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ABSTRACT

The effectiveness with which research findings are disseminated to policy makers in education, particularly at the state level, is explored in the four chapters of this report. In chapter 1, Linda J. Nelson reviews the literature and determines that policy makers do make important, but indirect, use of research. She suggests that research institutes can adopt a number of strategies to make research more useful. The second chapter, by Eugene Bardach, proposes a theory of how the process of research dissemination works. Bardach argues that the cost of consuming social science research is high while the specificity of the contexts in which the research can be used lowers its average value, especially as compared with research in the natural sciences. Low rates of research use may result more directly from this situation than from problems in dissemination. Chapter 3, by Nelson and Michael W. Kirst, reports on a survey of 266 policy makers in California, Virginia, and Maryland conducted to determine the informational needs and disseminational preferences of educational policy makers at the state level. The final chapter, by Christopher Bellavita, discusses the strategies used for dissemination by information-producing organizations, as well as their recommendations and cautions. (Author/PGD)

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Institute for Research on Educational Finance and Governance

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POLICY RESEARCH AND EDUCATIONAL POLICY-MAKING: TOWARD A BETTER CONNECTION

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February, 1981

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Foreword

This research represents a collaborative effort over an eighteen-month period. While the chapters were written by separate authors, the theory, concepts, methods, and data collection were a cooperative effort. For example, the questionnaire used in Chapter III contains items devised by each member of the team. Professor Michael Kirst, (SU) was project director and coordinator. Professor Arnold Meltsner (UC) was the prime overall conceptual leader. The chapter authors (Wilson, Bardach, Bellavita) bear responsibility for their written work, but acknowledge the advice of Kirst and Meltsner.

The various chapters can stand alone, but draw insights from each other. We plan to distribute the various chapters to different audiences. But we urge readers to follow Bardach's theoretical base throughout the several chapters.

While the report includes an extensive literature review, we found much of the literature inadequate and unduly pessimistic about the connection between policy research and state education policymaking. We hope this study stimulates some new ways of thinking about this vital area.

INTRODUCTION

Disseminating social science research to educational policy-makers is a highly uncertain undertaking. Little in the way of theory exists to guide its practice (Dunn, 1980). Scholars have posited models to explain research-policy ties (Weiss, 1979; Walker, 1981; Kirst, 1980; Kirst, Peterson, and Encarnacion, 1981), but none have been tested. Empirical studies have been undertaken to pinpoint the factors that enhance or impede the use of scholarly research in public affairs¹. However, such research is relatively new, and many of the findings are contradictory or inconclusive, particularly when applied to discrete policy issues or audience groups. Very few studies, for example, have focused exclusively on the dissemination of educational policy research to state level audiences.

This lack of information on dissemination to state policy-makers is of special concern in education. There, the policy-making apparatus has undergone marked changes in the past decade (Kirst and Garms, 1980). The numbers and types of professionals involved in setting and monitoring educational policies have burgeoned (Heclo, 1978). The financing of education is in a state of flux (Odden, 1980). Even the basic premise of schooling as a public good is under question (Tyack, Kirst and Hansot, 1979). Moreover, the current administration's efforts to reduce the federal role in education may precipitate unprecedented policy debates in the states. Seldom have policy-makers there so needed the guidance that information, methodically collected and objectively analyzed, might give:

At the same time, never has so much research of potential use to educational decision-makers been available. Federal investments in social science research currently exceed \$2 billion per year, triple in real terms the amount spent in 1960 (National Research Council, 1978). The field of educational research, 80% of which is federally funded, has undergone similar growth (Raizen, 1980). An entire system of federally funded educational research labs and centers and intermediary technical assistance agencies has evolved in the past decade. Quasi-public organizations such as the Education Commission of the States and the Institute for Educational Leadership produce and disseminate research for educational policy-makers. So do universities, foundations, private research firms, professional associations and a large number of special interest groups directly or indirectly concerned about public education. It would seem that no educational policy-maker would lack for research information to guide decision-making.

Yet, pervasive among policy-makers and researchers alike is the feeling that social science is not used effectively to inform educational policy decisions.³ Most commentators pinpoint dissemination as the problem, but they differ in opinion about solutions. Some aver that dissemination cannot work. They claim that policy-makers and researchers live in different worlds with conflicting values, language and rewards (Rein and White, 1976). They lack contact with and do not trust one another. Because the two groups differ in the way they ask questions, solve problems and use information, the products of the former are unlikely to be used in the work of the latter. Adherents of this view suggest that educational policy evolves out of developments "quite unrelated to social science" and possibly "unrelated to reason" (Schorr, 1978).

Not all analysts of policy communication agree that improved exchanges between researchers and policy-makers are impossible. This group posits three arguments as to why dissemination might be able to bridge the presumed gap. First, evidence does exist in the communications literature that information can be made more usable for target audiences (Zahman, et.al., 1979). This would suggest that research formats could be altered in some way to fit the information needs of policy-makers. Recent empirical investigations indicate that some research does get used sometimes by some who work in policy arenas. Apparently, under certain conditions policy-makers have a need for research information. Finally, comparative studies reveal that federal agencies sponsoring social science research have, until very recently, significantly underinvested in dissemination as compared to their counterparts in the private sector (Raizen, 1979). The conclusion of this group is that dissemination may be the answer to better policy communication if tried properly. The problem has been that sufficient resources and talent have not been earmarked for research dissemination for policy use.

To these two views of policy communication problems a third has been added. Recently, a number of analysts have pointed out that, while there probably is a need for improvements in the policy communication processes, most policy-makers do have access to a considerable amount of research information (Weiss, 1980; Walker, 1981; Kirst, 1980). The problem is not that dissemination does not work, but that we do not know how to recognize it when it does. We tend to look for direct, instrumental uses of research in educational policy. In doing so, we overlook the myriad of indirect ways by which social science impacts on policy formulation.

The Policy Communication Project of the Institute for Research on Educational Finance and Governance tends to support this third view. A number of empirical studies seem to indicate that research gets used by policy-makers⁵. But, research is only one of a complex mix of facts, conventional wisdom and political accommodation that go into decisions about how to define policy problems and design legislative solutions (Cohen and Lindblom, 1980; Weiss, 1978). Seldom will discrete bits of research information surface in the language of legislation or in the memories of legislators as the driving forces in social problem solving. In education, certainly, an array of individuals and organizations both generate and synthesize extant research for reports to client groups and for use by their governmental liaisons. More than likely, research information re-packaged as a panel presentation, workshops, catchy news items, or lobbyists' arguments is not associated with the university environment from which it might have originated. Nevertheless, research may play a crucial role as a backdrop for policy deliberations (Heclo, 1978). In the early stages of the policy cycle, research helps to shape the debate and provides a common language for policy discussions (Weiss, 1978). Although conflicting or inconclusive findings of many social science reports may preclude their direct use for policy design, that same inconclusiveness can serve to point out alternative consequences for a particular policy plan. It has also proven invaluable for spurring public debate on social problems.⁶ Thus, although research's impact is not direct, it might be a primary force for determining the policy agenda. Similarly, evaluation and impact studies that assess the effects of legislative decisions can determine, in part, which issues return to the public debating circle.

Allegations that policy-makers and researchers do not talk to one another are also easily disproved. Increasingly, public officials are actually trained academicians. It is common for academicians to be tapped for government service or for government servants to leave public policy for academic posts (Heclo, 1978). Moreover, while some researchers scorn contact with policy-makers, others cultivate it and are quite effective in interpreting social science research for use on policy problems (Sundquist, 1978). In short, research-policy ties are stronger than much of the current commentary would suggest.

Unfortunately, gut support for this positive view that dissemination is probably working does not leave the Policy Communication Research Project much in the way of specific answers about why this is so. It is difficult to deny reports by close observers of the educational policy arena that research is of little apparent use and researchers without lines of communication to key policy actors (Florio, 1980). Nor is it easy to explain why, even in the policy areas in which research seemed to be used, complaints about research and dissemination are common⁷. Information on dissemination to state level policy makers is also in short supply. In sum, there are no theories to guide a newly developing program, and conventional wisdom - target, start a newsletter, hold conferences - seems to make sense, but for unclear reasons.

To answer these questions, the Policy Communication Research Project has undertaken a series of studies of policy communication processes. Our aim is to clarify just what takes place in policy communities in which research seems to be used but is not particularly liked. Specifically, we are interested in state educational policy audiences who in light of recent policy trends are prime candidates for research help.

Four overarching questions have guided the first phase of our research:

- 1) What direction does the literature give use to understand the complexities of policy communication?
- 2) Is there a theory that might explain research dissemination to policy-makers?
- 3) Do the uses of information by state policy-makers suggest patterns of information use that might inform research disseminators?
- 4) What can we learn from information producing organizations outside the educational research field about disseminating research?

These questions are considered in the four chapters that follow.

Chapter I reviews the literature on research-policy ties. Chapter II outlines a theory of dissemination which might explain the paradox of research use and concurrent dissatisfaction. Chapter III reports our findings from a survey of policy-makers in school finance and special education in three states. Chapter IV summarizes the recommendations and cautions of information producing firms about how to disseminate products of research.

I. THE UNCERTAIN TECHNOLOGY OF DISSEMINATION: TENUOUS LINKS
BETWEEN TENTATIVE TRUTHS AND TEMPORARY POWER

by Linda J. Nelson

A growing body of literature on research dissemination to policy-makers suggests reasons why the issue has garnered so much attention in recent years. Commentaries also offers insight into the conditions under which policy communities might use social science research. In this chapter, we sketch the scenario which catapulted dissemination into the public policy limelight. We also briefly review the literature that describes research policy ties.

A. Background: Dissemination - A New Weapon in the Social Policy Wars

The groundwork for the current interest in dissemination was laid by attitudes about social science and social problem solving a little less than two decades ago. In the 1960's the U.S. federal government officially waged war on social problems: the weapons - dollars, legislation, and social science research newly reinforced by sophisticated quantitative methodologies; the army - the cutting edge of the baby boom, eager young professionals, charged to 'ask, not' but 'to do' for their country and trained in the social sciences. Social legislation burgeoned (Heclo, 1978); college and university programs expanded to accommodate the large numbers of social science trainees (Mayhew, 1977); federal expenditures for social research skyrocketed, as did the sheer quantity of social science reports available (Aaron, 1978).

Fiscal and enrollment trends of the 1960's record an escalating war. Between 1960 and 1966, federal research dollars quadrupled from \$73.1 to \$324.1 million, an increase of \$213.3 million in real dollars (President's Economic Report, 1979). A spate of legis-

lative mandates shifted unprecedented amounts of federal resources to the poor: expenditures of human service and in-kind transfers rose from 613 percent of full-employment gross national product in 1961 to 817 percent in 1969 (Aaron, 1978). Enrollment in higher education doubled between 1957 and 1968, with social science graduate schools drawing substantial numbers of those students (Mayhew, 1977).

Clearly, by the late 1960's the troops and weaponry for the social poverty wars were in place.

The belief that a "War on Poverty" would bring about a Great Society gave way to disillusionment when improvements in social conditions did not materialize (Hanooh, 1967). Along with high expectations for social progress, conviction that social science could or would be used to improve the quality of life was badly shaken by the apparent failure of social legislation to produce beneficial results. Social conditions seemed to have worsened rather than improved by the early 1970's (Frankel, 1976).

A little over a decade later, many informed observers would aver that the assault on social problems of the 1960's was the first declared war that the United States has lost. Apparently, the particular mix on money, know how, and determination was no match for so thoroughly entrenched an enemy as poverty with its battalions of related ills.

Some of those same observers would declare that, not only had we not won the war, some of our soldiers had defected. Rather than find solutions for policy-makers, social scientists has set about adding to the problems! The more answers the policy troupes sought, the more questions researchers gave them. With each new legislative cure, social scientists found a whole new set of unexpected problems (Wildavsky, 1979). Meanwhile, the original ones persisted unscathed, and some got worse.

Education, a major front in the war, typifies the latter. Schooling was presumed to be an "all-powerful transformer of economic potential" (Aaron, 1978, p.65). Consequently, the education field received a healthy share of the strike force: landmark legislation, ESEA, was passed in 1965; federal dollars for schooling leaped from \$450,000 in 1960 to \$4,100,000 in 1970; educational research, by 1972, had its own Institute, the National Institute for Education, which managed 80% of the educational research undertaken in this country (Raizen, 1979).

Unfortunately, in spite of a few showcase victories on isolated sites (as in the case of Head Start), by the early 1970's schooling wars seemed destined for defeat. Researchers, notably Coleman and Jencks, with corroboration from private consulting firms and the rank and file in the Office of Equal Educational Opportunity⁸, declared education an unwinnable war. Performance records of students targeted for help did not improve; some actually dropped. In the meantime, unemployment remained high among the poor, and actually increased among the ranks of the poorest (Aaron, 1978, p.39). Out of this failure came the recommendation to withdraw the most transportable of the education troops - dollars (Aaron, 1978).

Education was not unlike other mass initiatives in the War on Poverty. As battle after battle became mired in the complexities of legislation, implementation, and regulation, disillusioned captains came to recognize that nowhere did conventional tactics - massive bombardments of money, policy mandates and social science research - seem to succeed.

As in every major confrontation, chroniclers of the action of the fronts of that social problems war are abundant. Reports and commentary on the wins and losses of the social legislation and social research divisions flourished, particularly reports discussing the combined impact (or lack thereof) of research and policy. From approximately 400 listings in 1966, bibliographic citations on the production and use of knowledge for social problem solving increased to over 20,000 currently (Raizen, 1979).

Titles of some of the commentaries are testimony that the 'dark side' of the research-policy ties surfaced: Knowledge and Policy: the Uncertain Connection (Lynn, 1977); The Use and Abuse of Social Science (Horowitz, 1971) "Disciplined Research and Undisciplined Problems" (Rose, 1976); "How Good Was the Answer? How Good Was the Question?" (Yarmolinsky, 1976); "Why Isn't Educational Research More Useful?" (Levin, 1977). Even a series of federal commissions and congressional hearings concluded that existing research knowledge was not effectively incorporated into policy (National Research Council, 1978).

Out of these post-battle analyses came new insights into the conduct of social policy warfare. A major flaw in the weapons system was discovered. Some of the heaviest artillery - legislation and social science research - had not been deployed in tandem. Social science research was produced, but it was not being used, or used effectively, by policy-makers. Thus, the forces of social science were not, in fact, reinforcing the legislative attacks. To ensure

maximum striking power and to improve the 'body count' on tenacious social problems, policy-makers needed to use social science more directly. Missing in the initial strategies was a guarantee that social science would be systematically available to the front-line policy-makers. Dissemination was up-graded in the arsenal.

This tale of dissemination only slightly overstates the evolution of interest in tactics to link social science research and public policy-makers. Legislative mandates and federal investment patterns suggest that dissemination has, indeed, won current favor. By 1976, over half of the 2 billion federal dollars spent for social research was earmarked for the application of research to policy and practice (Mitchell, 1980). The National Institute of Education was just one of the fifty four agencies with an explicit mandate for dissemination by then. After its 1976 authorization, the Institute added a specific unit for Dissemination and Improvement of Practices, and the dissemination budget more than doubled (Raizen, 1979).

As in the case of social legislation a decade before, accompanying this money and legislative language is the expectation that improved dissemination will occur, and that a resultant increased use of social science will improve the conduct of public affairs. Yet, according to the literature on research-policy ties, dissemination may already be operating in many policy areas. Yet, if Bardach's theory (Chapter II) holds, marked improvement in policy-makers' satisfaction with the role of research in policy affairs may not be possible.

B. The Uncertain Technology of Dissemination

Dissemination can occur only after three conditions are met: research information useful to policy-makers must exist; a system to transport it from researchers to policy arenas must be operating; and, policy-makers must be willing to use research in some way in their work (Knott and Wildavsky, 1980). The uncertainties surrounding research dissemination are encapsulated in the disagreements about the existence of any of these three conditions. And, there is a substantial body of literature to support any of a number of views. That literature is reviewed briefly in this section. The review is organized by the following questions:

1. Does social science research useful for policy-making exist?
2. What process links social science to policy communities?
3. Will policy-makers use research if they can obtain it easily?
4. Are there specific dissemination strategies that will make research more usable in policy arenas?

1. Does social science research useful for policy-making exist?

Some commentaries refute the notion that social science for policy-makers exists. In this view the very nature of the research process as it applies to social science precludes its use by policy-makers. Social science investigations are 'conclusion-oriented' (Rich, 1979). They seek to identify basic truths that expand the frontiers of scientific disciplines (Riccutti, 1980). Social scientists look for long-run, causal explanations of social phenomena. Unlike the 'hard' sciences such as chemistry or physics, social science is not governed by fixed laws that define certain outcomes.

Instead, it uses 'soft' data as approximations of the characteristics of the social world that scientists hope to study. For example, test scores are used as measures of learning or teacher verbal scores or years of experience are proxies for teaching competence. The results are necessarily tentative. They suggest possible theories and probable conclusions about why the social world behaves as it does. But, they do not provide decisions for policy purposes. We know, for example, only that teachers who are facile in the written language seem to end up good teachers. We do not know what makes for good teaching.

Unfortunately, understanding the whys of the social world does not necessarily mean knowing how to push that world into new ways of operating (Weiss, 1978). Policy formulation means knowing how to design legislation or regulations to spur desired movement:

Proponents of the view that social science is not useful for policy deliberations note that the time frames, disciplinary foci, and format of scholarly research can prevent it from being used by policy-makers (Schorr, 1971). For structured research a scientific design must be meticulously set out and ample time allowed for data collection and analyses. Research is generally conducted within the boundaries of an academic discipline. Topics evolve from the intrinsic interests of scholarly researchers, who are rewarded for advancing the boundaries of their respective fields, not for delving into the messy, interdisciplinary problems of public affairs. Moreover a significant ingredient of that academic reward system is publication in scholarly journals. These have strict standards for professional writing and draw technical audiences (Frankel, 1976) familiar with language which to lay audiences is jargon filled,

(Dror, 1971, Yarmolinsky, 1971). Unlike the scientific world public officials work under high pressure. They must make decisions under severe time constraints and in conditions of high uncertainty (Steinbruner, 1979; Heclo, 1978; Allison, 1965). They have little time to process enormous amounts of information that flow across their desks and little incentive to do so (Dreyfus, 1978). In the eleven hour work-day of members of Congress, for example, Congressmen had an estimated eleven minutes for reading and twelve minutes at their desks for writing (Washington Post, 1977). Commentaries by policy-makers throughout the government confirm that such pressures are not unique to Congressmen nor to federal officials (Lynn, 1972; Meltser, 1979; Rehne and Rosenthal, 1980; Rosenthal and Furhman, 1980). Under such constraints, even the best of research information may go unnoticed.

Long range planning does not often enter this world (Yarmolinsky, 1976). Policy-makers have difficulty anticipating information needs (Meltser, 1979). The latest policy crisis for which public officials need information may be the unintended consequences of the last policy 'solution' (Wildavsky, 1979). One commentator aptly remarked, "Policy-makers are too busy dealing with the latest crisis that just crawled in over the transom to worry about what they might not know tomorrow."⁹

Within this work environment, voluminous, highly technical research reports are unlikely to be useful. Crises dictate information be available in a short period of time and address the critical economic, political, legal and social factors surrounding the policy issue - in other words, it should be readily available, easily read and interdisciplinary - not often characteristics of social science research. Yarmolinsky observed aptly, "By the time government is

ready to ask a specific question of scholars, it will not stay for a scholarly answer." (p. 260). Clearly, the literature offers considerable support to the notion that research for policy purposes does not exist. Recently, another view about the relevance of social science has surfaced. Empirical evidence suggests that many policy-makers do use research in their work, but that use is indirect (Weiss, 1978). The preponderance of the empirical studies are of federal policy-makers.¹⁰ They reveal that instrumental uses of research - explicit examples of social science spawning or shaping legislation - are infrequent. When direct use does occur, the useful studies are usually conducted within the agency or organization formulating policy (Patton, et.al., 1977). Far more prevalent in empirical studies is the contribution that research seems to make to the climate of opinion surrounding an issue. Weiss sums the nature of the indirect impacts of social science on policy:

Officials apparently use social science as a general guide to reinforce their sense of the world and make sense of that part of it that is still unmapped or confusing. A bit of legitimation here, some ammunition for the political wars there, but a hearty dose of conceptual use to clarify the complexities of life...research...challenges...the status quo...and, by redefining the problematic, offers new perspective for considering solutions. (1977 p. 16)

Knott and Wildavsky make a distinction between knowledge for policy and information for policy that helps to clarify why social science impacts are indirect. Scientific knowledge is certain, factual, irrefutable evidence. Scientific information can be theories, accumulations of tentative evidence about forces at work in the social world (Knott and Wildavsky, 1980). They note that the tentativeness of social science makes it unlikely that knowledge will be available for policy purposed immediately. However, social science information

that adds to the pool of conventional wisdom, partisan considerations and hunch can be enormously helpful in formulating opinions about what the policy problem is and how it might best be resolved.

