Stimulated by the SEIC Project objective of improving the responsiveness of MDE's non-ERIC data to local needs, MDE developed and implemented an enrollment projection model that indicated the extent of the effect of declining birth rates on public school enrollments and the extent to which expected transfers from non-public schools would offset the effect of the drop in births. The enrollment projection service is described in more detail in Volume II, Section 13. MDE has also prepared and disseminated historical revenue and expenditure data summary reports which include the identification of financial trends on an individual community basis.

SECTION 6

TOWARD SELF-SUSTAINING OPERATIONS

MARKETING

The hand-in-glove nature of the RSVP and SID services facilitated the joint marketing of the two services (see Volume II, Section 14). In addition, the RSVP service constituted an integral part of the information services that are available under subscriptions (the Comprehensive Information Services Program) negotiated by IES.

Four major efforts have been conducted to promote the information services: (1) mailings of letters and brochures, (2) journal articles and advertisements, (3) displays and presentations at educational conferences and workshops, and (4) direct personal contacts. Volume II, Section 14 contains the journal articles, brochures, letters, etc., that have been used in the marketing of the services. The following paragraphs comment on the major marketing efforts in each of the above categories.

As of August 1974 IES distributed over 10,000 pieces of literature, e.g., letters and brochures to local superintendents, supervisors and directors of elementary education, and curriculum specialists. An assessment of this method of promoting the service indicated that only minimal sales have resulted from the individual mailings; however, mailings on colored stock received a larger response than those on white paper. This

small response produced a concentration of efforts on other marketing activities that centered more on personal contact with the prospective user of the service.

Through the efforts of the IES staff, the services have been promoted at approximately 26 different educational conferences, workshops and meetings of professional educators (See Volume II, Section 15). The promotional activities have ranged from distributing brochures to conference attendees to the presentation of papers and the management of a SEIC booth at major conferences. The success of these marketing activities is attributed primarily to the initial personal contact that is made with the prospective users and subsequent followup activities. The approach is only one step removed from the most effective (and most time consuming) marketing approach which involves direct contact with the prospective users in the setting of their own community/school system.

Direct personal contact, recontact, and reinforcement has been the most successful marketing approach used. The IES staff has made visits to over 50 local school systems to promote the SEIC-generated information services; many times return visits are scheduled.

Usually the director of IES makes an initial visit to the superintendent or key central office administrators (e.g., principals, mixed administrative council) to explain the information service. Since most school systems have never used an information service and since the service involves generally unknown elements -- computer access, microfiche, etc. -- this personal contact is important in communicating the real value of the service and in dispelling the feeling of remoteness which so often characterizes a technological improvement. These visits have been well received.