The sheer volume of research and analysis produced by public and private research centers, technical assistance centers and special interest groups lend credence to the assertion that relevant social science research does exist. For example, Cohen and Lindblom catalogue approximately twenty kinds of investigatory activities aimed at social problem-solving (1979, p. 8-9). Academic research is only one on the listing. In short, on a number of indicators, social science research appears to be more useful than early commentaries on policy communication would predict.

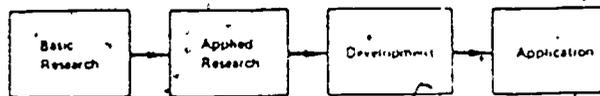
2. What links social science to policy communities?

Theory which might explain how to construct communication channels between policy-makers and researchers or which would help us to understand how to identify those already in place is scant (Dunn, 1980). We know from communication research that dissemination involves a message, a sender, a receiver, and a mechanism that links the three (Rogers and Kim, 1979). A time dimension in the diffusion of innovations is also crucial to understanding the process.¹² Until now, however, no theory has mapped out the principles which predict how these elements interact to link knowledge to potential users (see Bardach, Chapter II).

The literature reveals four possible models of the research-policy ties, two of which might apply to the dissemination of educational policy research. Weiss sketches three: the knowledge-driven model; the problem-solving model; and the interactive model. Walker (1980), Kirst (1980), and Kirst, Peterson and Enslin (1981) suggest a

fourth - the policy issue network or policy community (see also Broder, 1980; Hecl, 1978).

Knowledge-driven Model



KNOWLEDGE - DRIVEN MODEL

(Weiss, in Lynn, 1978)

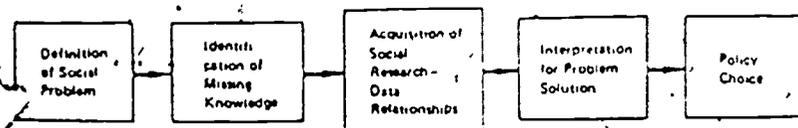
In this model, the links between research and application are direct, linear, and driven by the momentum of new information. Dissemination under these conditions would be unnecessary, as the 'natural' and inevitable spread of information would obviate the need for more contrived strategies.

For tentative social science information of uncertain immediate value in public affairs, this model does not obtain. It seems, rather, to describe the flow of information from the physical science to users. Knowledge recently discovered is certain enough to be applied to real world activities. As noted earlier, contradictory and inconclusive social science findings cannot, and probably should not, be automatically applied to social problems.

It is interesting to note that the knowledge-driven model is the traditionally accepted notion of how research and policy ought to connect (Weiss, 1978). Many early social reformers presumed that increased investment in social science would inevitably result in the application of its findings to pressing societal problems. It is easy to see why that model is appealing. No complicated interactions impede the steady flow of certain knowledge to application, and, thereby,

to a "better" world. One can understand how disenchantment with the social science research-policy ties grew. With few examples of the successful direct application of social science research, by the standards set out in the knowledge-driven model, this field seemed virtually useless.

Decision-driven Model



DECISION-DRIVEN MODEL

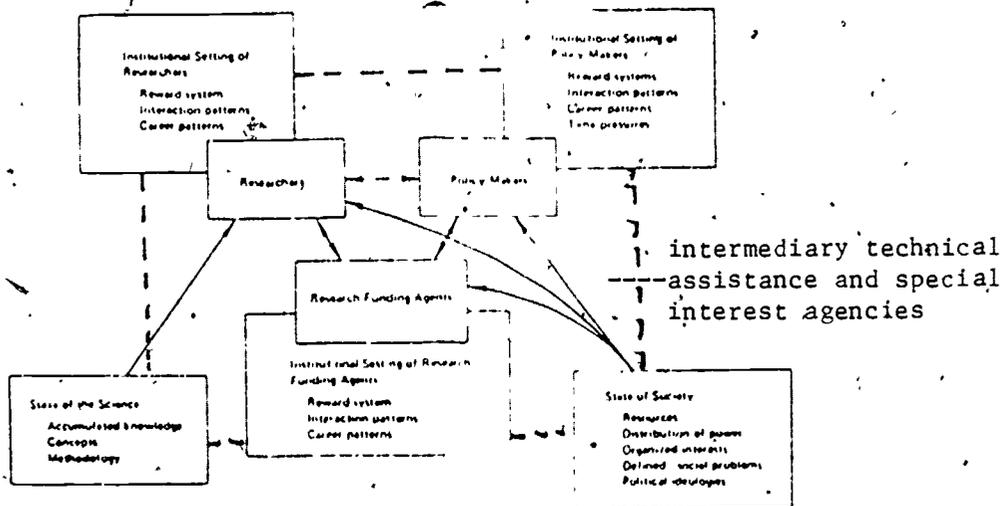
(Weiss, in Lynn, 1978)

This model of research use in policy might describe much of the evaluation and policy analysis produced by various agencies and contract research firms. In the decision driven model, the pre-defined problem searches for acceptable solutions. The policy focus is pre-determined. The process is decision-oriented, aimed at identifying missing information that, once found, will reveal appropriate interpretations and policy choices. This would seem a model of how contract research information might effect policy choices. Apparently, the policy-makers and researchers have agreed upon the definition of the problem to be researched. The task is to identify policy responses. Dissemination in this model would need only to highlight what would appear to be a natural link between parties with mutually agreed upon questions seeking similar research outputs.

Unfortunately, unlike many forms of professional investigatory activities (Cohen and Lindblom, 1979), social science research does

not often generate policy choices. Rather it helps to define the broad parameters of the social problem and brings to the public agenda issues of potential concern. Consequently, the decision-driven model may be more applicable to one explicit type of research - that requested by the policy-maker of his agency staff or contract firms.

Interactive Model



(Weiss, in Lynn, 1978)

Weiss uses this diagram to describe the multiple avenues by which research and policy interact. While not designed explicitly to depict her interactive model, we believe it gives some clue as to the complexity of potential ties between the research and policy arenas. As such, we believe it may describe with some accuracy the terrain which social science research dissemination must cover. (Note: the backdrop of intermediary agencies was added to the original schema.)

In the interactive model, links between knowledge and policy are not linear. Rather, highly interactive and possibly disorderly interconnections channel information both to and from policy-makers and researchers. In this model, it is easy to imagine Weiss'

description of the indirect effects of social science as it 'percolates' into and around the policy world (Weiss, 1980).

A persuasive element in the notion that social science is not linked in a linear way to knowledge application in public affairs is the extraordinary complexity of the public policy and research arenas (Heclo, 1978; Walker, 1981). The interactive model seems to recognize the potential role of a myriad of individuals and organizations that might be involved in policy discussions at any given time (see Appendix A for a more detailed listing of potential actors.) This model recognizes research as one of a complex mix of information sources useful for policy-making.

Dissemination in this interactive environment would be hit and miss. The amounts and types of information needed by any individual policy-maker are virtually impossible to determine by a research institute in which dissemination resources are limited. Moreover, the numbers of intermediary agencies and policy-oriented interest groups who may be re-packaging research for use obscure the actual impact of a dissemination program. There are so many possible channels by which research information might reach a policy-maker, that selecting exactly the appropriate one for a given issue and time would appear to be costly and highly uncertain. Moreover, even if costs of tracking the issues and audience needs were not prohibitive, the technology of mapping audiences and anticipating their information concerns is so rudimentary that successful dissemination may remain unnoticed.

Encouraging in this model is the recognition that the communication process is not a one-way flow from information producer to user. Feedback from the policy world to that of researchers would appear to be

frequent, if haphazard. The number of possible intersection points would seem to belie the notion that the two worlds never interact. Of course, there is nothing in the model to suggest that potential interaction is valuable. It does, however, seem to exist.

Policy Issue Networks

The network model (Walker, 1981; Kirst, 1980; Kirst, Peterson and Encarnation, 1981) offers a provocative variation on the interactive maize which has important implications for research dissemination.

A diagram of the network model would resemble that of the interactive one with one key exception. While both recognize the complexity of the policy audience and the multiple interconnections among actors within and among policy communities, the network model suggests that identifiable patterns of information spread and exchange may exist for particular policy issues.

The networking concept stems from the recognition that informal information exchanges among colleagues have long been characteristic in both academia (often referred to as the "community of scholars" (Haviland, 1971)) and the public policy world (the iron triangle of executive agencies, special interest groups and legislators is a popular description of the elite groups that share information and power [Kirst, Peterson, and Encarnation, 1981]). Heclo (1978), Walker (1980) and Broder (1980) have also recently described what seems to be a systematic relationship of information sharing among specific policy communities or networks.

Within these policy communities are diverse individuals and organizations who are included in the network by virtue of their expertise in a discrete policy area. As the policy arena has grown

increasingly complex, policy-makers have had greater need for more, and more technical, information on any number of policy problems. Issue specialists receive reward and recognition by filling that demand with non-partisan, comprehensive information. These individuals or organizations are purveyors of knowledge. Their function is to inform and be informed about the nuances of their policy speciality. Therefore, they are high consumers of research. They want to be able to answer the 'why' of policy questions as well as the 'how', and, as such, form a relatively stable market for academic research. The Education Commission of the States, with experts in law, school finance, collective bargaining, and competency-based teaching and learning, for example, represents such a speciality organization able to respond to requests for non-partisan, detailed information on particular policy issues. They do so both by generating their own research and synthesizing that from the larger research arena. The National Advisory Commission for Education of the Disadvantaged exemplifies a more narrowly focused issue-oriented group. They would provide information solely on Title I provisions and related concerns.

Individuals also play the issue specialist role. These are people whose career success is determined not by political affiliation or electoral clout, but by mastery of knowledge about the politics, economics, legalities, technology, and sociology of their issue speciality. They are rewarded for objectivity and comprehensiveness, not loyalty to the organization. They are often promoted in and around the policy world among positions relevant to their policy concern. They may also return to the private sector without the onerous tag of politician.

Because they trade in information, both organizations and individuals who are specialists operate within a broad network of policy experts interested in their specific, or related policy areas. Since policy problems overlap, so do networks of specialists trading in relevant information. Consequently, issue networks link policy-makers both within a policy community and among communities of related concerns. They also link various branches of government with private sector firms and special interest constituencies. These issue networks operate in other policy areas with particular effectiveness in medicine (Davidson, 1980).

The concept of networking holds special currency for research dissemination. The key characteristic which distinguishes it from Weiss' interactive model of research dissemination is the presence of what may be a systematic information flow. In this model of research dissemination, research flows to numerous policy groups. However, the synthesizing that the specialists do to make information comprehensible for busy policy-makers may obscure the conscious recognition that research is of use to policy-makers. Rather than try to anticipate the specific information needs of individual policy-makers in a number of issue areas, disseminators could identify the key specialty agencies and individuals who are in the business of providing information for policy-makers. Thus, instead of the hit and miss formula needed for the interactive model, networking suggests a specific strategy for dissemination: that is, identify gatekeeper specialist organizations and let them funnel research to policy-makers. It is a strategy based on the assumption that policy-makers will use information once they have access to it. It also suggests a trade-off between credit given to research and actual effectiveness of research in contributing to social problem solving. That is a trade-off that not all research

producers and disseminators will like.

C. Will Policy-makers Use Research If They Can Obtain It Easily?

The popular notion of failing dissemination is that policy-makers will not use the best of information available (see discussion in section A). However, empirical data belie the accuracy of this remark. Policy-makers, surveyed by a number of researchers do use social science in their work (Weiss, 1978). There are also some indicators of characteristics of research that make it useful to policy-makers (Mitchell, 1980).

Before discussing the facts of use, it may be important to record Knott and Wildavsky's reservation about the 'more is better' syndrome of research dissemination (1980). We have no way of knowing whether or not sheer volume of research used is a measure of efficacy of research in social problem solving. When Weiss reports that 76 percent of the 155 people surveyed in mental health agencies, (1977) reported some type of use of research, we do not know whether to cheer the efficiency of social science or bemoan the loss of the 11% who stated definitely that they never touched the stuff. Similarly, Caplan found 74% of his 204 respondents to be verifiable research users and 9% abstainers (Caplan, 1975). Should future-thinking agencies aim for a 'normal' 75% use rate, or should we presume that the growing lack of satisfaction with general bureaucracies is attributable, in part, to the shockingly high research rejection rates?

These are questions which the literature leaves unanswered. What studies do tell us is what research characteristics seem to make it useful for policy purposes. In the studies to date,¹⁴ research used most often is of high technical quality, specific to a particular context and relevant to the current problems facing a policy-maker. It is

targeted to a particular population and offers specific recommendations for action. Reliability and validity of information sources are important. Policy-makers seem to equate these qualities with the credibility, trustworthiness and objectivity of research. Possibly the most significant characteristics, at least those that surface most often, are timeliness and ease of consumption.¹⁵

Predilection of the Individual Policymaker: Policymakers' value orientations can play a significant role in determining information use. They trust the validity and reliability of research from some social science disciplines more than others. Caplan (1975) reports a hierarchy with economics at the top followed by sociology, political science and so on. Cognitive ability and analytical skills of the policy-maker (Weiss, 1975), may ease the consumption costs of research use and, thereby, encourage use (See discussion of consumption costs, Chapter II). A desire to enhance status and credibility among peers and constituents (Mitchell, 1980) can lead policymakers to seek research. Policymakers who helped decide what information should be collected tended to use research more. (Rich, 1975).

Environmental Characteristics of the Information User: Variables within the work environment of the policymaker contribute to research use. Some of the most salient (Rothman, 1980;) include:

- proximity - environments in which high information users work alongside those who tend not to seek out research information are conducive to increased research use by the latter group (corroborated by Walker's state study of innovation). Organizations which structure regular meetings between research and non-research staff represent a variation on proximity. The ties among issue specialists do, too.

. slack - organizations in which there are slack resources (time, money, personnel, and so forth) are more able to seek out new information, some of which, is social science research; when available, research will be used to conceptualize problems facing the organization (Rich, 1978).

. incentives/rewards for research use - a workplace which rewards technical expertise, or 'know-how', is one in which research use tends to occur; conversly, one which withdraws approval for lack of comprehensive information, a portion of which would be research information, tends to be a high research user; again, in organizations with research readily available, learning seems to occur about how to use it to conceptualize problems and alternative solutions (Rich, 1978). The professional rewards to issue specialists for disseminating knowledge are key to the effective working of policy issue networks.

. regular communication - both formal and informal communication among sub-units in an organization or among members of policy communities are crucial factors in the use of research. Regular communication, here, may mean exchanges of staff within agencies, movement about the policy community by issue specialists, or simply systematic written memos, newsletters and other reporting mechanisms (Rothman, 1980).

In sum, in spite of the popular notion that the policy-world is not structured to use research, research is used there. Moreover, there are some tentative indicators that research, translated into forms more similar to the information needs of policy-makers and available from sources close at hand, will increase the probably of research use.

4. Are there specific dissemination strategies that will make research more useful?

One reading of the literature might suggest that used car salesmen and research disseminators have a lot in common. Neither one is entirely certain that the products they are selling will work. The external

trappings of the goods of both look appealing, yet the internal workings are at best uncertain. In fact, people who sell used cars have an edge over disseminators: a car that breaks down can be hauled away. The mechanical difficulties of social science information are less easily repaired. Consequently, the sales job for research must be handled with great delicacy. Promises that a scientific solution will work for any given policy question are best not made.

Suggestions about how to disseminate research seem to have taken into account the delicacy of the operation. No mention is made of strategies that will promise of research more than it is capable of giving. Rather, they suggest ways of bringing research information into the consciousness of policy-makers who then may use or reject the information as appropriate.

Three overall approaches to dissemination surface: change the products of research to mesh with the information preferences of policy-makers; change the people involved in linking research to policy-makers - that is, look for non-researchers to help bridge the communication gap; and, change expectations about how research will be used. These three strategies are discussed briefly below.

Change Products: The preponderance of dissemination recommendations suggest that research translation is necessary (Weiss, 1978; Lynn, 1976; Caplan, 1975). Disseminators should re-write research so that it is free of jargon, short and formatted so that main ideas and conclusions are highlighted, and placed in a context, so that it is not simply a broad generalization about the social world, but a specific comment on a salient policy issue. Newsletters, specialized magazines, influential newspapers, TV news magazines, computerized

referral systems and conferences, panels, and speeches are modes which might be appropriate for this 'translated' research.

Change People: Information brokers have become a viable alternative to bringing researchers and policy-makers in direct contact. (Since in most studies, in spite of research use, the two-communities metaphor (researchers and policy-makers live in such different worlds that communication among them is unlikely - Dror, 1971; Caplan, 1975; Dunn, 1980) seems to hold true, the notion of an intermediary makes sense (Sundquist, 1978). These would be individuals expert in both policy and research who were able to translate the relatively abstruse language of research into conversational English. They would also be able to explain how to apply general research findings to specific policy contexts.

Brokers could be either individuals or organizations and resemble the issue specialists discussed in B3. They could absorb many of the costs of information translation that the research institute must bear (see Bardach, Chapter II). Their incentive to do so would be the recognition within their issue speciality that information brokerage could confer (Walker, 1980; Heclo, 1978). In short, placement of key brokers housed either within a research institute or with close ties to research communities from the policy world may be a viable, low-cost/high yield dissemination tactic to be considered.

Change Expectations: Weiss is perhaps most eloquent here in challenging the conventional norms that dictate research must be proven 'useful' in an arbitrary, instrumental way in order to be considered valuable (1980). She identifies the myriad ways in which

social science may permeate the consciousness of policy-makers and may effect the outcome of policy decisions without any direct reference to a particular research study - and, if Bardach's analysis holds, in an environment which overtly feels frustrated with research (see Chapter II). Knott and Wildavsky (1979) and Cohen and Lindblom (1980) among others join Weiss in cautioning proponents of direct research use. The field is simply too new to proclaim an appropriate amount or time for research dissemination to occur. More is not necessarily better, these, scholars note, and, we may very well already have more dissemination than we know how to recognize.

Conclusion: For some scholars studying the relationship between social science research and public policy-making, the Hemingway characters of Jake Barnes and Lady Brett aptly characterize the research/policy mismatch. Jake Barnes was impotent; Lady Brett, a nymphomaniac. They were in love (Hemingway, 1929). This unlikely couple lived in a post-war world of intense needs, unrealized expectations, frustrations and fumbling accommodation. It is a world not unlike that of public policy in the United States in the 1980's. And, some observers would agree that the Jake-Lady Brett affair accurately depicts the ties between academia and politics: in this scenario, Lady Brett politicians lust for knowledge that will satisfy their need to produce popular, feasible, just social legislation; social scientist Jakes, though eager, are unable to supply that knowledge. In some scripts, Jake's eagerness would be questioned.

This ill-matched couple in Hemingway's story finally does develop a workable relationship. The literature on the ties between research and policy-making suggest that a similar accommodation is also possible there. The literature suggests that the hyperbole surrounding the use,

or misuse, or research in policy-making is as extreme and unlikely as that of the Jake/Lady Brett affair. While a number of authors declare the relationship between policy and research to be very limited and unproductive, more studies suggest that that is not the case. Research is used in policy-making in a number of important, albeit indirect ways. There are also strategies that research institutes can adopt to make research more useful. Most notable, they might identify entry points into existing policy networks, and focus outreach on those organizations and individuals most likely to disseminate the information within and beyond their immediate research communities. Translation efforts - making research more timely, readable and available - also help to increase research use.

A number of questions still remain regarding the research dissemination process. Translation efforts are recommended by a number of studies, yet specific information on exactly what kinds of tactics are appropriate for which audiences remain unclear. The studies of research use tend to focus on federal policy-makers. Little specific information is available to direct dissemination activities for state policy-makers, particularly those in education. Moreover, the models of dissemination, whether Weiss's interactive scheme or the networking concept of Walker, Kirst and others, have not been tested. We do not have empirical evidence to suggest that anything more than chance operates to disseminate research into and around policy communities.

In an attempt to answer these questions, Bardach has posited a theory to help guide research on research dissemination; Nelson and Kirst have surveyed state education policy-makers to find out exactly what kinds of information that policy group likes to use; and, Bellevita has asked information producing organizations to reveal their most effective dissemination strategies. The results of these studies are reported in the following chapters.

APPENDIX A: WHO ARE POLICY-MAKERS?

A catalogue of work roles potentially included in education policy communities follows. A glance at the numbers of individuals possibly involved gives some indication of the enormity of the job of targeting research to appropriate audiences. It also reveals the possible size of a social research market. The following six groupings include both issue specialists and the policy experts who support their work. Both would be targets for dissemination programs. Unknown is whether or not the same types of research would be appropriate for both. Indicators of differences between the work responsibilities of political leaders and those issue specialists (discussed in the following section) suggest that different strategies would be necessary.

Legislative Actors: Elected officials and their personal staffs; committee and sub-committee staff and consultants; research and information bureau personnel such as those in the Congressional Research Service, CBO or a Senate Research Committee at the state level.

Executive Actors: Top level bureaucrats and their staff, particularly in the Departments of Education, Labor, Health and Human Service; Agriculture State; and Interiors whose programs include education and training components. Specific positions include Secretaries, Assistant and Deputy Assistant Secretaries, Directors or Policy Planning and Evaluation Offices or Bureaus, and Directors of Program Offices, and any number of assistants and consultants for these offices at national, regional, state and local levels. Advisory Councils associated with specific programs must also be included.

Executive Office Staff including Domestic Advisors and their program and research staff, issue consultants. Comparable staff and advisory committees are found in the offices of governors, as well.

Special Interest Groups: (including professional associations, unions and citizen's interest and the advocacy groups ranging from tax limitations associations, to text book committees and parent-school organizations, e.g. Coalition for Fair School Finance or the Citizens Committee of Ohio, as well as taxpayers). Target positions include: Presidents, Executive Directors, Governmental Liasons, Directors of Research, Dissemination and Publications, Special Committee and Sub-committee members and committee staff, Program Directors, Issue Specialists and Legal Advisors, Advisory Panels, Consultants (all replicated at the national, regional state and often, local levels).

Technical Assistance Organizations: (including privately funded committees commissions, foundations, contract research and consulting firms, university-based development and dissemination programs, and publically funded commissions such as the Education Commission of the States or the Western Center for Law and Poverty) titles of policy actors in these organizations would generally replicate those of the special interest groups. Include in this audience grouping are the intermediary organizations or subunits of the federal and state governments set up to assist regions, states or localities in policy and program implementation or evaluation (Heclo, 1978).

Academicians: experts from academia who, through their publications, teaching consulting work and expert testimony, help to formulate and clarify issues relevant to educational policy.

Journalists: Reporters for newspapers, popular professional journals, radio and magazines, television, who, through coverage of education related features play an increasing important role in raising issues to the public agenda.

FOOTNOTES

1. For compendia for empirical studies see Weiss, 1977; Frankel, 1976; Abt, Inc. 1976; also Mitchell, 1980; Florio, 1979; Donnison, 1972; Caplan, 1975; Alkin, Daillak et. al. and White, 1980; Bozeman, 1979; Hood and Blackwell, 1978; Cohen, 1970; Hood and Blackwell, 1978.
2. See discussions in Walker, 1969; Gray, 1973; Hood and Blackwell, 1976; Lemé and Rosenthal, 1980; Rosenthal and Fuhrman, 1980.
3. See Schorr, 1971; Levin, 1971; Dror, 1971; Yarmolinsky, 1971; Rose, 1977.
4. See studies as listed in footnote 1.
5. In virtually all empirical studies, subjects report that research gets used in some way. Indirect, rather than direct uses predominate.
6. See Jencks, 1972; Clark, 1966; Averch, 1972; Coleman, 1966.
7. NIE memos on dissemination to the Institute for Research on Educational Finance and Governance. 1979-80.
8. See footnote 6.
9. Michael W. Kirst. "Proposition 9 and its Impact on California Schools" presented to the California Coalition for Fair School Finance. 1980.
10. Empirical studies focused on federal level policy-makers (Rich, 1977) or grouped federal, state and local respondents (such as Weiss and Bucuvalis, 1977).
11. See footnote 9.
12. **Time in relation to the adoption of innovation can mean the shifts from awareness of information to use and belief in it; or it can refer to the relative time one individual or firm adopts a new idea as compared to other individuals or firms. Time can also mean the rate of adoption of ideas by a user. (Rogers and Kim, 1979)
13. For a complete description of the role of issues specialists see Heclo, 1978.
14. See footnote 1.
15. A few of the characteristics found important in some studies were found insignificant in others. For example, several studies found quality and timeliness important use determinants, while Patton, et. al. found minimal effects for either characteristic.

- Aaron, Henry J., Politics and the Professors: The Great Society in Perspective. The Brookings Institution, (Washington, DC), 1978.
- Aberbach, Joel D., "Changes in Congressional Oversight", in Making Bureaucracies Work, ed. Weiss, Barton, pp. 65-88.
- Alkin, Marvin, Richard Daillak, and Peter White, "Using Evaluations: Does Evaluation Make a Difference?", in Educational Evaluation and Policy Analysis, Vol. 2, No. 5, September-October, 1980, pp. 92.
- Alkin, Marvin and Alex Law, "A Conversation on Evaluation Utilization", in Educational Evaluation and Policy Analysis, Vol. 2, No. 3, May-June 1980, pp. 73-80.
- Archambault, Francis X. Jr., and Robert G. St. Pierre, "The Effect of Federal Policy on Service Delivered Through ESEA Title 1", in Educational Evaluation and Policy Analysis, Vol. 2, No. 3, May-June 1980, pp. 33-46.
- Averch, Harvey A. and others. How Effective is Schooling? A Critical Review and Synthesis of the Effects of Family and Schooling in America. (Basic Books, 1972).
- Babbie, Earl R., The Practice of Social Research, Wadsworth Publishing Company, Inc., (California) Second Edition. 1979.
- Bardach, Eugene, Implementation Game. Cambridge; MIT Press. 1977.
- Beer, A., et al. The New American Political System. Washington, D.C.: The American Enterprise Institute. 1978.
- Bellevita, Christopher J. "Initial Assessment of Dissemination Capacity." IFG memo, 1980.
- Bozeman, Barry, Knowledge: Creation, Diffusion, Utilization, Politics of Technical Decisions". Dorothy Nelkin, Editor (Beverly Hills: Sage Publications, 1979) Vol. 1, No. 4, 256 pp.
- Brecher, Charles, and Raymond D. Horton, "Trends in Federal Expenditures for Youth." Prepared for a Presentation at Conferences on Politics of Equity: Education Finance, State and Local Taxes, and Children's Services, May, 1980.
- Broder, David S., "Networks", Changing of the Guard: Power and Leadership in America, Simon and Schuster, (New York), 1980. pp. 129.
- Broudy, Harry S., Robert H. Ennis, Leonard I. Krimerman, Philosophy of Educational Research, John Wiley & Sons, Inc. (New York), 1973.
- Brown, Robert D., Diana Newman and Linda Rivers, "Evaluation's Impact", in Educational Evaluation and Policy Analysis, Vol. 2, No. 5, September-October, 1980. pp. 67-74.
- Butler, Matilda, and William Paisley. "Factors Determining Roles and Functions of Educational Linking Agents with Implications for Training and Support Systems". Occasional paper, Far West Laboratory, January, 1978.

- Campbell, Donald T., "Reforms as Experiments", American Psychologist, Vol. 24, No. 4, April 1969.
- Campbell, Donald T., "A Tribal Model of the Social System Vehicle Carrying Scientific Knowledge", Knowledge: Creation, Diffusion, Utilization. Sage Publications, Inc. Vol. 1 No. 2, December 1979. pp. 181-201.
- Caplan, Nathan, Andrea Morrison and Russel Stambaugh. The Use of Social Science Knowledge in Policy Decisions at the National Level. Ann Arbor, Michigan: Institute for Social Research. 1975.
- Caplan, Nathan, and Stephen D. Nelson. "Who's to Blame?" Psychology Today, Vol. 8. November, 1974. pp) 94-104.
- Chinitz, Benjamin, "The management of Federal Expenditures for Researching Social Problems," in The Use and Abuse of Social Science. ed. Horowitz. 1971. pp. 185-199.
- Clark, B. Kenneth, "Education of the Minority Poor: The Key to the War on Poverty," in The Disadvantaged Poor: Education and Employment. Third Report of the Task Force on Economic Growth and Opportunity. Chamber of Commerce of the U.S.: 1966.
- Cohen, David K., "Politics and Research: The Evaluation of Social Action Programs in Education," Review of Educational Research, April, 1970.
- Cohen, David K., and Charles E. Lindblom, "Solving Problems of Bureaucracy", in Making Bureaucracies Work, ed. Weiss, Barton; pp. 125-138.
- Cohen, David K., "Politics and Research: the Evaluation of Social Action Programs in Education", Review of Educational Research, April, 1970.
- Cohen, Michael, J. March and John Olsen, "A Garbage Can Model of Organizational Choice," Administrative Science Quarterly. Vol. 17, 1972.
- Cole, Jonathan R. and Stephen Cole, "The Reward System of the social Sciences," in Frankel (ed) Controversies and Decisions: The Social Sciences and Public Policy. New York; Russel Sage Foundation. 1976.
- Coleman, James S.; et al. Equality of Educational Opportunity. Government Printing Office: Washington, D.C.: 1966.
- Coleman, James S., "The Structure of Society and the Nature of Social Research", Knowledge: Creation, Diffusion, Utilization. Sage Publications Inc., Vol. 1 No. 3, March, 1980. pp. 33-350.
- Connor, Ross F., "Utilization-Focused Evaluation," Knowledge: Creation, Diffusion, Utilization, Michael Quinn Patton (Beverly Hills: Sage Publication 1978) Vol. 1 No. 4, 304 pp.
- Cook, Thomas D., Judith Levinson-Rose, and William Pollard, "The Misutilization of Evaluation Research", Knowledge, Creation, Diffusion Utilization, Vol. 1, No. 4 June 1980, pp. 477-498.
- Datta, Louis-Ellin, and Robert Perloff (Eds.) "Improving Evaluations", in Educational Evaluation and Policy Analysis, Vol. 2, No. 3, May-June 1980, pp. 93-94.

- Davidson, Steve, Medicaid Decision Making (Stanford: IFG, 1980).
- DeLeon, Peter, "A Theory of Policy Termination", The Policy Cycle, ed. May and Wildavsky, Sage Publications, Inc., Vol. 5, 1978, pp. 279-300.
- Deshpande, Rohit, "The Use, Nonuse, and Abuse of Social Science Knowledge", Knowledge: Creation, Diffusion, Utilization, Sage Publications Inc., Vol. 1, No. 1, September 1979, pp. 164-176.
- Downs, George W. Jr., Bureaucracy, Innovation and Public Policy, Lexington Books, Lexington, Mass., 1976.
- Dreyfus, Daniel A., "The Limitations of Policy Research in Congressional Decision Making." In Weiss (ed.) Using Social Research in Public Policy Making, Boston: Lexington Books, 1977.
- Dror, Yehexkel, "Applied Social Science and Systems Analysis in The Use and Abuse of Social Science. (ed) Horowitz, New Brunswick: Transaction Books, 1971, pp. 68-87.
- Dunn, William N., "The Two-Communities Metaphor and Models of Knowledge Use", Knowledge: Creation, Diffusion, Utilization, Vol. 1, No. 4, June 1980, pp. 515-536.
- Edelman, Murray, The Symbolic Uses of Politics. Chicago: University of Illinois Press. 1977.
- The Evaluation of Social Programs. Edited by Abt, Clark C., Sage Publications, Inc. (Beverly Hills) 1976.
- Feller, Irwin, "Three Coigns on Diffusion Research", Knowledge: Creation Diffusion, Utilization, Sage Publications, Inc., Vol. 1, No. 2, December 1979.
- Florio, David, "The Impact of "ED" on Educational Research", in Educational Evaluation and Policy Analysis, Vol. 2, No. 5, September-October 1980, pp. 83-89.
- Florio, David H., Michael M. Behrmann, and Diane K. Goltz, "What Do Policy Makers Think of Educational Research & Evaluation? Or Do They?" Washington Perspective, pp. 61-87.
- Frankel, Charles, Ed. Controversies and Decisions, The Social Sciences and Public Policy. New York: Russell Sage Foundation. 1976.
- Fuhrman, Susan, Legislative Decision-making in Pennsylvania, Draft report of Eagleton Institute. 1980.
- Ganz, Carolé, "Linkage Between Knowledge Creation, Diffusion, and Utilization", Knowledge: Creation, Diffusion, Utilization, Vol. 1, No. 4, June 1980, pp. 591-612.
- Gray, Virginia, "Innovations in the American States," American Political Science Review 67 (December 1973): 1174-1185.

Guthrie, James W., "An Assessment of Educational Policy Research", in Educational Evaluation and Policy Analysis, Vol. 2, No. 5, September-October 1980, pp. 41-56.

Hanoch, Gloria, "An Economic Analysis of Earnings and Schooling." Journal of Human Resources, Vol. 2, (Summer, 1967) pp. 310-29.

Hammond, Kenneth R., Jerry Mumpower, "Formation of Social Policy", Knowledge: Creation, Diffusion, Utilization, Sage Publications, Inc., Vol. 1, No. 2, December 1979. pp. 245-258.

Haviland, H. Field, "Federal-Academic Relations in Social Science Research" in Frankel (ed.) Controversies and Decisions: The Social Sciences and Public Policy. New York: Russell Sage Foundation. 1976.

Holzner, Burkart, Evelyn Fisher, "Knowledge in Use", Knowledge: Creation, Diffusion, Utilization, Sage Publications, Inc., Vol. 1, No. 2, December 1979. pp. 219-244.

Hood, Paul D., Laird Blackwell, "The Educational Information Market Study" Prepared by Far West Laboratory for Educational Research and Development, San Francisco, CA. (October, 1976).

Horowitz, Irving L. (ed.), The Use and Abuse of Social Science, Transaction Books, (New Jersey), 1971.

House, Ernest R., "Evaluation as Persuasion: A Reply to Kelly's Critique", in Educational Evaluation and Policy Analysis, Vol. 2, No. 5, September-October 1980. pp. 39-40.

Isaac, Stephen, "Increasing the Relevance of National Evaluation to School: A School District's Viewpoint", in Educational Evaluation and Policy Analysis, Vol. 2, No. 5, September-October 1980. pp. 80-82.

Jencks, Christopher, et.al. Inequality: A Re-assessment of the Effect of Family and Schooling in America (Basic Books, 1972).

Kaplan, Abraham, The Conduct of Inquiry: Methodology for Behavioral Science, Chandler, Harper & Row Publishers, New York. 1976.

Kelly, Edward F., "Evaluation as Persuasion: A Practical Argument", in Educational Evaluation and Policy Analysis, Vol. 2, No. 5, September-October 1980. pp. 35-38.

Kelly, Rita Mae, and Bruce Frankel, "The Federal Decision to Fund Local Programs: Utilizing Evaluation Research", The Policy Cycle, "ed. May & Wildovsky"? Sage Publications, Inc., Vol. 5, 1978, pp. 237-258.

Kiresuk, Thomas J., "Planned Change and Evaluation", Knowledge: Creation, Diffusion, Utilization, Sage Publications Inc., Vol. 1, No. 3, March 1980. pp. 405-420.

Kirst, Michael W., "Organizations in Shock and Overload: California's Public Schools 1970-1980", Educational Evaluation and Policy Analysis, Vol. 1, No. 4, July/August 1979.

- Kirst, Michael W., "A Tale of Two Networks: The School Finance Reform versus the Spending and Tax Limitation Lobby", Taxing & Spending, Winter, 1980, pp. 43-49.
- Kirst Michael W. and Walter Garms, "The New Politics of State Educational Finance", Policy report of the Institute for Research on Educational Finance and Governance, 1980.
- Kirst, Michael and Walter Garms, "The Demographic, Fiscal and Political Environment of Public School Finance in the 1980's," Stanford, California: The Institute for Research on Educational Finance and Governance, March, 1980.
- Kirst, Michael W., Paul Peterson and Dennis Encarnation, "Policy Issue Networks," Interim report to the National Institute for Education, March, 1981.
- Knott, Jack, Aaron Wildavsky, "If Dissemination Is the Solution, What Is the Problem?" Knowledge: Creation, Diffusion, Utilization, Vol. 1, No. 4, June 1980, pp. 537-578.
- Kramer, Fred, "Policy Analysis as Ideology," Public Administration Review, September/October, 1975, pp. 509-517.
- Larsen, Judith, "Knowledge Utilication", Sage Publications Inc., Knowledge: Creation, Diffusion, Utilization, Vol. 1, No. 3, March 1980, pp. 421-442.
- Lehne, Richard and Alan Rosenthal, "Research Perspectives on State Legislatures and Educational Policy," Preliminary draft, 1/31/80.
- Levin, Henry, Prospects, "Why Isn't Educational Research More Useful?", UNESCO Journal in Education (November, 1977).
- Lindblom, Charles E., and David K. Cohen, Usable Knowledge: Social Science and Social Problem Solving, Yale University Press, (New Haven) Second Edition, 1979.
- Lipet, S.M., and E.C. Ladd, "Politics of Academic Natural Scientists and Engineers," Science 172 (June 72): 1091.
- Lynn, Lawrence, Ed. Knowledge and Policy: The Uncertain Connection, (Washington, DC: National Academy of Sciences, 1978), Vol. 1, No. 4, 183 pp.
- Lynn, Lawrence E., Jr., "Implementation: Will the Hedgehog be Outfoxed?" Policy Analysis, 3 (Spring 1977): 277-280.
- Lynn, Lawrence E., Interview, "Crafting Policy Analysis for Decision Makers" in Educational Evaluation and Policy Analysis, Vol. 2, No. 3, May-June 1980, pp. 85-90.

Machlup, Fritz, "Uses, Value, and Benefits of Knowledge", Knowledge: Creation, Diffusion, Utilization, Sage Publications, Inc., Vol. 1, No. 1, September 1979, pp. 62-81.

MacRae, Duncan, Jr., The Social Function of Social Science, Yale University, 1976.

March, James, Footnotes to Organizational Change, Institute for Research on Educational Finance and Governance, January, 1980.

Markley, O. W., "The Normative Structure of Knowledge Production and Utilization In Education," Prepared for: National Institute of Education Department of Health, Education, and Welfare, Washington, D.C., December, 1975.

May, Judith and Aaron Wildavsky, The Policy Cycle, Sage Publications: Vol. 5, 1978.

Mayhew, Lewis, Legacy of the Eighties, San Francisco; Jossey Bass, 1977.

McGowan, Robert P., Book Review; The Scientific Publication System in Social Science, Duncan Lindsey (San Francisco, Jossey-Bass, Inc., 1978) Knowledge: Creation, Diffusion, Utilization. Sage Publications Inc., Vol. 1, No. 2, December 1979, pp. 321-323.

Meltsner, Arnold J., Policy Analysis in the Bureaucracy, Berkeley: University of California Press, 1976.

Melty, Arnold, "Don't Slight Communication: Some Problems of Analytical Practice", International Institute for Applied Science, SA, 1979.

Merrill, Stephen A., "The Politics of Automobile Passenger Protection: Behavioral Versus Environmental Control", The Policy Cycle, Sage Publications, Inc., Vol. 5, 1978, pp. 89-107.

Meyer, John W., W. Richard Scott, Terrence E. Deal, "Institutional and Technical Sources of Organizational Structures Explaining the Structure of Educational Organizations", prepared for presentation at a conference on Human Service Organizations, Center for Advanced Study in the Behavioral Sciences, Stanford, California, March, 1979.

Meyer, John W., et.al., "Public Education as Nation-Building in America: Enrollments and Bureaucratization in the American States, 1870-1930", American Journal of Sociology, Vol. 85, No. 3, 1979, pp. 591-613.

Meyer, John W., "Institutional Controls over Education: Origins and Effects" Presented to the Thematic Panel on the Sociology of Education annual meetings of the American Sociological Association, Boston, (August, 1979).

Milstein, Mike M., and Robert E. Jennings, "Educational Interest Group Leaders and State Legislators: Perceptions of the Educational Policy-Making Process", Educational Administration Quarterly, 1971, pp. 54-70.

- Mitchell, Douglas E. "Social Science Use in State Legislatures", (Stanford, The Institute for Research on Educational Finance and Governance, project report, 1980).
- Mitroff, Ian I., Donna D. Mitroff, "Interpersonal Communication for Knowledge Utilization" Knowledge: Creation, Diffusion, Utilization, Sage Publications Inc., Vol. 1, No. 2, December 1979, pp. 203-217.
- Moskowitz, Eric S., "Neighborhood Preservation: An Analysis of Policy Maps and Policy Options", The Policy Cycle, Sage Publications Inc., Vol. 5, 1978, pp. 65-87.
- Murphy, Jerome T., State Leadership in Education: On Being a Chief State School Officer, The George Washington University, 1980.
- Murphy, Jerome T.; "The State Role in Education: Past Research and Future Direct Directions", prepared by the Legal and Governmental Studies Team, Program on Educational Policy and Organization, National Institute of Education, January, 1980.
- Nantchez, Peter B., and Irvin C. Bupp, "Policy and Priority in the Budgetary Process", The American Political Science Review, Vol. 67, pp. 951-963.
- National Research Council, The Federal Investment in Knowledge of Social Problems, Study Project on Social Research and Development; Vol. 1, Study Project Report, National Academy of Sciences, Washington, D.C. 1978.
- Nelkin, Dorothy, "Scientific Knowledge, Public Policy, and Democracy", Knowledge: Creation, Diffusion, Utilization, Sage Publications Inc., Vol. 1, No. 1, September 1979, pp. 106-122.
- Nelson, Barbara J., "Setting the Public Agenda: The Case of Child Abuse", The Policy Cycle, Sage Publications, Inc., Vol. 5, 1978, pp. 17-41.
- Odden, Allan, "State and Federal Pressures for Equity and Efficiency in Education Financing", Prepared for the National Symposium on Efficiency and Equity in Educational Finance, (May, 1979).
- Odden, Allan, School Finance Reform in the States: 1980. Denver, Colorado. Education Commission of the States. April, 1980.
- Paisley, William, and Mary Kathryn Cirksena, Matilda Butler, "Conceptualization of Information Equity Issues in Education". Far West Laboratory, February 14, 1979.
- Patton, Michael Q., et al. "In Search of Impact: an Analysis of the Utilization of Federal Health Evaluation Research", in Using Social Research in Public Policy Making, Weiss edit. Lexington books: Lexington, Mass. 1977.

- Plumlee, John P., and Kenneth J. Meier, "Capture and Rigidity in Regulator Administration: An Empirical Assessment", The Policy Cycle, edit. May & Wildavsky, Sage Publications Inc., Vol. 5, 1978, pp. 215-234.
- Raizen, Senta A., "Dissemination Programs at the National Institute of Education" in Knowledge: Creation, Diffusion, Utilization. Sage Publications Inc., Vol. 1, No. 2, December, 1979, pp. 259-292.
- Rein, Martin and Sheldon White, "Can Policy Research Help Policy?" The Public Interest 49 (Fall 1977): 119-136.
- Rein, Martin and Sheldon White, "Policy Research: Belief and Doubt", Social Science and Public Policy. New York: Penguin. 1976.
- Ricciuti, James R., "Governmental Use of Policy and Evaluation Research." Draft. Duke University, September 1980.
- Rice, Ronald E., Everett M. Rogers, "Reinvention in the Innovation Process", Knowledge: Creation, Diffusion, Utilization, Vol. 1, No. 4, June, 1980, pp. 499-514.
- Rich, Robert F., "The Pursuit of Knowledge", Knowledge: Creation, Diffusion, Utilization, Sage Publications, Vol. 1, No. 1, September 1979, pp. 6-30.
- Roessler, Richard T., "Impact of Social Programs", Knowledge: Creation, Diffusion, Utilization, Vol. 1, No. 4, June 1980, pp. 579-590.
- Rogers, E., "Re-invention during the innovation process," in M. Radnor, I. Feller, and E. Rogers eds. The Diffusion of Innovations: An Assessment. Evanston, IL: Northwestern University. 1978.
- Rogers, Everett M., and Janet M. Peck, Joung-Im Kim, "The Diffusion of Innovations in Public Organizations", for Stanford University, January 1979.
- Rose, Richard, "Disciplined Research and Undisciplined Problems" in Weiss, Using Social Research in Public Policy Making, Lexington Books, 1977.
- Rosenbaum, Allan, "Social Networks as a Political Resource: Some Insights Drawn From the Community Organizational and Community Action Experiences", prepared for Network Development Staff, School Capacity for Problem Solving Group, National Institute of Education, March, 1977.
- Rosenbaum, Nelson, "Growth and Its Discontents: Origins of Local Population Controls", The Policy Cycle, Sage Publication Inc., Vol. 5, 1978, pp. 43-61.
- Rosenthal, Alan and Susan Fuhrman, "Legislative Education Staffing in the States," Presented at American Education Finance Association, San Diego, March 16-18, 1980.

- Rothman, Jack, Using Research in Organizations: A Guide to Successful Application. Beverly Hills: Sage Publications, Vol. 101, 1980.
- Saar, Shalom Saada, "Evaluating Education Programs", in Educational Evaluation and Policy Analysis, Vol. 2, No. 3, May-June 1980, pp 63-72.
- Schorr, Alvin, "Public Policy and Private Interest" in Horowitz, The Use and Abuse of Social Science. New Brunswick, NJ: Transaction Books, 1971.
- Shils, Edward, "Legitimizing the Social Sciences: Meeting the Challenges to Objectivity and Integrity." in Frankel (ed.) Controversies and Decisions.
- Shumavon, Douglas H., "Use of Evaluations in Aid: The Influence of Roles and Perceptions", The Policy Cycle, May & Wildavsky (ed.) Sage Publications Inc., Vol. 5, 1978, pp. 259-276.
- Smith, Nick L., "Evaluation Utility and Client Involvement in Accreditation Studies", in Educational Evaluation and Policy Analysis, Vol. 2, No. 5, September-October 1980, pp. 57-66.
- Social Theory and Social Invention. Edited by Stein Herman D., The Press of Case Western Reserve University, (Cleveland) 1968.
- Steinbruner, John, Toward a Cybernetic Theory of Decision-Making.
- Study Project on Social Research and Development: The Federal Investment in Knowledge of Social Problems. National Research Council for the National Science Foundation, Washington, D.C. 1978.
- Turnbull, Brenda J., "Program Consolidated at the Federal Level: An Answer to Problems in Federal Aid?", presented at the Annual Meeting of the American Education Research Association, Boston, Massachusetts, April, 1980.
- Tyack, David, Michael Kirst and Elizabeth Hansot, "Educational Reform: Retrospect and Prospect". Stanford, California: The Institute For Research on Educational Finance and Governance. September, 1979.
- Ulassi Pio, "Government Sponsored Research on International and Foreign Affairs". in Horowitz. The Use and Abuse of Social Science Research, New Brunswick: Transaction Books, 1971, pp. 30-42.
- Useem, Michael, "State Production of Social Knowledge" American Sociological Review 41: No. 4, (1976) pp. 613-629.
- Walker, Jack L., "The Diffusion of Knowledge, Policy Communities and Agenda Setting: The Relationship of Knowledge and Power." In Strategic Horizons of Social Policy, eds. John E. Tropman, Milar Dluhy, and Roger Lind, (1980).
- Walker, Jack, "The Diffusion of Innovations Among the American States," American Political Science Review 63 (September 1969): 867-879.

- Weick, Karl E., Administrative Science Quarterly, "Educational Organizations as Loosely Coupled Systems", Vol. 21, (March 1976).
- Weinstein, Jay, Book Review; The Dialectic of Ideology and Technology, The Origins, Frammar and Future of Ideology. Alvin W. Grouldner (New York: The Seabury Press, 1976) Knowledge: Creation, Diffusion, Utilization, Sage Publications Inc., Vol. 1, No. 2, December 1979, pp. 325-328.
- Weiss, Carol H., "Conceptual Issues in Measuring the Utilization of Research and Evaluation", Draft, 1980.
- Weiss, Carol H., Evaluating Action Programs: Reading in Social Action and Education, Allyn and Bacon Inc., (Boston), April, 1977.
- Weiss, Carol, Evaluation Research: Methods of Assessing Program Effectiveness. Prentice-Hall Inc.: New Jersey, 1972.
- Weiss, Carol H., "Improving the Linkage Between Social Research and Public Policy", Knowledge and Policy: The Uncertain Connection. Vol. 5, 1974, pp. 23-81.
- Weiss, Carol H., "Knowledge Creep and Decision Accretion", Knowledge: Creation, Diffusion, Utilization, Vol. 1, No. 3, (1980).
- Weiss, Carol, "The Many Meanings of Research Utilization", in Public Administration Review, September-October, 1979, pp. 426-431.
- Weiss, Carol, "Three Terms in Search of Reconceptualization: Knowledge, Utilization, and Decision-Making", prepared for Conference on Political Realization of Social Science Knowledge: Toward New Scenarios. Vienna, Austria, June, 1980.
- Weiss, Carol H., "Truth Tests and Utility Tests: Decision-Makers' Games of Reference for Social Science Research", Draft, 1980.
- _____. Using Social Research in Public Policy Making. Lexington, Mass.: Lexington Books, 1977.
- Wildavsky, Aaron, Speaking Truth to Power: The Art and Craft of Policy Analysis, Little, Brown & Company (Boston), 1979.
- Williams, Walter, "Implementation Analysis and Assessment," Policy Analysis 1 (Summer 1975): 531-566.
- Van Meter, Donald, and Carl Van Horn, "The Policy Implementation Process: A Conceptual Framework," Administration and Society 6 (February 1975): 445-488.
- Yarmolinsky, Adam, "How Good was the answer? How Good Was the Question?: In Frankel (ed.) Controversities and Decisions.
- Yin, Robert K., "Decentralization of Government Agencies" in Making Bureacracies Work, ed. Weiss, Barton, pp. 113-124.

Zaltman, Gerald, Knowledge: Creation, Diffusion, Utilization,
"Knowledge Utilization as Planned Social Change", Sage Publications
Inc.; Vol. 1, No. 1, September 1979, pp. 82-105.

Zaltman, G. R. Duncan and J. Holbek, Innovations and Organizations,
New York, John Wiley, 1973.

Zollschan, G. K. et al. Ed. Explorations in Social Change. Boston:
Houghton, 1964.

References

- Allen, Thomas J., Managing the Flow of Technology: Technology Transfer and the Dissemination of Technological Information Within the R and D Organization. Cambridge, Mass.: MIT Press, 1977.
- Bardach, Eugene, "Subformal Warning Systems in the Species Homo Politicus," Policy Sciences, Vol. 5 (1974), pp. 415-431.
- Berman, Paul and Milbrey Wallin McLaughlin, Federal Program Supporting Educational Change. Rand Corporation (R-1589), April 1977.
- Capital Systems Group, Improving the Dissemination of Scientific and Technical Information: a Practitioner's Guide to Innovation. NTIS #PB24.05, 1975.
- Caplan, Nathan, "Factors Associated With Knowledge Use Among Federal Executives," Policy Studies Journal, Vol. 4, No. 3 (Spring 1976), pp. 229-234.
- Davis, Howard R. and Susan E. Salasim, "Strengthening the Contribution of Social R and D to Policy Making" in Laurence E. Lynn, Jr., ed., Knowledge and Policy: the Uncertain Connection. Washington, D.C.: National Academy of Sciences, 1978, pp. 93-125.
- Doctors, Samuel I., The Role of Federal Agencies in Technology Transfer. Cambridge, Mass.: MIT Press, 1969.
- Feldman, Martha S. and James G. March, "Information in Organizations As Signal and Symbol," paper presented at the 1980 meetings of the Western Political Science Association, San Francisco.
- Freeman, James E. and Ruth M. Katz, "Information Marketing," Annual Review of Information Science and Technology, Vol. 13, 1978, pp. 37-59.
- Garvey, William D., Nan Lin, and Carnot E. Nelson, "Some Comparisons of Communication Activities in the Physical and Social Sciences," in Carnot E. Nelson and Donald K. Pollock, eds., Communication Among Scientists and Engineers, Lexington, Mass.: D.C. Heath, 1970, pp. 61-84.
- Havelock, Ronald G., Planning for Innovation Through Dissemination and Utilization of Knowledge. Institute for Social Research, University of Michigan, 1971.
- Hirschleifer, Jack, "Where Are We in the Theory of Information?" American Economic Review, Vol. 53, No. 2 (May 1973); pp. 31-39.
- Holmes, Manford, "The Linkage Between Research and Practice: The Case of the DTA Project," Paper presented at the 1977 AERA meetings.
- Knott, Jack and Aaron Wildavsky, "If Dissemination Is the Solution, What is the Problem?" draft manuscript, July 1979.

- Kotler, Philip, Marketing for Nonprofit Organizations. Englewood Cliffs, NJ: Prentice-Hall, 1975.
- Moore, Donald R., "Report From the Belmont Task Force on Linker Roels," in Far West Laboratory, Dissemination and the Improvement Process, San Francisco, November 1979, pp. 17-28.
- NTS Research Corporation, "Intelligence for Dissemination Service Capacity: a Conceptual Framework," Durham, N.C., 1978.
- O'Hare, Michael, "Information Management and Public Choice," draft manuscript, December 1979.
- Panel for the Review of Laboratory and Center Operations, "Research and Development Centers and Regional Educational Laboratories: Strengthening and Stabilizing a National Resources," (Final Report), January 1979.
- Raizen, Senta A., "The Impact of Federal Dissemination Policy," Paper presented at the 1977 AERA meetings.
- Rich, Robert R., "Use of Social Science Information by Federal Bureaucrats: Knowledge for Action Versus Knowledge for Understanding," in Carol Weiss, ed., Uses of Social Research in Policy Making. Lexington, Mass.: D.C. Heath, 1977, pp. 199-211.
- Rogers, Everett M. and F. Floyd Shoemaker, Communication of Innovations: A Cross Cultural Approach. New York: Free Press, 1971.
- Rosenau, Fred S., "Knots in the Network of Information Sources About Education," Educational Leadership, February 1980, pp. 426-432.
- Rosenbloom, Richard S. and Francis W. Wolek, Technology and Information Transfer: A Survey of Practice in Industrial Organizations. Cambridge, Mass: Harvard Business School, 1977.
- Sherwood, Larry, "Implementing an Inter-Collegiate Library Network," unpublished graduate seminar paper, University of California, Berkeley, 1980.
- Spence, A Michael, "An Economist's View of Information," Annual Review of Information Science and Technology, Vol. 9 (1974) pp. 57-78.
- Stanford Research Institute (SRI), "Evaluation of the National Diffusion Network," Final Report (3 Volumes), May 1977.
- von Hippel, Eric, "The Dominant Role of Users in the Scientific Instrument Innovation Process," Research Policy, Vol. 5, No. 3 (July 1976), pp. 212-239.
- Weiss, Carol H., "Improving the Linkage Between Social Research Public Policy," in Larence E. Lynn, Jr., ed., Knowledge and Policy: the Uncertain Connection. Washington, D.C.: National Academy of Sciences, 1978, pp. 23-81.
- _____, "Knowledge Creep and Decision Accretion," Knowledge, Vol. 1, No. 3, 1980.

II. THE DISSEMINATION OF EDUCATIONAL POLICY RESEARCH FOR POLICY-MAKERS

By Eugene Bardach

I take as my starting point the fact that much educational policy research actually does reach a great many educational policy makers in some form, and it reaches them in time for them to do something useful with it (Knott and Wildavsky, 1979). The question I attempt to answer in this paper is, How does this process work? I also try to suggest, at various points in the analysis, what makes the process work relatively well. Implicitly, therefore, it contains recommendations as to how to improve it.

My model of how the dissemination process works begins with an assumption of individual rationality: research, or its derivatives like "policy arguments," reaches those persons for whom the utility of having it exceeds the disutility of obtaining it. My next step is to model the situations in which potential "consumers" find themselves that affect these utilitarian calculations. At this point I stress the overwhelming importance of the organizational and political context of policy-makers. My next step is to model the cooperative relationship that grows up between consumers and producers when producers try to reduce the costs to consumers of obtaining information. On this point I stress the significance of a variety of "storage-and-retrieval" systems.

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I then discuss the question of who compensates whom for the costs that are in fact incurred, and suggest certain problems in thinking about the overall allocation of costs to different parties. Finally, I turn to the way in which bureaucratic and professional influences might interfere with the optimal dissemination and use of research, but speculate that in fact they are not too important.

The Overwhelming Importance of Context

When Watson and Crick finally figured out how DNA molecules were constructed, it took no more than a few weeks for most of the leading scientists in the field to learn of their discovery. Word-of-mouth and speedy publication in a prestigious and widely disseminated scientific journal did the job. While it is unlikely that many social scientists, especially in the education field, fancy that they have come up with anything like the double helix, the rapid dissemination of information seemingly characteristic of the natural sciences stands, in the eyes of many observers, as the implicit model of how things ought to be in social and policy research as well (Garvey, Lin, and Nelson, 1970; Havelock, 1971). The natural sciences model of rapid dissemination assumes that:

- there is reliable and illuminating "knowledge" to be transmitted;
- there is a real "demand," on the part of other members of the scientific community at least, for this knowledge;
- communication is and ought to occur in self-contained and essentially one-way presentations, like newsletters, journal articles, or formally presented papers.

This model is inappropriate, however, to the social sciences in general and to educational research in particular. It is also inappropriate for the professionals who are the "craftsmen" analogues to natural scientists or social scientists, that is, engineers in the case of the former and social program managers in the case of the latter. Table 1 displays the two dimensions of difference. Across the columns we see that the "penetration" of the social sciences is shallower than that of the natural sciences; down the rows we see that the relevant knowledge of the practicing "craftsman" is much more context-dependent than it is for the more "basic" researcher. Both sets of differences imply that the rapid dissemination model borrowed from the natural sciences must be used with extreme care in searching for ways to improve the dissemination process in educational policy research.

(Insert Table 1 here)

By "shallow penetration" I mean that the social sciences manage only with difficulty to get much below the surface of the phenomena they study. For the most part, good theory in the social sciences merely (!) looks like an elaborate and insightful rendering of "common sense," and good empirical generalizations look like confirmations of conventional beliefs about the way things are. Many practitioners in the world of policy-making and program-management correctly believe that the (useable) knowledge gap between themselves and social scientific researchers is not particularly large and that it does not necessarily always favor the social scientists anyway. It is not surprising, therefore, that the "demand" for the latest social scientific "knowledge" on the part of educationists is not particularly brisk.

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Table I

"Knowledge" Comes in Several Varieties

"Knowledge"
independent
of context?

Penetrating Insights?
Deep Shallow

Independent

Natural sciences	Mathematical and physiological branches of the social sciences
------------------	---

Moderately
Dependent

Much applied science and engineering	Most social science
--	------------------------

Very
Dependent

Much engineer- ing	Knowledge for policy-making
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Probably even more important is the matter of context-dependency. Policymaking is a "craft," and like all crafts it depends simultaneously on the knowledge of general principles and on the feeling for particular materials and circumstances, that is, the "context." To oversimplify somewhat, in the case of education policy-makers confronting an education finance problem, to take a concrete example, general principles can be relied upon to analyze the relationship between revenues and various combinations of tax rates, tax bases, and grant-in-aid formulas; but contextual knowledge is necessary to estimate which are the two or three combinations that make economic sense, are politically feasible in the present political environment, and are administratively workable given the present relations between various levels of government and given the personnel and equipment in place. I do not, of course, mean by this example to limit the idea of contextual knowledge to the few variables indicated here. The list is much longer. At any rate, the importance of the contextual component of the policy-making craft generally, far exceeds that of the general principles component -- at least in the day-to-day experience of policy practitioners. No doubt there are particular moments and particular decisions, often of great significance, when contextual variables recede and general principles do, or perhaps should, take over. But these occasions, representing major redirections of policy programming, are few and far between. And even they require a pretty fair sensitivity to contextual issues if intelligent policies are to be fashioned.

Impressive evidence of the importance of contextual variables to the "craftsmen" of the physical sciences comes from studies of engineers by T.J. Allen and his associates at MIT over a period of years (Allen, 1977). They found that very few working engineers read the journals of the professional engineering societies, which were so heavily mathematical as to be "utterly incomprehensible to the average engineer." Nor did they use the company library frequently -- and those who did use it did so because it was physically proximate to their own work spaces. On the contrary, the staff of life that supported the average working engineer in his search for relevant task information was consultation with other engineers within his company. Communications tended to be informal and to center largely on personnel who were "proximate" in some organizational as well as physical sense, like first-line supervisors and peers in the same laboratory. The principal vehicle for transmitting information in written form was the "unpublished report," which usually originated within the organization where the engineer was employed. The common communication channels were the normal documents routing procedures of the organization and the informal network of consultative contacts, e.g., "when the recipient inadvertently saw it in a colleague's possession . . . In this way, a single report very likely reaches a fairly large audience in a very short period of time." In short, the information environment of the working engineer is dominated by the particular organization in which he participates.

Why this should be so is open to considerable interpretation. I doubt it is because engineers are disposed by personality to narrow their horizons or stick close to their workbenches. Perhaps it has

more to do with the proprietary nature of much of their work: there are many legal and normative barriers to transmitting information to "outsiders," and engineers who work on similar problems but for different companies do not circulate their own ideas and data freely to one another. I would speculate that it also has a lot to do with the kinds of problems engineers work on in large organizations (von Hippel, 1976). They work on problems that their particular organization is likely both to be able to solve and to profit from solving. These parameters are "contextual," in the sense in which I used the word above.

The behavior of working engineers contrasts sharply with that of research scientists, who are much freer of contextual parameters. According to a study by Rosenbloom and Wolek (1970) of 1900 scientists and engineers in 13 establishments of four large corporations and 1200 members of the professional society of electrical and electronics engineers, scientists were much more likely than engineers to read journals and to go outside of their organizations for information. The differences were very large and emerged in every subsample analyzed.

Within the education field, it appears that the diffusion of classroom-level and school-level innovations follows the craft pattern rather than the scientific patterns, as we indeed ought to expect. The well-known RAND Corporation study by Berman and McLaughlin (1977) emphasized above all the "adaptation" of the concept or technique or idea being "diffused" to local needs by local teachers. In many cases local people even "reinvented" the concept in order to deepen their sense of "ownership." The history of attempts by USOE and subsequently NIE to diffuse new "R and D" has been characterized by a drift away

from the natural sciences model to a more "naturalistic" model, one in which the context of user needs and perception is given more analytical weight in the design of the diffusion program and therefore more of a role in its operation. The National Diffusion Network (NDN), for example, represented a sort of grass roots effort to reclaim "innovation" as something towards which local interests were not only sympathetic but were talented at promoting. The NDN has been characterized as an alternative to "the engineering approach" of the education Labs and Centers, in which approach the creative impulse supposedly emanates from a central source and, if successful, moves out to the periphery (Panel, 1977). (The "engineering approach" is somewhat of a misnomer here because engineers, as we have seen, do not in fact approach their work in the sort of deductive way that this simple-minded diffusion model seems to postulate.)

The SRI evaluation study of the NDN found that interpersonal communication was critical in getting the success of the program (Stanford Research Institute, 1977). Although the SRI analysts do not say so directly, it appears from their account that the NDN operatives, particularly the so-called "linkers" who specialized in bringing together the developers of innovations and the ultimate users, expended enormous energy on "contextualizing" the innovations, that is, helping potential users to understand how an idea developed elsewhere could be made to work effectively in their own setting.

A final point about the contextualizing of information pertains to the special character of information relevant to policy-makers. The craft element of policy-making is even more pronounced than it is in classroom teaching. A policy problem shows up with many diverse facets, and a realistic approach to it must be similarly multi-faceted.

The design of such an approach entails specific attention to each of the component elements so that they form a coherent whole; and this design problem is complicated by the fact that "eccentric" or "odd" solutions to any specific element of the problem can spill over into solutions to the other elements. For example, a district-wide plan to target custodial services to the schools most plagued by vandalism might run afoul of any one of (at least) the following problems: (1) increased vandalism in at least some of the schools in which services were decreased, (2) labor contracts restricting the reassignment of custodial personnel, (3) a particularly strong and vocal principal mobilizing a parents' group to oppose the change, (4) a corollary misallocation of custodial services away from sites where basic maintenance was high priority (but vandalism was less important). The effect of problems like these on policy-formulation might be to force a seemingly ad hoc arrangement that would take care of some serious vandalism problems but not others, an arrangement for which most administrators would be unable to offer a simple and clear-cut policy rationale. By implication, no social scientifically grounded journal article that had recommended a consistent policy of resource allocation based on rational principles could have furnished more than a back-drop against which decision-makers could illuminate the départurés from sound principles that they were forced to make.

The value of social scientific "knowledge" as a backdrop to what a craft-connected "appreciation" of context ultimately requires should not be underestimated. It is gradually becoming understood that social scientific "knowledge" does not usually penetrate the mind of another social scientist in the same direct way as new knowledge about

the structure of DNA might enter the mind of a natural scientist, and that movement of such knowledge through the community of policy practitioners is even more indirect. Carol Weiss has written persuasively about "knowledge creep" and the "enlightenment" value of social scientific research in this connection (1979; 1980). No doubt there are many ways for such "enlightenment" to occur, but I would speculate that an extremely important way involves the tension between the principles that govern a concrete decision and the principles which have their source in "knowledge" as well as in personality and experience that the decision-maker thinks are valid in general. Enlightenment is not necessarily a one-way street, therefore, for the tension moves one's understanding in two directions: "knowledge" is a useful backdrop for illuminating the good and the bad facets of the concrete situation, but ~~concrete situations~~ are useful for clarifying the contours and shadows on the backdrop of "knowledge." As a Gestalt psychologist might put it, there is no figure without ground and no ground without figure.

Just as policy-making is dependent on political and organizational context, so is policy learning, whether of the "enlightenment" or of any other type. The relevant context is what Bayesian decision analysts call the "prior distribution" of expectations about what actions are likely to have what effects and of attitudes about what outcomes are more (or less) desirable. Normally we would imagine that the alterations in this mental set produced by a specific piece of information would be relatively minor, given the remarkable stability of most people's mental sets and the exceptional stability of such mental sets in policy-level individuals whose occupation virtually requires high attitudinal and cognitive stability. At any rate, once one understands

that new "knowledge" serves mainly to shift a policy-maker's disposition or "bias" in a certain way, one enriches one's idea of the relevant context in which decisions are "made": the context includes the decision-maker's own "prior" attitudes and beliefs. How new "knowledge" is received and extrapolated into policy depends, therefore, to an important extent on how well (or badly) old knowledge has been performing the same functions.

Having said all this, it perhaps ought to be emphasized that the usual error made by social scientists is to overstate the potential importance of "knowledge," whether creeping or otherwise. Not even the deepest and truest knowledge can be of value if there is no freedom to use it. But typically the policymaker is more of a "shaper" than a "decider." Actions are taken that shape and reshape an ongoing flow of events, but only infrequently are they sufficiently large and fundamental so that we may appropriately think of them as "decisions." To put the matter a little differently, the policy-maker typically attempts to modify conditions that are for the most part outside of his or her control; for the policy-maker the imperatives represented by these conditions are the basic "decision" within which his or her own actions take place and therefore their critically important context. But social scientific research that is potentially relevant to policy typically addresses questions that call for basic decisions rather than for merely incremental changes. To be of use in most policy-making, therefore, such research needs to be extrapolated or interpolated. (It is often said that the process of moving from the conclusions of basic research to policy is one of drawing out "implications.")

But the word "implication" is inappropriate to the extent that it suggests that all the pertinent empirical information is embedded in the original research and that the relationship to policy applications is merely one of logical deduction. Actually, however, new, contextual, information is always required in combination with social scientific information or "knowledge" in order to arrive at a reasonable policy conclusion. Hence I prefer to speak of extrapolating and interpolating, as opposed to "implying.") An illuminating account of self-confessed naivete on this point is that by Howard R. Davis and Susan E. Salasim (1978) concerning their rebuff at the hands of a county commissioner of welfare whom they had urged to adopt a policy of preparing aftercare plans for state hospital patients being released to community care. The advocates were fully equipped with studies purporting to show that aftercare planning could substantially reduce rehospitalization rates. The commissioner, however, was not impressed. Perhaps the rates could be reduced, he allowed, but there were also eight good reasons, ranging from personnel constraints to inter-organizational diplomatic relations, why the policy could not be adopted. Having acknowledged their own naivete about these difficulties of policy design and implementation as they emerge in real political and organizational settings, Davis and Salasim caution other social researchers not to make the same error.

If the value of knowledge depends in large part on the freedom to use it, it is also true that the boundaries of the realm of freedom depend in some measure on the power of knowledge to push them outward. Knowledge in a political context is rarely treated with deference to its intrinsic worth but is often treated with the respect due to an

instrument of power and influence. In a political context knowledge is nothing more nor less than an argument. And arguments can be used to open the way to policy change. The commissioner of welfare may not have been impressed by the Davis-Salasim arguments the first time around, but eventually he might have been moved to pay some homage to them. And when that would occur, no doubt he would use the same arguments that had moved him to try to move others in his direction.

In this section, I have argued that social scientific research is transformed into relevant information for the purposes of policy-making only through a rather indirect and complicated process: (1) as "knowledge", it does not illuminate any particular problems unless it is supplemented by knowledge of the particular context in which the problem exists; (2) as a source of practical guidance, it is probably more useful as a backdrop that helps to illuminate the many ways in which a particular problem is a constellation of exceptions to certain general principles as well as being exemplary of others; (3) as a source of inspiration to a given policy-maker, it usually acts by means of slow and incremental modifications in underlying sets of attitudes and beliefs; (4) as an influence on policy-making it must compete with influences born of interest and bureaucratic or political momentum. All this implies that any given bit of "pure" social scientific knowledge, so to speak, will:

- probably be of no value to most policy-makers.
- probably be of some value to a few policy-makers.
- probably acquire its value only through the process of contextualization in specific organizational settings and political debates.

-- probably come to be perceived, during the process of contextualization, not as "social science" but as a policy argument, and will be disseminated as such.

-- be disseminated intermittently, contingent on the development of situations in which political actors experience a need either to use the argument or to defend themselves against it.

The intermittency of the demand for various social scientifically grounded arguments, either on the part of specific individuals or of policy-making communities more broadly, suggests the need for some sort of storage-and-retrieval capability that links knowledge producers and knowledge users both across a variety of issue areas (and sub-areas) and across time. We now turn to examining how such a capability should look ideally and to how it has evolved in fact.

Storage and Retrieval

For many purposes it is useful to think of "arguments" as information and to think of "information" as an economic good for which there is a supply and demand (Hirschleifer, 1973; Spence 1974). Having said this, it is necessary to emphasize one (of several) oddities about information construed as such a good: consuming it entails a cost, mainly in time. This leads to a dilemma: in advance of consuming information one cannot know how valuable it will prove to be, but uncertainty about its value may lead a consumer who potentially would benefit to eschew in the first place the certain costs of consuming it. Given this condition, we would expect the consumption of information to be non-optimal, with people consuming either too much or too little.

This pervasive condition is aggravated in the case of policy-relevant arguments by the degree to which its value is so overwhelmingly context-dependent. We have seen how necessarily "weak" is the relevance of policy research in general to concrete policies in particular, which weakness makes the value of the "average" piece of information quite low relative to the cost of consumption. It is hardly surprising, therefore, that most policy practitioners turn up their noses at "academic" social scientific research. To be sure, there are other problems with such research; but even if these were all eliminated, the normal benefit-cost calculation would be unfavorable from the practitioner's point of view.

Indeed, what is surprising is that there is as much market for policy research among practitioners as there appears to be. I believe this can be explained in two ways. First, a sizeable minority of policy-makers are concerned not about the "argument value" of "average" information, which they would acknowledge is low, but about the unusually high value of certain occasional pieces. If once a month or three times a year; let us say, a piece of new information turns up that exerts a significant influence on the policy-maker's prior set of attitudes and beliefs -- either to reinforce or to alter certain of its elements -- this may justify whatever costs are entailed in monitoring the larger, and routinely more disappointing, flow of information. Secondly, the costs of consuming information can vary a great deal among different institutional positions, so that some people may be able to reduce these costs to the point that they become quite affordable.

Now, an interesting feature of these cost-reducing mechanisms is that they are to a large degree encouraged and facilitated by the suppliers of information (quite independently of what they do to reduce the costs of producing the information in the first place). This occurs because it is in the interest of suppliers to have their product consumed and they recognize that without the implicit subsidy they might furnish to potential "customer" there will be no effective demand for their wares at all. It is certainly pertinent in this regard that most of the concern with improving the dissemination of publicly funded research in education as well as in other fields arises from the agencies on the supply side rather than on the demand side (Doctors, 1969, Kotler, 1975; Freeman and Katz, 1978).

Analogously to potential information consumers who cannot be sure that it is worth their while to absorb any given piece of information, information producers cannot be certain to which potential consumers they should target their communications or otherwise manage to assist. There are two principal reasons for this. One is that information producers cannot easily figure out what would be relevant to a policy-maker who is bound, as we have said, to interpret any and all information in a particular context which even he himself cannot be entirely conscious of. (See, for instance, Capital Systems Group, 1975, Sections II.3. and II.3.2). Of course, it is entirely possible that in many cases the producer can know about the aggregate of particularistic context and can appraise the information needs of people who function in these contexts better than they can themselves -- much as an industrial safety consultant can know more about the characteristic

safety problems of certain kinds of manufacturing processes than do the workers and managers who have dealt with a particular installation for many years. (In fact, it is precisely this sort of practical knowledge that makes dissemination strategies executed by producers plausible in any degree whatsoever.) Yet there are important limits on the kind of practical knowledge that permits this, mainly the fact that contexts are always changing. The problem of equalizing per capita pupil expenditures across districts, for instance, changes as the main source revenues for school districts shifts more and more to the state treasury and as shrinking enrollments make the dynamic aspects of the equity issue politically more salient. To take another example, teacher union influence waxes and wanes depending on many circumstances, as does pressure, say, from community groups or from ideological groups (e.g., special creationists).

Secondly, there is always the problem of turnover in personnel to undermine the most sophisticated strategy of disseminating information to temporarily "key" decision-makers: it does not take long for a substantial proportion of one's audience to have moved on to shaping different events and decisions and for newcomers to have replaced them, newcomers who will not have benefited from the education so generously furnished by the suppliers.

One solution to the reciprocal ignorance that prevents needy but skeptical potential consumers and willing but floundering would-be suppliers of information from finding each other is a clearinghouse or related type of central storage arrangement that facilitates access to information on the part of potential consumers. Central storage of this kind makes it easier for consumers to retrieve information, even

though it does not eliminate the search and retrieval costs altogether; and perforce it also makes it easier for suppliers to supply it. Many and quite varied institutions and practices can perform (or try to perform) the central-storage-and-easy-retrieval function, for instance:

--the ERIC data base, computer accessing of contents, decentralized microfiche collections, and microfiche reading machines.

--the "linkers" in the NDN who store in their minds a catalogue of potentially workable educational innovations and who, through their "outreach" efforts, make it easy for potential adopters to gain access to this catalogue.

--the RDx network, and the R-and-D labs and centers that make it up, which in the aggregate constitute a somewhat decentralized (and therefore imperfect) clearinghouse of information about a great many educational products.

--staff specialists employed by LEA's and SEA's who store in their minds the practical knowledge that comes from an acquaintanceship (usually somewhat indirect) not only with current academic policy research but also with a grapevine which is constantly transmitting "lore" about emerging problems and solutions (Rich, 1977; Caplan, 1976). An important feature of such staff roles is that they often reward people who perform them for "being in the know" and engaging actively in the brokerage of information and argument (Bardach, 1973).

--newsletters and other forms of institutional public relations that in effect make it easier for potential information consumers to find out what further "knowledge" is available from what sources.

--the offices and specialized contact persons at NIE that can help potential information consumers gain access to any of the storage-and-retrieval systems named above.

--narrowly issue-oriented and partisan lobby organizations and advocacy groups, e.g. parents of Spanish-speaking children, teachers' unions, or civil liberties organizations.

This last category deserves special emphasis, for it is often overlooked by persons concerned with improving the dissemination of social-scientific research. It is generally accepted that certain individuals play a "gatekeeper" role within organizations, both filtering and facilitation contacts with the organizational environment. Among the engineers studied by Allen (1977, pp. 122-125), for instance, a small minority were at the center of the information networks within their labs and these were also the persons who tended to have the most contact with engineers outside their labs. In the world of policy-making, however, there are gatecrashers as well as "gatekeepers". They are advocates who "want in" and who sometimes bring with them a lot of research-derived baggage.

To many people, there is a natural incompatibility between research and advocacy. Frequently, however, research findings and interpretations are the very stuff of which advocacy is made. Advocates employ rhetoric; rhetoric employs arguments; and arguments employ research results. Of course, when dissemination occurs through partisan sources, there is always a danger that information will be distorted in some way. Usually, however, distortion amounts to omitting or understating counter-arguments and alternative interpretations rather than outright fabrications or other sins of commission. While troubling, these distortions can be somewhat offset, at least, by

partisan information from political and bureaucratic opponents of the first partisans. At any rate, the role of "gatercrashing" partisan organizations and individuals as easily accessible storehouses of policy-relevant information in speeding the dissemination process should not be overlooked, their imperfections notwithstanding.

Who Should Bear the Cost of Disseminating Information?

I began by arguing that that the particularity and variability of policymaking contexts made the value of a good deal of policy-relevant research lower than it might seem to those who do the research or fund it. I next argued that the costs of consuming this type of research were higher than was often assumed, but that these costs could be reduced by actions taken by organizations and individuals on the supply side, who make themselves into accessible storage systems, so to speak. They thereby reduce the costs to potential information consumers, but they also pick up costs for themselves. These costs are quite various and are not limited to financial outlays alone. Since the principal opportunities for improving dissemination lie in reducing the costs burden and rationalizing its distribution, rather than in increasing the value of the information being disseminated (this value being largely determined in short- and intermediate-run by the talent and training of researchers), it is important that we understand what these costs are, what incentives are available to offset these costs in whole or in part, and why it is difficult to organize a rational distribution of the costs and incentives.

Financial outlays go for publication of materials, mailing, computer and other hardware, telephone calls, travel to conferences or workshops or demonstrations, and the like. These sorts of expenses are often reimbursed by outside funding organizations. There are also time costs to professional researchers who, for one or another reason, feel obliged to attend conferences, workshops, etc., in order to spread the word about their research results and the possible policy implications. Since these professionals often work on a salaried basis for some organization like a research institute or university, financial compensation for this sort of work is uncommon. Of course, the professional person receives rewards from advancing his or her professional reputation through attendance at such events and from the possibility of promoting favorite ideas, theories, and policy prescriptions. If, however, the settings in which dissemination is supposed to occur are personally unrewarding, or do not satisfy the professional's aspirations to advance either reputation or policy, spending time on these matters is demoralizing. Finally, we may note the inter-organizational and inter-personal friction that often occur when organizations in the dissemination business try to coordinate their activities so as to take advantage of natural economies of larger scale operation (Capital System Group, 1975). Participants must decide on how to allocate the costs, which clientele groups to focus on, and how much policymaking autonomy must be sacrificed by each. Often the very prospect of these problems is enough to discourage even the attempt at coordination. Hence one finds sub-optimally small and/or uncoordinated college library collections, mental health information-and-referall services, professional societies and related journals, and bureau-

cratically generated data bases desired for management purposes. These problems afflict technical and policy-related research in the education field too, of course (Sherwood, 1980; Rosenau, 1980; Moore, 1979).

For a variety of reasons, the financing of explicit dissemination activities on the part of knowledge producing organizations often comes from a specialized governmental source outside the organization itself. Often this is the same source that funded the production of the knowledge in the first place, as the same rationale that supports the original funding program carries over into the dissemination function. The funding organization would like the recipient to perform well the dissemination tasks that it is charged with undertaking, of course, but it is usually quite difficult to assess this sort of performance. Although the recipient organization can usually point to the number of meetings convened and newsletters distributed, there are always the nagging question: (1) What message did the recipients of the dissemination effort actually get? (2) Was the targeting of the audience(s) sufficiently (a) extensive, (b) selective? (3) How much "amplification" of the information can be expected from grapevines and "ripple effects"?

As I have argued above, given the elusive nature of transactions in information as a commodity, it is virtually impossible to estimate the real outputs of investments in dissemination activities or to evaluate them in benefit-cost or cost-effectiveness terms. (In the private sector, public relations, marketing, and advertising firms have a hard time proving the worth of their dissemination efforts too.) In this respect, such activities are similar to many other functions undertaken by government for which evaluation is also difficult though nonetheless mandatory for political reasons if for no other. In the case of

dissemination activities there are added complexities as well, namely, that it is very difficult to assess the inputs as well as the outputs. Common sense does not suggest much here. To some people it might seem obvious that face-to-face and custom-tailored communication is essential to effective dissemination, whereas to others it might seem equally obvious that a power-cost strategy of mass-produced and standardized communication is superior. Beyond the simple homily that "more is better" common sense probably has little to contribute. Nor has social scientific theory moved very far. The two assumptions about "consumer" behavior that are central to my analysis here -- the costs of consuming information are high, while the benefits are uncertain if not low-- have not been very much thought about, and have certainly not been accepted, by most sociologists, political scientists, educationists, and library and information scientists who have written about the dissemination process. Economists have indeed written about these issues, but they have not turned their analytical attention to the problems of disseminating policy research). The work of O'Hare (1979) is an important exception. Hence there is probably not a very clear understanding about the role of costs in slowing the process down or of incentives in speeding the process up. As a result of this, some measures that actually make sense and are necessary might appear foolish and wasteful; and, conversely, measures that are excessive and counter-productive might sometimes appear sensible and prudent. Here are some points, then, about the dissemination process; that budget analysts and other evaluators should bear in mind:

Potential consumers of information usually must be compensated rather indirectly, through non-cash perquisites like subsidized travel to attractive resorts. This indirection is required because the individuals involved usually work for organizations that do not permit

them to accept cash side-payments; but the side-payments are necessary in the first place because they offset the costs (in time, principally) of consuming information. Apparently, the question of whether or not to allow potential adopters to receive subsidies to travel to demonstrations of innovations being diffused under NDN auspices became rather vexed at some point, and many critics charged (no doubt with some justice) that the travel was often nothing but a boondoggle (SRI 1977).

There is an analogue on the information-supplier side too. Often, social science researchers and other such experts are obliged to appear at seminar after conference after workshop merely in order to lend prestige to certain dissemination activities -- perhaps because their own organization insists on trading on their prestige or because they are complying with demands for "More dissemination!" from organizations that funded their research in the first place. These demands may be legitimate, but they do impose a cost on the researchers and experts. In order to sweeten the pill, those who finance these engagements often arrange for cash or non-cash side-payments to these individuals in exchange for their cooperation. Nevertheless, these side-payments often look like (and no doubt sometimes are) unjustified largesse.

Although it would be quite difficult to prove the point conclusively, the importance of contextual and political variables in policymaking almost surely increases the value of face-to-face contacts in dissemination processes relative to more standardized and impersonal methods that might be effective in other circumstances. Face-to-face contact is important so that information recipients can assess the credibility and political reliability of the source and so that they have an opportunity to mull over the relevance of the information to

their own circumstances with other people. In fact, given the latter desideratum, group settings for the conveying of such information are probably particularly effective. (For some supporting evidence and theory, see the SRI report on NDN and Holmes (1977).)

. Intensive investment in disseminating a few modest ideas that seem to fit a large number of organizational contexts may be more fruitful than investment in spreading more creative or progressive ideas that turn out to fit a smaller number of contexts.

. A good deal of dissatisfaction expressed by the audiences of dissemination efforts is to be expected. "Consumers" are likely to be quick to complain about the large number of messages that are irrelevant to their concerns and about the time wasted in their becoming exposed to them. Even though they may have received high payoffs from some messages that in effect made it worth their while to suffer exposure, to the rest, they will complain about the apparent "waste" in the majority of cases. (To be sure, some of their complaints are probably justified. Oil explorationists might sink 19 dry holes to come up with one gusher and not consider this process "wasteful," but if their rate of success dropped to 1 in 25, the operation might indeed be rather "wasteful".)

. Just as it is possible to underestimate the costs of different parties to the dissemination process, so is it possible to overestimate the size of the incentives required to offset them. One can give disseminators too strong an incentive to disseminate their wares. As a corollary, one can give the potential consumers too strong an incentive to consume (or to reduce the cost barriers by too much), as occurs when telephone users call "Information" (411) at no charge, with

the result being an uneconomical exploitation of the service. This can occur when an information-supplying organization stages a conference or a workshop that is so attractive that it is deluged by attendees and the possibility of small-scale interactions among experts and the members of the audience (assuming these were desirable) is destroyed.

The Problem of Motivation

In concluding, let me briefly reconsider two assumptions that have guided the analysis throughout, namely, that knowledge producers are interested in having their product "consumed" and that policymakers are interested in "consuming" knowledge that would actually help them. Although in a certain sense both assumptions are almost axiomatically true, once we move to a more empirical level they become problematic.

Policymakers do not usually get rewarded for making "good" decisions but for appearing to have done so (and not appearing to have made "bad" ones). The consumption of policy-relevant information might or might not help them actually to make desirable decisions, but it certainly does little one way or another for appearances. Secondly, the criterion of "goodness" is multi-dimensional, and the dimensions which sometimes get weighted very heavily are those that have to do with the maintenance and enhancement interests of the bureaucracy itself or of particular bureaucrats. Although policy research does often address questions that bear on these interests, albeit indirectly, the implications are not always favorable to these interests. When this is the case, policymakers should be expected to avoid learning about policy research rather than to seek it out.

There is not much that can be done about these problems, except perhaps to try to keep them in perspective. First, even if only a

minority of policymakers were interested in being enlightened by policy research and were willing and able to make use of it eventually, reaching out to this minority might still be extremely worthwhile. Hundreds or thousands of children are affected by a major policy decision in just one district, and if one could somehow put a money value on the difference between making a good decision instead of a mediocre or bad one, the benefits of better information even in the one case might be tens or hundreds of thousands of dollars. Secondly, the unmotivated or badly motivated policymaker is as much the object of a dissemination strategy as its client. As "objects" they may be subjected to pressures from other policymakers in their environment who are better motivated, or by advocacy group with their own specialized and important motivations. As we noted above, many policymakers should be expected to learn about the results of policy research in a strictly defensive context. But this does not necessarily make the research less valuable.

As for the knowledge producers, they are normally trained social scientists, whose rewards come from the doing of the research for its own sake and from the reputation that their work can earn for them among other social scientists. Most of them, especially those of a reformist bent, would like to see their work somehow "applied" to policy decisions; but they are often no better than the practitioners at figuring out just how to extrapolate from knowledge in the abstract to policy in the concrete. Nor are they particularly interested in working out the extrapolation even if they are able in principle to do so: that is regarded as the proper sphere of the practitioner, and the distinctive research competencies of the knowledge-producer make it inefficient and improper for him or her to spend much

energy on the dissemination process. (Of course, researchers work hard at disseminating their products to other researchers, but that and usually effectively is a different matter.) This perspective is certainly reasonable. Despite the syndicalist attitude that underlies it ("Research for the Researchers!"), some division of labor in these matters is obviously necessary and desirable. On the other hand, some researchers may have a slight comparative advantage in working through the extrapolation problems -- analogously to the consulting safety engineers I referred to above. But it does not take more than some few researchers to synthesize a good deal of the research carried out in the larger research community in order to disseminate the results to the practitioner community. It does not matter if very few researchers wish to play this brokerage role, so long as there are enough to see to it that the function is in fact performed. Self-selection, encouraged by tactful coaxing and the attractions of grant or contract funding from research-sponsoring organizations like NIE should be able to do the job.

CONCLUSION

I will conclude with some observations about the dilemmas of a program manager whose duties include the dissemination of research -- or "information" -- such as we have been discussing. The manager faces three unresolvable dilemmas, and one dilemma which they should resolve but typically do not.

First, it is impossible for the manager to know how much resources should be allocated to the dissemination function. Because potential consumers of the information never know whether it is worthwhile to pay the costs in time and energy of consuming any particular chunk of information until they have actually done so, it is always possible that an unaware and foolishly resistant potential audience is "somewhere out there" just waiting to be enlightened by the next increment of effort to "reach them" with a dissemination program. Since, by definition, it is impossible to verify the existence (or non-existence) of such a potential audience until that next increment of effort has in fact been undertaken, the manager will never know whether too many or too few resources are being allocated to the dissemination function. And because it is fairly easy to imagine a quite large or a quite small potential but untapped audience of this kind without fear of empirical contradiction, there is always the nagging prospect that the resource commitment is way out of line with realistic needs for the resources.

Secondly, for much the same reasons, it is impossible to know whether the chosen dissemination strategies and tactics are effective or are completely missing the boat. There is always the possibility that a

different technique, a more novel gimmick, a more appealing crew of disseminators, etc., would do a much better job of reaching this untapped audience.

Thirdly, it is impossible for the manager to know whether the distribution of dissemination costs among consumers and producers is either equitable or efficient. I have argued above that producers generally ought to subsidize the consumption of information by parties whom they wish to reach with their "product", but there is no sound way of knowing whether the subsidy should be large or small. It will always be easy to challenge any particular allocation of costs as unfairly burdensome to one or another of the parties, and to argue that a greater (or a lesser) subsidy would accomplish much better results (or the same results for much less money).

Finally, I wish to emphasize once again the political bias toward putting more pressure on research producers to "do more about dissemination". I have argued that consuming research and related types of information is like drilling for oil: one should expect only a small minority of search efforts to be productive. Psychologically, however, the impression remains that excessive energy has been spent on futile tasks. The producers of research are blamed for not having made the task more fruitful. Dissemination is urged as the solution. Program managers charged with dissemination then become too easy prey to the notion that they have indeed erred on the side of investing too little or have managed their jobs ineffectively -- though they do not necessarily admit to this publicly. They become too willing participants in sustaining the myth that there is not enough good dissemination going on. To be sure, this belief sometimes could be correct. The

important fact to grasp, though, is that the myth will persist independently of the underlying reality. Program managers do not understand their own dilemma well enough to counter this myth, and they might even face budgetary incentives to promote the myth clearly. Feldman and March (1980) have come to the same conclusions in a related context:

Information is significant symbolically because of a particular set of beliefs in a particular set of cultures. Those beliefs include broad commitments to reason and rational discourse, as well as more modern variants that are more specifically linked to decision theory perspectives on the nature of life...At the same time, symbolic actions discover more instrumental consequences. Like other behavior, symbolic behavior explores possible alternative interpretations of itself and creates its own necessity. (p. 34)

III. WHAT ARE THE INFORMATION PREFERENCES OF STATE EDUCATION-
POLICY-MAKERS? (An Empirical Study of School Finance
and Special Education Policy-Makers in California,
Virginia and Maryland)

By Linda J. Nelson and Michael W. Kirst

Attempts to disseminate research to policy-makers have met with little success, according to most commentators on the subject. The high costs of research consumption (Bardach, Chapter II) and the inherent dissonance between research and policy communities (Dunn, 1980; Schorr, 1971) seem to guarantee that the products of the former will be of little use in the work of the latter.

Yet, in two policy areas in education, the conventional wisdom about dissemination does not appear to be confirmed. Politicians and researchers associated with state school finance reforms and special education have worked together successfully to bring about changes in education financing schemes and services for handicapped children--at least some of those groups have some of the time (Kirst, 1980; Weintraub, 1981). The apparent prominence of research in the reform efforts lends credence to Weiss' observations (1980) that scientific knowledge may be used by policy-makers more than we recognize. Using Bardach's analysis in Chapter II for education policy-makers in these two areas, the benefits of using research seem to outweigh the costs of consuming it. Or, something in the structure of the policy community operates to reduce costs and increase benefits of research use.

We believe that the structure of the policy community is a critical variable in research dissemination. The purpose of a dissemination program is to spread research to policy-makers who need it and to establish feedback channels from policy-makers to researchers to keep them informed about the most current policy problems. In order to build those ties,

disseminators must know more about the configuration of the policy communities and the flow of information within them.

The Policy Communication Research Project at the Institute for Research on Educational Finance and Governance has developed a research program with the aim of answering questions about research-policy links. We selected school finance and special education for the initial phase of our research because these issues seem to represent two different configurations of policy communities. Our initial assumption was that the special education community behaved as the traditional 'iron triangle'--that is, it was an elite group of executive bureaus, interest groups and legislative subcommittees aligned to determine which issues regarding handicapped education reached the public agenda and which policy solutions gained currency within the policy community. In the school finance area, a policy issue network seemed to be operating (Kirst, 1980; Kirst, Peterson, Encarnation, 1981). Entry and exit in the groups seemed far more fluid than that of the iron triangle. A highly diverse group of individuals sprinkled throughout governmental agencies, legislatures, technical assistance organizations, universities and private research firms comprised the network membership (Kirst, 1980). The group did not necessarily agree on all issues. They did seem to share an interest in receiving the most current information on emerging school finance concerns, and, like their counterparts in the 'iron triangle', they seemed to use information from the network to solidify power within the states where reforms were attempted.

Three overarching questions guided our study:

- 1) Do state education policy-makers use research in their work?

That is, do they receive research and use it?

2) What are the information preferences of state education policy-makers? What modes of oral, written, visual communication do they like to use? When? What sources of information do they prefer?

3) Do patterns of information use emerge that suggest ways to target dissemination strategies for particular audiences, issues, or states?

The results of our survey suggest that research dissemination to state education policy-makers may not be in the sorry state depicted in much of the literature. Policy-makers in both issue areas seem to know how to find research when they need it. 85% report that they use research at least occasionally in their work, and half of that group report that they use it often. Additionally, research reports are the most useful forms of written communication for the state respondents, particularly at the formulation stage of policy-making.

State policy-makers also report strong feelings about how research could be made more usable. 90% identified one or more barriers which impeded their use of research. Frustrations included problems with research formats, language, timing and availability. Researchers' political naivete also concerned many respondents. Over half took time to answer open-ended questions that asked for suggestions on how to make research easier to use. One response, from a policy-maker who had worked in his field for over six years and used research regularly, sums the observations of most: "(I would use more research if) it were accessible, timely, accurate, presented in a usable format, and took real political consequences into consideration."

An intriguing finding was our respondents' selection of informal networks as the single most important source of information. Most policy-makers look to informal networks for information even before they look

within the organizations in which they work. This strongly confirms our belief that research disseminators need to know how those networks operate. It also suggests that the special education and school finance communities do represent different policy configurations. The key information sources for special education policy-makers were primarily representatives of the traditional 'iron-triangle' membership - especially executive bureaus, interest groups. The most crucial sources in school finance were foundation and technical assistance organizations external to the 'iron triangle.'

Consistent with our assumptions about the key role that policy communities play in information dissemination was our finding that respondents on the whole are active information disseminators. 75% are sought out for policy information at least weekly, and 36% of that group are contacted several times daily. In short, the respondents of our state survey are people who are familiar with the research in their fields and are active consumers and disseminators of information. Their observations about information use, we feel, are useful guideposts for programs aimed at tailoring research for education policy makers.

A discussion of specific questionnaire item responses follow in this chapter. In brief, we have learned the following:

* Information that is most useful is that which is available in a short period of time, targeted on specific issues or populations, jargon-free, and easily accessible.

* Principal barriers to research use are too much jargon, inaccessibility, political unfeasibility, and limited relevance to specific policy issues.

* State education policy-makers use oral communication to get most of their information. Telephone calls, briefings by staff or experts, and informal meetings on specific issues are the modes of oral communication most frequently used.

* Statistical compilations and personal notes and files follow research reports as the most used forms of written communication.

* After informal networks, state policy-makers prefer State Departments of Education, state legislative sources and professional associations as information providers.

* Demographics and impact studies are the types of information which most policy-makers will need but are not sure they will have over the next few years.

* There are differences in information use among state policy audience and issue subfiles. Most pronounced are the variations in oral and visual information use between researchers and their political and bureaucratic colleagues. Additionally, state with greater staff capacity generally use more research. States with fewer professional staff have greater problems using research and report greater need for information in general. Newer policy issues generate needs for more information, and have more newly hired staff seeking information.

* The state education policy-maker survey seems to confirm analyses of policy communication by Bardach (Chapter II), Weiss (1980), Walker (1981), and Kirst (1980). Research that is used is easy to obtain by policy-makers, often transmitted orally or translated into readable formats, of high technical quality, and timed to mesh with legislative deliberations. Research is used far more regularly

in policy formulation than is apparent on instrumental measures of use. The two-communities metaphor--that researchers and policy-makers differ significantly in their information use--applies to state education policy groups. But, issue networks seem to play a crucial role in bridging the communities for state school finance and special education policy-makers.

The following discussion of the survey responses is organized under the following headings:

Details of the survey - who was asked and why?

What are the most useful organizational sources of information for state education policy-makers?

What makes information useful for state education policy-makers?

What modes of oral, written and visual communication are most used by the state respondents?

What barriers seem to block research use?

What general kinds of information will state school finance and special education policy-makers need over the next five years?

What are the implications of this survey for dissemination?

A Caveat: The state policy-maker survey is the first in a series of studies of the policy communication process sponsored by IFG. It was designed to assess the general information preferences of three state policy groups and to provide preliminary data to be used as a departure point for further research in the policy communication field.

The policy-makers' responses are personal assessments of information needs and problems. Certainly, individuals do not always behave in the ways that they report. Nevertheless, for the purposes of the Policy Communication Research Project, an initial indication of what

education policy-makers think that they like and want in information sources is crucial for the programs' future research agenda. So little data exist on state level policy groups that the value of asking directly seemed to outweigh the uncertainty that respondents might not always do what they say. Additionally, agreement among survey respondents about perceived problems and needs for information may further substantiate the existence of policy issue networks. One feature of networks is the presence of commonly held beliefs about how their policy world operates (Walker, 1981; page 9).

This research has spawned two follow-up studies: one on the role of inter- and intra- state policy issue networks in raising issues to the public agenda within individual states; and, one on the information systems within the California State Department of Education. Results of the latter will be reported by IFG in December, 1981. The Policy Issue Networks Research will be completed in December, 1982.

IIIa. Details of the survey - who was asked and why?

First, why. We designed our survey to find out what modes and sources of information state education policy-makers liked best and why. We chose a state focus for several reasons. First, most dissemination research has looked at federal policy-makers or has combined federal, state and local samples. We felt that a state level survey could provide empirical data directly applicable to problems of organizations which produce and disseminate information to state policy audiences. It could also suggest points of intersection or variation with studies of research use by federal policy-makers. In education, in particular, we felt the state focus crucial in light of recent trends to concentrate legislative, regulatory and fiscal controls there. If states are where the action is,

then, there, too, is where the best of research information should flow. We hoped to locate the 'floodgates' and learn how to avoid the communication log jams notorious in research dissemination.

We also hoped to learn more about recommendations to tailor research for target audiences. Without specific indicators about who likes what, when and how, proclamations to 'tailor' and 'target' research mean little. We surveyed audiences that would represent different issues, different audience types, different states, and different stages in the policy cycle.

Who? We mailed a six page questionnaire¹ to 493 policy-makers representing three types of policy audiences: political actors, bureaucrats and researchers. We selected these groups from two issue areas - school finance and special education, and in three states - California, Virginia and Maryland. We included an interstate group of special education policy-makers after informed consultants pointed out the key role the interstate network played in the three states surveyed. We also felt that data comparing pure state groups to an interstate network could be instructive for dissemination programs needing to reach both state and interstate audiences.

A breakdown of the 266 policy-makers who responded to our survey questionnaire is reported in Table 1, page

¹ See Appendix A

TABLE 1: A SAMPLE BREAKDOWN OF SURVEY RESPONDENTS

<u>Subfile Type</u>	<u>Total Mailed</u>	<u>Total Returned</u>	<u>Response Rate*</u>	<u>Response as % of Subfile</u>
Audience Subfile				
Political Actors	270	122	45%	46%
Bureaucrats	160	97	61%	36%
Researchers	63	47	75%	18%
TOTAL	493	266	54%	100%
State Subfile				
California	250	162	65%	61%
Virginia	90	37	41%	14%
Maryland	54	16	30%	6%
Interstate	99	51	52%	19%
TOTAL	493	266	54%	100%
Issue Subfile				
School Finance	239	137	57%	52%
Special Education	254	129	51%	48%
TOTAL	493	266	54%	100%

*(Rounded at .05)

The policy-maker survey was purposive not random. We carefully identified individuals key to the policy-making process within each state and for each issue. We did so to ensure that the survey responses would, in fact, reflect the preferences of state policy-makers most active in the school finance and special education arenas. We found that in each policy area individuals identified as key actors represented a markedly diverse group of policy professionals. Also notable is the number of researchers from academia, governmental agencies, professional associations and private firms. The relative mix of researchers, bureaucrats and individuals in legislative, interest group and technical assistance roles was approximately the same in both policy areas.

In this sample, political actors include: elected officials; their personal staff; committee staff from state legislature; appointees on governors' advisory committees; government liaisons of professional associations and special interest groups; and, lawyers and journalists active in the respective issue areas. Bureaucrats are employees of State Departments of Education. Researchers are one of three types: university scholars; contract researchers; or employees in offices for planning, evaluation or research in various agencies and associations.

We used two criteria to select states: the relative salience of the school finance and special education issues; and, the relative capacity of each state to incorporate research information into policy deliberations (as measured by the number and type of staff positions in the executive and legislative branches of government, weighted by population density.) California, by these criteria, is a high information user state. Virginia, in contrast, represents states of lower-middle level capacity. Maryland is a mid-level state but with a newly active core of individuals moving for change in school finance and special education policies. The interstate special education sample was drawn up by knowledgeable consultants and reviewed for accuracy by key policy-makers in each state.

We chose school finance and special education as the policy issues for five reasons: (1) Both issues are salient to state policy-makers. ~~Two~~ reform movements following several years of school finance litigation have kept these issues on the public agenda for several years. Federal legislation, PL 94-142, The Education for All Handicapped Children Act of 1975, has raised special education as a relatively new, and equally controversial issue in most states; (2) The policy audiences for both issues are highly diverse and active in advocating particular policy

directions; (3) A considerable amount of research has been produced and disseminated to policy-makers about both issues; (4) Both issues are topics of research at IFG, co-sponsor of this study. Specific conclusions about information uses of the state policy professionals will be of use for IFG's newly developing dissemination program; and, (5) A number of characteristics of the school finance group, and to a slightly lesser degree those of the special education sample, resemble issue networks or policy communities (Walker, 1981; Kirst, 1980; Helco, 1978). Data from these policy-makers could serve as a departure point for future research in area of policy communication.

Professional Training: Slightly over half of the state respondents, 52%, are trained in education. Bureaucrats are most heavily represented in the education group, more than likely because only employees of State Departments of Education are included in this sample. Political actors and researchers are more widely dispersed among the professional training categories. A substantial number of political actors are trained in law. Economics ranks second to education for researchers.

TABLE 2: PROFESSIONAL TRAINING OF THE POLICY-MAKERS SURVEYED

	Education	Law	Political Science	Economics	Health, Psych., Other Soc. Sci.
<u>Audience Subfile</u>					
Political Actors	35%*	25%	13%	5%	18%
Bureaucrats	49%	2%	9%	5%	34%
Researchers	42%	7%	14%	19%	19%
<u>State Subfile</u>					
California	41%	12%	12%	9%	26%
Virginia	40%	19%	2%	16%	23%
Maryland	19%	13%	44%	13%	6%
Interstate	53%	14%	6%	---	28%
<u>Issue Subfile</u>					
School Finance	34%	15%	19%	13%	18%
Special Education	52%	12%	4%	1%	30%
TOTAL	43%	13%	12%	7%	24%

* Percent of subfile sample rounded to the nearest percent at .05.

The diversity of professional training in both of the issue sub-files is consistent with what one would expect to find in a policy community or issue network. Active policy communities which have introduced successful innovations generally include individuals "trained in a collateral specialty or, who have been trained or socialized in a different professional discipline" (Walker, 1981: page 8). The high level of information dissemination reported by these state policy-makers seems to corroborate evidence that networks are operating within these two issue areas (see discussion on page 2.4).

The greater representation of education specialists in the special education issue file is to be expected. The heavier emphasis on classroom related activities associated with this issue would predict a greater representation of educators in this sample. Similarly, the highly technical and political negotiations surrounding state school finance issues predicts that this issue file would include a larger representation of lawyers, political scientists and economists.

The large percent of political scientists in Maryland might be explained by two factors that set it apart from the other state sub-files. It is also a state in which school finance reforms have only recently been considered. That may account for the disproportionate representation of political scientists in contrast to Virginia where such a movement is not currently active.

Years of Work Experience: The policy-makers surveyed are highly experienced in their fields. The majority in each sample have worked in their respective policy areas for four years or more. The largest percentage report over six years of experience. This employment pattern holds among states and audience types and between the two issues.

TABLE 3: THE MAJORITY OF STATE EDUCATION POLICY-MAKERS ARE EXPERIENCED IN THEIR RESPECTIVE FIELDS

	Length of Time Worked			
	More than 6 years	4 - 6 years	1 - 3 years	less than one year
Audience Subfile				
Political Actors	56%*	22%	19%	3%
Bureaucrats	43%	14%	9%	5%
Researchers	56%*	27%	9%	----
State Subfile				
California	59%	24%	11%	4%
Virginia	57%	16%	26%	----
Maryland	63%	6%	25%	----
Interstate	67%	20%	10%	4%
Issue Subfile				
School Finance	56%	25%	16%	1%
Special Education	64%	16%	11%	6%
TOTAL	62%	17%	18%	4%

* Percentage rounded to the nearest .05.

The least experienced workers, in contrast, cluster in the special education area where 6% of the total sample have worked less than one year. The comparable figure for school finance is only 1%. The new special education policy-makers are primarily in California. There, 11% of the sample are newly employed compared to only 1% in school finance. The only other subfile in which respondents worked less than one year is the interstate special education one, with 4% new hires.

The pattern of new employees in special education would seem to suggest that the arrival of new issues on the public agenda stimulates jobs for policy-makers. Special education became a critical state issue more recently than school finance. More than likely, policy-making groups concerned with this emerging issue sought out specialists with expert knowledge to help their organizations or committees frame appropriate policy responses.

The experience breakdowns for states lends support to the new policy/new people notion. In school finance, the small states have a greater number of employees who have only worked between one and three years (29% in Virginia and 25% in Maryland). In California, school finance policy-makers have significantly fewer of respondents in the one to three year range (14%). This difference may reflect the more recent pressure on Virginia and Maryland to tackle problems long familiar in California, originator of Serrano v. Priest, the 1969 landmark school finance reform litigation.

Policy-makers as Disseminators: The state education policy-makers who responded to the survey are high information disseminators. 75% are sought out at least weekly for information about their issue speciality. About half of that group are contacted several times daily.

Special education policy-makers are considerably more active than those in school finance. Only 19% of the latter are asked for information several times daily compared to 54% of the special education subfile.

California and Virginia report similar patterns of dissemination among policy-makers. A large number in both states are sought out daily and weekly. The Maryland sample reports lower dissemination activity. Like the special education issue subfile, the interstate special education respondents are high information disseminators.

TABLE 4: STATE EDUCATION POLICY-MAKERS ARE INFORMATION DISSEMINATORS

	Several times daily	Daily	Weekly	Monthly	Less than monthly
Audience Subfile					
Political Actors	32%*	16%	21%	16%	16%
Bureaucrats	49%	14%	24%	8%	5%
Researchers	17%	10%	41%	26%	7%
State Subfile					
California	35%	16%	23%	16%	11%
Virginia	33%	11%	31%	8%	17%
Maryland	13%	13%	27%	33%	13%
Interstate	46%	12%	28%	10%	4%
Issue Subfile					
School Finance	19%	16%	30%	20%	16%
Special Education	54%	12%	20%	9%	5%
TOTAL	36%	14%	25%	15%	11%

* Percent rounded at the .05 level. Percent response of each subfile total.

The high level of dissemination activity among the state policy-makers seems to corroborate other indicators that the issue areas do represent policy networks. A criterion of Walker's policy community is that members "constantly exchange information about their activities and ideas".

The greater activity on the part of special education policy-makers also complements the idea that newer policy issues generate greater information needs.

On the whole, the responses of this state policy-maker survey seem to represent the observations of individuals familiar with the information needs and communication problems in the policy field.

IIIb. What Are the Most Important Information Sources for State Education Policy-Makers?

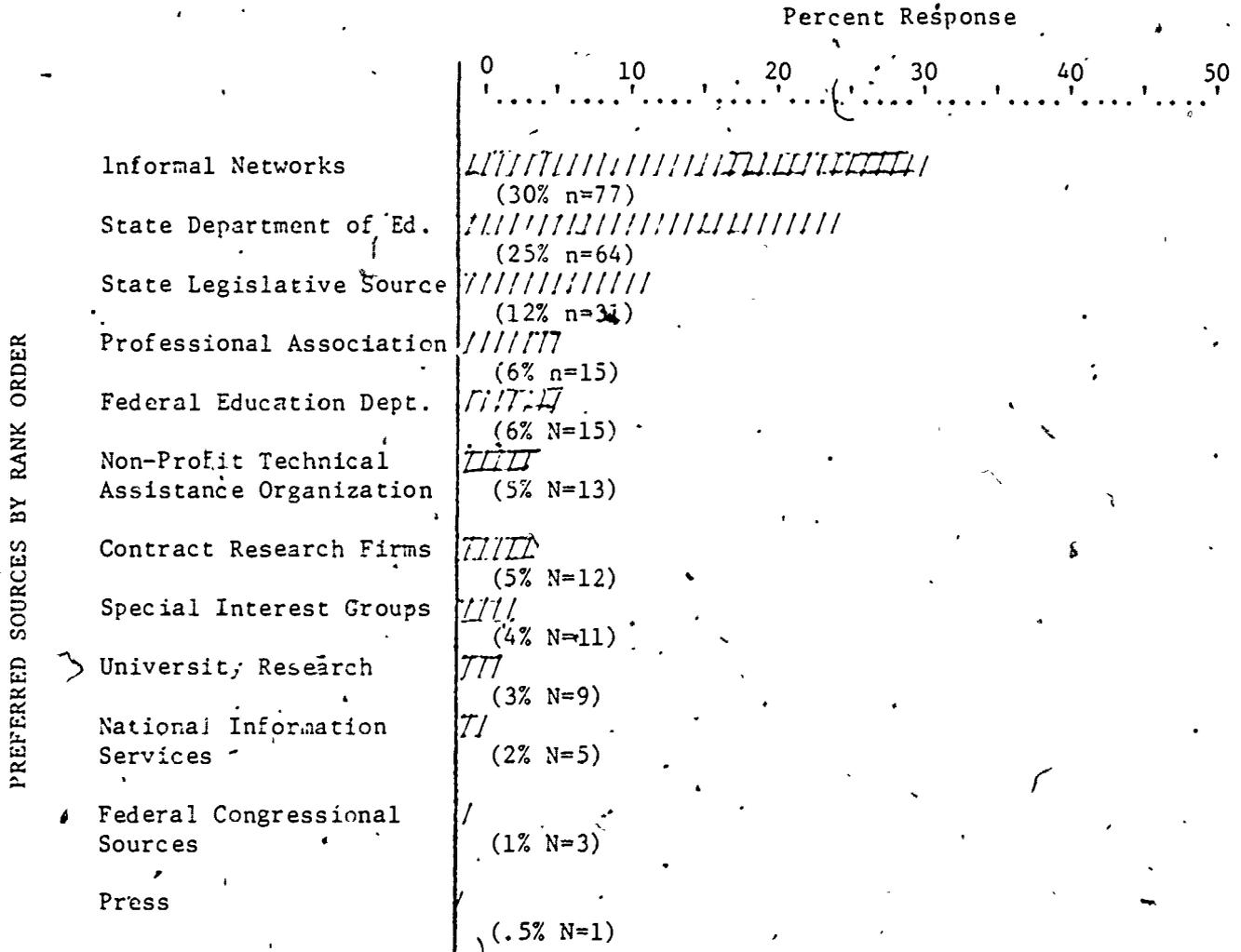
We asked what organizational sources of information were most important in the work of our state policy-makers. That information was of interest to us for two reasons. 1) Theoretically, we wanted to know whether any of the characteristics of policy communities or networks seemed to operate within the issue areas. Empirical data on networking could serve as a departure point for future research; and, 2) Practically, in order to make recommendations for a dissemination program, we needed to know more about what organizations should be included in state level efforts.

The question was well worth asking. We reaped an extensive listing of organizations and publications that seem to form the nexus of school finance and special education communities.

The responses also lent support to the observations of Walker (1981), Helco (1978), Kirst (1980) and Kirst, Peterson and Encarnation (1981) that networks do function as research disseminators.

According to our survey, state education policy-makers get their information from informal networks, State Departments of Education and state legislative sources (see Table 17, page 18) or state legislature. Because the greatest proportion of our respondents are from State Departments of Education or state legislatures, it seems that respondents look first for information from sources close by, that are easily accessible, and trusted. If policy-makers look for information outside their immediate work environment, they go to professional associations or the federal Department of Education. These tendencies hold across all subfile samples.

TABLE 17: THE MOST IMPORTANT SOURCES OF INFORMATION FOR STATE EDUCATION POLICY-MAKERS (All Subfiles Combined)



Total Respondents 98% N=256

This seems to confirm Bardach's theory about what determines information's usefulness to policy-makers. They use the easiest available source that is likely to give them reliable information quickly - that means, first they go to experts or friends (probably by phoning them as discussed in section IIIc.), then they look within their own organization (Bardach's proximity idea), finally they look to professional associations or the federal Department of Education. These latter two are also sources which are 'proximate' in that each maintain strong ties with state level policy-makers.

Subfile Analysis: In the issue subfile, school finance policy-makers are slightly more inclined to use networks than are those in special education. This may reflect the strong presence of 'networking' activity in the school finance area by groups such as the American Educational Finance Association (AEFA), the Ford Foundation, and the numerous tax limitation groups in the states surveyed (Kirst, 1980). The prominence of federal and state Departments of Education for the special education group suggests the strong impact of recent federal legislation and regulations in this area.

In the state subfile, informal networks are more frequently used in California than in either Virginia or Maryland. The larger and more diverse staff in California would increase the probability that individuals active in informal networks would be represented here. Additionally, the finance sample, noted above for its networking, is heavily represented in California. In Maryland, policy-makers look to legislative sources for information. Since state legislators and their staffs are more widely represented in this state sample, the use of legislative sources affirms the tendency for policy-makers to look within their own work environments first for information.

An audience breakdown (Table 18, p.21) suggests some interesting differences in the preferred sources of information of each of the three groups. Apparently, the 'community of scholars' is healthy for those researching school finance and special education, for the researchers in our sample look to their informal networks almost exclusively. They are almost indifferent about other sources, although those which would provide the most quantitative data seem to rank slightly higher.

As Walker would predict, informal networks rank high among bureaucrats who may receive a measure of recognition and stature within them unattainable in bureaucracies where distinction by title or salary seldom confer status. As discussed in IIIb. Written Communication, bureaucrats remain closely tied to their organizational sources of information. However, State and federal Departments of Education, contract research firms hired to carry out department-defined research, and state legislatures are all sources directly responsible for policy decisions. Outsiders, it would appear, have little chance of penetrating the policy communication channels used by bureaucrats unless they are 'network' members.

Although political actors work closely with state information sources and with their informal networks, they also use information from outside the formal policy channels. Predictably, professional associations and interest groups have greater access to the policy process through political actors. The 'factual' sources valued by researchers are precisely those least used by political actors.

TABLE 18: STATE EDUCATION POLICYMAKERS
ONE BEST SOURCE OF INFORMATION

TOTAL GROUP: ALL FILES 98% (256)

<u>Bureaucrats</u> 98% (95)	<u>Political Actors</u> 97% (118)	<u>Researchers</u> 91% (43)
State Dept of Educ. 39% (37)	Informal Networks 29% (34)	Informal Networks 47% (20)
Informal Network 24% (23)	State Dept. of Educ. 20% (24)	Non-Profit Tech. Asst. 12% (5)
Federal Dept. of Ed. 8% (8)	State Legislatures 18% (22)	Fed.DOE 7% (3) St. Doe Legis. 7% (3) Univer. 7% (3)
Contracts Research 7% (7)	Professional Assoc. 8% (9)	Contract Res. 5% (2) Prof. Assoc. 5% (2)
State Legislatures 6% (6)	Special Interests 7% (8)	Nat. Info.Serv. 2% (1) Special Int. 2% (1)
Professional Assoc. 4% (4)	Non-Profit Tech.Asst 4% (5)	
Non-Profit Tech Asst. 3% (3)	Univer. Reser. 3% (4) Fed. Dept. of Ed. 3% (4)	
Nat.Info.Serv. 2% (2) Univ.Research 2% (2)	Contract Reser. 3% (3) Fed. Cong. Sourc. 3% (3)	
Press 1% (1)	National Infor. 2% (2)	

III-21

Who Are in the State Policy Networks? We asked our respondents to indicate their most valued information source. Many did. Below are listed (in no particular order) the sources named. #What is most apparent is the diversity of organizations and programs that state education policy-makers turn to for information. The listing substantiates Hecl's observation that intermediary agencies outside the federal government are central to the policy process today.

State Sources

Senate Office of Research
 Special Legislative Commissions
 State Board of Education
 State Department of Finance*
 State Department of Education*
 State Finance Committee and Staff*
 State Plans*
 Chief State School Officers Key Legislation

Federal Sources.

National Center for Education
 Statistics*
 Bureau for Education of the
 Handicapped (ED)
 Congressional Budget Office

Publications

NASDE Liason Bulletin
 AWARE
 AASA Executive Educator
 School Board Journal
 Press releases of Federal &
 State Agencies
 Education Daily*
 Finance Facts (ECS)*
 Congressional Record
 Federal Register
 U.S. Law Week
 Education of the Handicapped Newsletter
 General Citations - journals, union news-
 letters, national information services,
 research reports
 ASPSE Liason Bulletin
 AAAS Clearinghouse
 Education for the Handicapped - Law Report

#Unfortunately, not all comments were legible.
 *Multiple citations

Research Sources

Brookings Institute
 Institute of Industrial Relations
 -UC Berkeley
 Institute for Research on Educational Finance
 and Governance
 General Citations - contract research*; university research;
 ERIC

Foundations/Associations

Education Commission of the States*
 The Ford Foundation*
 The Council for Exceptional Children*
 National Association of State Directors of Special Education*
 National Center for Law and the Deaf
 National Association of State Boards of Education
 National PTA
 General Citations - labor union advocacy staff, professional
 associations; groups
 Schools for Sound Finance
 California Coalition for Fair School Finance
 The TASH Network
 Non-profit technical assistance organization

Local Sources

LEAs*
 County Offices of Education
 Development and Disability Council of Virginia
 California School Districts
 Parents/Students/Teachers/Principals*
 School Board & Superintendent's priorities

Miscellaneous

"my crystal ball"
 Informal Networks 'of people in the know'
 Graduate Student Feedback
 Ford Foundation School Finance Conference*
 Ad Hoc Coalitions
 Testimony
 Mailing Lists
 Government Relations Specialists
 Personal Library

#Unfortunately, not all comments were legible.

*Multiple citations

What is a Network? In the questionnaire we did not define informal networks. Some of our respondents did. In their words, an informal network is:

- . private observers in various government and state roles.
- . friends in higher education institutions
- . informed consultants
- . professionals in the field and friends
- . school finance friends, experts and mailing lists
- . people in the know where-ever they are.
- . contacts with other state and local advocacy groups and contacts with Congress
- . non-education personnel for perspective
- . ad hoc coalitions of numerous consumers and advocacy groups including several private attorneys
- . contemporary elected officials who have and address the same kinds of problems I have
- . TASH - network of disabled scientists, science educators and AAAS files
- . informal network build up over a long time of personal acquaintances for mutual protection and assistance
- . calls to other states facing similar problems

Expertise and empathy may be the key ingredients in these networks.

Clearly, the responses are not definitive indicators of a systematic activity aimed at setting policy agendas. However, responses to the listing of organizational sources strongly suggest two entry points for each issue: school finance policy-makers most frequently acknowledge the Education Commission of the States, explicitly the Finance Center of ECS and the Ford Foundation School Finance Conferences; special education respondents cite the Council for Exceptional Children and the National Association of State Directors of Special Education.

As we hypothesized, the school finance networking activity seems to resemble the policy issue network configuration. The two most critical information sources are outside the parameters of the iron triangle. In special education, however, both important sources are groups traditionally associated with iron triangle activities--interest groups and professional associations.

IIIc What makes information useful for state education policy-makers?

The state policy-makers in our survey were asked to identify the characteristics of information that made it most useful to them in their work. 91% (242 respondents) named the characteristics ranked in Table 5. The top qualities-- availability, specificity, high technical quality, and timeliness-- are precisely those which Bafdach's theory of dissemination would predict (see Chapter II). All are qualities that lower the costs of information consumption. They assure that policy-makers can get hold of the information they need relatively easily.

Usable information, according to our respondents, is focused specifically on the client group or issue of concern-- i.e. it is highly contextual. Because it is of good technical quality, the information is reliable. Therefore, policy-makers can feel confident about using it without lengthy verification of the findings. The time savings realized by this confidence in the quality of the source increases the probability that the new information can be interjected into policy debates at the appropriate time.

The high rating of technical quality is also congruent with the information needs of policy networks. If, as Walker (1980) and Mitchell (1980) hypothesize, these groups also confer status and acceptance on individual members, the quality of information used within the networks would be a primary concern. Presumably, network members generating and disseminating top quality information would enhance their relative position among their colleagues.

Information that is simply compatible with policy-makers' beliefs or comparative is, in the aggregate sample, of least significance. Since the groups surveyed are primarily concerned with instate issues, the relatively low ranking of the comparative information across states is not surprising.

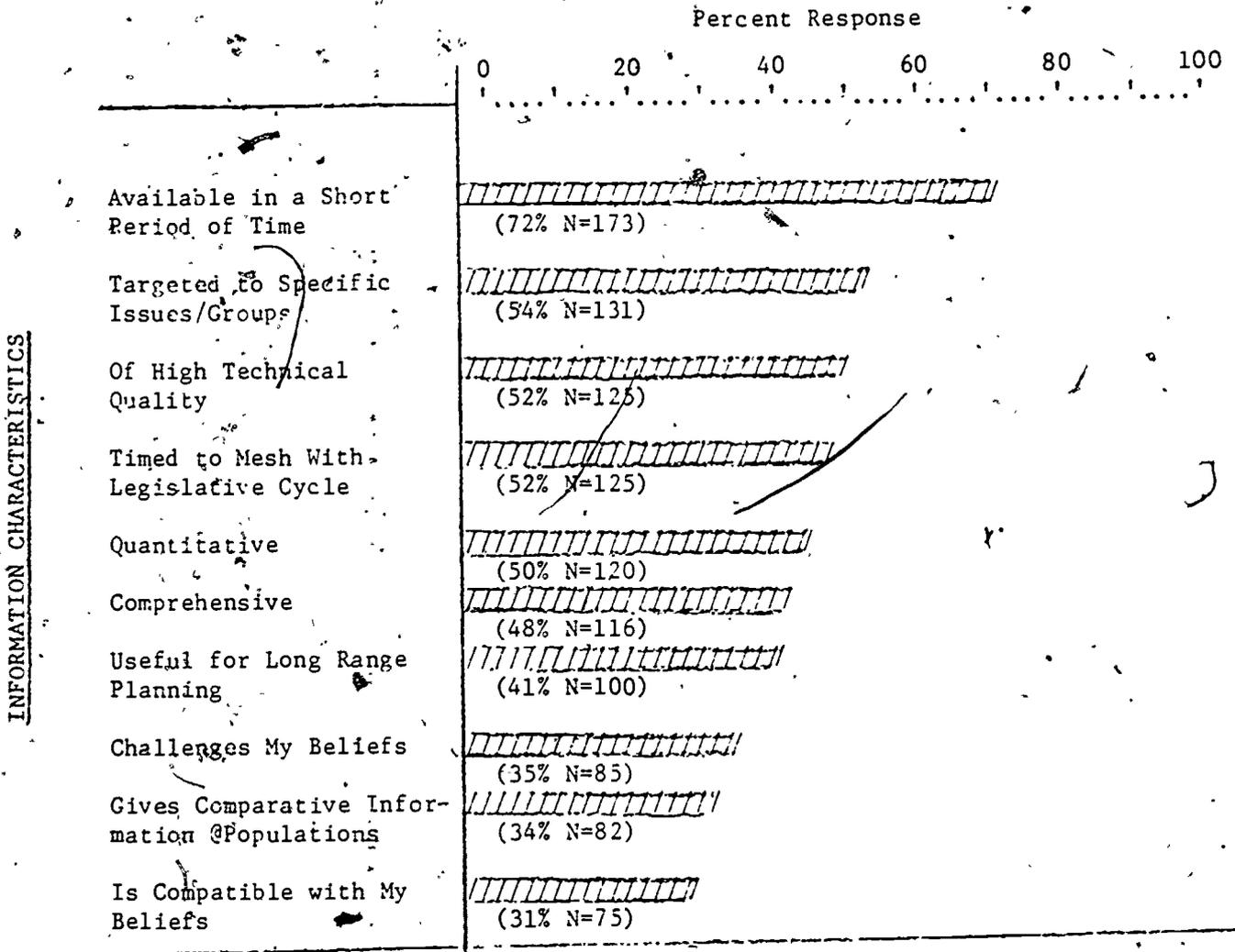
The report that 'challenge to beliefs' is of little importance for information use seems to contrast with the Weiss and Bucuvalas (1977) study of research use among 250 federal, state and local policy-makers (see discussion, Chapter 1). In their study, 'challenge to the existing order of things' (page 224) was positively related to research use. However, differences in the focus of the questions in the two studies may explain the variance in responses. Policy-makers in the Weiss and Bucuvalas study were asked explicitly to relate research use to a purpose it might serve. The state education respondents in our survey were asked to identify the most valuable characteristics of their favored information source -- a choice not limited to research. Thus, information sources, in general, are not valued for their challenge to existing beliefs by our state education policy-makers.

The notion of a network operating within these two areas might also explain the low rating of the 'challenge' characteristic. If networks do function to generate research in support of commonly held theories, then studies might be undertaken to improve incrementally or support, not challenge, the beliefs of the network. This would also predict the low ranking for 'challenge'.

Subfile Analysis: What Makes Research Useful - A comparison of the responses among issue, state and audience subfiles reveals that differences do exist. However, they seem to conform to what Chapter, the literature search, would predict. The newness of the policy issue.

TABLE 5: CHARACTERISTICS OF USEFUL INFORMATION

(All state policy-maker respondents grouped)



Total Response = 91% N=242

INFORMATION CHARACTERISTICS

and the basic technical differences in the nature of the two topics seem to predict differences within the issue and state subfiles. The differences in work styles between researchers and the other two subfiles parallel variation in the ranking of the most useful sources of information.

In the issue subfile, basic differences in the nature of the topics selected for the survey explain much of the variance on characteristics reported most useful. School finance formulas are highly technical, based on quantitative data, and directly controlled by legislative action. It makes sense that technical qualities and legislative timing concerns would be more highly rated by respondents in this subfile.

On the other hand, special education acts as an umbrella for a large number of diverse groups of gifted and handicapped youth. Targeted information to clarify specifics about any one group would likely be more crucial to respondents in this subfile. Comprehensive information would also be more important in a newer policy area in which little current information exists. Pressure to develop policies in a relatively untested area predict that long range planning would be more important to newer issue groups such as those in special education.

In general, the special education respondents are less critical of the standards of the information used than are their counterparts in school finance. Quantitative concerns -- sheer need for information relevant to recent federally mandated special education decrees -- seem to drive their choices. Conversely, the relatively longer exposure to school finance questions seems to temper quantitative concerns with qualitative ones. This latter group rates quality considerably higher than do the special education policy-

makers (62% compared to 41%). They also have more problems with the shortcomings of research.

State subfile differences on the question of useful characteristics of information suggest that greater state capacity (numbers of professional staff, positions) reduces timing problems and raises the standards by which 'useful' information is measured. California, with the highest ranking on state professional capacity, reports far less concern with locating information in time for it to be of use in the legislative cycle. (49% checked this concern in California compared to 66% in Virginia and 60% in Maryland.) High technical quality, however, is the second most frequently checked characteristic.

(Although percentage responses to high technical quality, among the state subfiles are similar, this characteristic ranks only fourth and sixth in importance in Virginia and Maryland compared to second in California.)

The higher ranking of the technical quality of information in school finance and in California may bear out Caplan's observation that more interaction between policy-makers and researchers might not improve communication between them. Perhaps the longer exposure to research by policy-makers in the 'older' school finance issue has made them skeptical about the general body of research and more demanding of that which they do decide to use. The school finance and California subfiles also reveal greater concern about jargon and limited relevance of research, further support for Caplan's caution.

The smaller states are more concerned that information be available for the legislative cycle and that it be compatible with the policy-maker's views. These are criteria to be expected in states with smaller staffs and fewer policy-makers involved in education policy decisions. Smaller

TABLE 6: CHARACTERISTICS OF USEFUL INFORMATION - STATE POLICY-MAKER SURVEY.
(Subfile Breakdown - Percent Reporting Characteristics Useful)

	Available in short time %(n)	Targeted %(n)	High Tech. Quality %(n)	Timed with Legis. Cycle. %(n)	Quantitative %(n)	Comprehensive %(n)	Challenges Beliefs %(n)	Comparative %(n)	Long Range Plan. %(n)	Compatible with views %(n)
<u>Audience Subfiles*</u>										
Political Actor	73%(82)	52%(58)	52%(58)	62%(69)	48%(54)	53%(59)	32%(36)	53%(59)	39%(44)	30%(34)
Bureaucrat	72%(65)	63%(57)	46%(41)	47%(42)	52%(47)	49%(44)	33%(30)	49%(44)	46%(41)	37%(33)
Researcher	68%(25)	41%(15)	70%(26)	35%(13)	51%(19)	32%(12)	49%(18)	32%(12)	35%(13)	16%(6)
<u>State Subfiles</u>										
California	72%(106)	54%(80)	56%(82)	49%(72)	53%(78)	50%(74)	35%(51)	50%(74)	40%(59)	24%(35)
Virginia	71%(25)	57%(20)	57%(20)	66%(23)	57%(20)	57%(20)	34%(12)	57%(20)	46%(16)	54%(19)
Maryland	47%(7)	53%(8)	27%(4)	60%(9)	33%(5)	33%(5)	20%(3)	33%(5)	33%(5)	40%(6)
Interstate	78%(35)	51%(23)	42%(19)	47%(21)	38%(17)	53%(24)	40%(18)	38%(17)	53%(24)	36%(16)
<u>Issue Subfiles</u>										
School Finance	72%(88)	54%(66)	62%(76)	57%(70)	55%(67)	46%(56)	33%(40)	46%(56)	35%(43)	25%(30)
Special Educa.	71%(85)	54%(65)	41%(49)	46%(55)	44%(53)	50%(60)	38%(45)	35%(42)	48%(57)	38%(45)
TOTAL SAMPLE	72%(173)	54%(131)	52%(125)	52%(125)	50%(120)	48%(116)	35%(85)	34%(82)	41%(100)	31%(75)

* Response Rates: Total Sample 91%(242); Political Actors 92%(112); Bureaucrats 93%(90); Researchers 79%(37); California 91%(147); Virginia 95%(35); Maryland 94%(15); Interstate 88%(45); School Finance 89%(122); Special Education 99%(120).

All percentages rounded at the .05 level.

staff capacity may make information gathering more difficult and pressured. Fewer hands to help pull together backup materials may make timing concerns more acute. Additionally, in states with a less complex policy apparatus, individual policy-makers are more easily identified with a particular decision. There might be fewer groups active in policy disputes. Supportive research could enhance a policy-maker's status and buffer him from the criticism of colleagues. Hence, compatibility with views is a more important characteristic of information in smaller states.

Responses in the Maryland subfile are considerably different from those of California and Virginia. We attribute some of the variance to the newly active education finance reform groups there. Other differences probably reflect the absence of a research component in this state sample. For example, Maryland is the only subfile in which availability of information in a short period of time is not the first ranked concern. Legislative timing is. This suggests the growing salience of legislative decisions in a newly reform-oriented state. On the other hand, Maryland respondents rank technical quality considerably lower than do policy-makers in the other states. The absence of researchers in the Maryland subfile may account for this. Researchers as a group rank technical quality of highest importance. Their presence in the other state samples would raise the relative rank of technical quality there.

Audience subfile differences seem to reinforce proponents of the two-communities metaphor (see also discussion of Oral Modes, page 35). Variations in the work environments of researchers, political actors and bureaucrats predict their responses about what makes information usable. To no one's surprise, researchers consider the technical quality of information crucial. They also rank

quantitative information and that which challenges beliefs more highly than their political or bureaucratic counterparts. (Note the differentiation between percent response and relative ranking of characteristics). Clearly, researchers, whose livelihood and professional status depends on the quality of the information they produce, would value those characteristics which suggest high quality products.

Similarly, work constraints also predict responses of the political actors. They want information in a short period of time and to coincide with legislative sessions. Comprehensiveness and comparative data rank higher since time pressures demand that a little information says a lot. With specific constituencies to serve, political actors consider targeted information more important than do researchers whose rewards come from colleagues, not clients.

Bureaucrats do not differ significantly from the political actor sample. They are slightly more interested in information that allows for long range planning. They rank targeted information higher and are somewhat more interested in information that is compatible with their views. All are differences that may be explained by the greater programmatic responsibilities of bureaucrats (hence a need for targeted information), and the tendency within bureaucratic organizations to maintain the status quo (Allison, 1965). Non-controversial information -- i.e., that which is compatible with the dominant beliefs of the organizational subunit in which the respondent works -- would sustain that status quo, and, therefore, be useful.

In sum, the responses of the three audience groups offer a few surprises. Workplace constraints seem to predict variance in the reports of what makes information useful.

IIIId. What Modes of Oral, Written and Visual Communication are Most Used by State School Finance and Special Education Policy-Makers?

State school finance and special education policy-makers were asked to identify the explicit modes of oral, written and visual communication which they used in each of four stages in the policy-making process. The modes were chosen from listings of the primary and secondary forms of communication most available for use by policy groups. The stages of the policy process were four commonly referred to in public policy literature: awareness; policy formulation; management/oversight; and, impact.

The following sections - Oral Communication; Written Communication, and Visual Communication - discuss the aggregate responses and subfile differences. In general, school finance and special education policy-makers indicate:

* Policy-makers use oral modes of communication more than written or visual ones. Those used most conform to the 'usable' characteristics discussed in IIIb: they are easily accessible, most likely to provide contextual information, and allow informal interaction between information seekers and information providers.

* Research reports, statistical compilations and personal notes and files are the forms of written communication most used by state education policy-makers. The first two suggest a substantial backdrop of research in school finance and special education policy deliberations;

* Visual communication is less widely used by the respondents. However, following the pattern of oral and written communication, field

visits, ranked first in the visual category, provide highly contextual information;

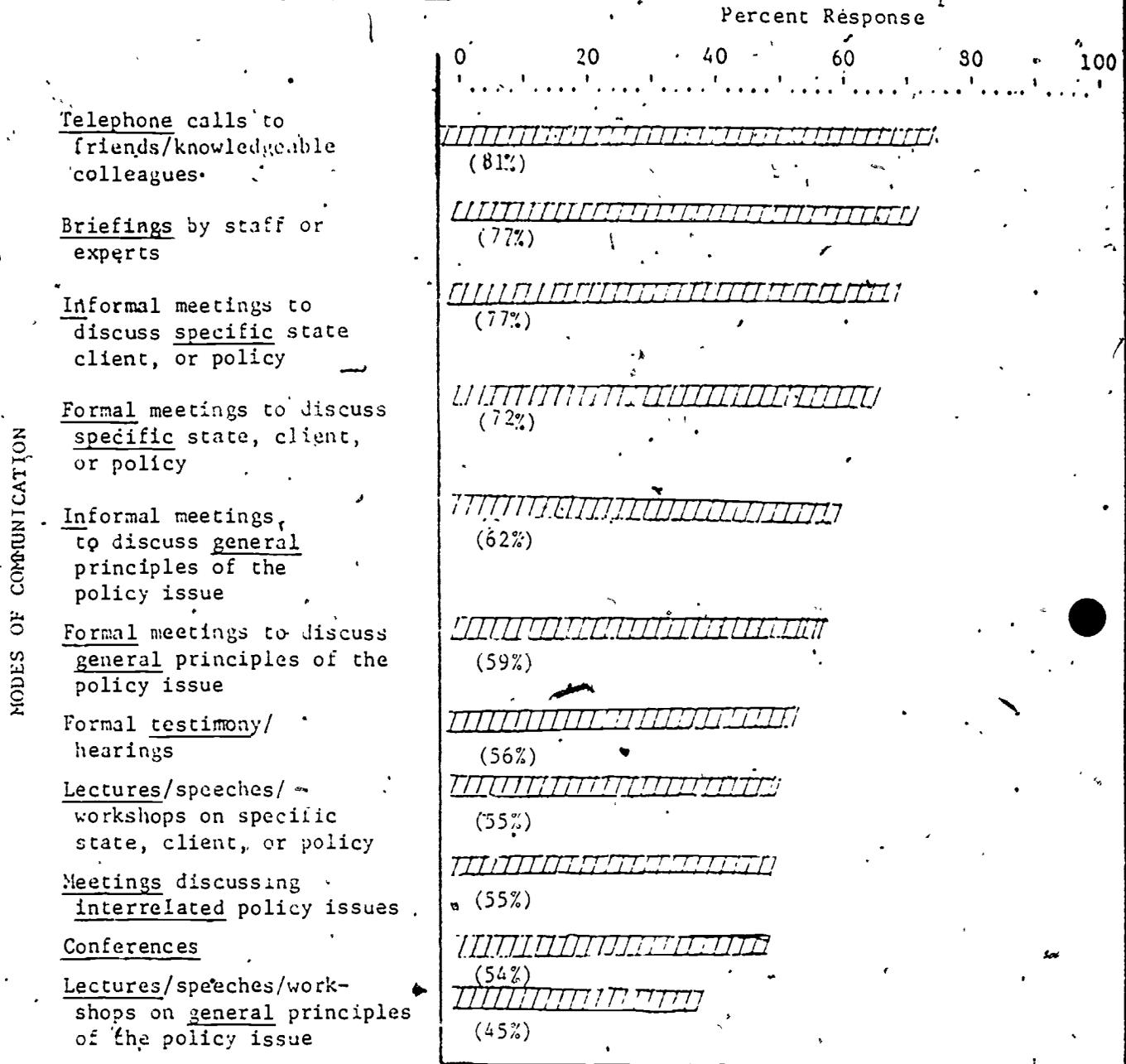
* The stage in the policy cycle makes a difference in the types of communication used by state policy-makers. They are most likely to seek out new information in the awareness and policy formulation stages;

* Differences in the work environments of political actors, bureaucrats and researchers explain the variation in the modes of communication used by these groups. Political actors and bureaucrats use oral communication more than written. Researchers use written slightly more than oral;

* The modes of communication most used are those which would be helpful for maintaining a policy network. Policy-makers exchange information informally, orally and frequently. Research and research related documents are prominent among written information modes. They seek information from a wide variety of sources in the early stages of policy making, including conferences and informal meetings that provide face-to-face contact and contextualize information.

Oral Communication: The sources of oral communication most used by school finance and special education policy-makers are listed in Table 7, page 36. The forms identified most useful, as Bardach would predict (see Chapter II), impose low consumption costs on the user. They also corroborate the survey results on the characteristics of usable information. Telephone calls, briefings and informal meetings about specific policy issues are all easily accessible, likely to provide contextual information, and allow informal, face-to-face interaction between information providers and information users. They are styles of communication routine in policy-makers' work worlds.

TABLE 7: MODES OF ORAL COMMUNICATION MOST USED BY STATE SCHOOL FINANCE AND SPECIAL EDUCATION POLICY-MAKERS (All sub-files combined)



Response Rate=94% (N=248)

¹ Percent of total reporting use for oral communication.

² Average of the percentage responses in each of the four stages of policy making (see Appendix F).

Telephones, available in every office, impose some of the lowest consumption costs. They provide one-to-one communication between the information seeker and provider, virtual assurance that the policy-maker can ask specific questions concerning the particular policy question at hand. With relative ease, the caller can contact one or several sources to locate the exact information needed. Briefings with staff or experts and informal meetings on specific issues provide opportunities for participants to ask questions in interactive group settings. These personal exchanges contextualize information. Face-to-face communication has an added advantage of allowing individuals to pick up the myriad of non-verbal communication cues that help assess the credibility of the information source.

The importance of the informality of the modes of communication chosen should not be overlooked. Informal exchanges allow 'off-the-record' comments, important not only for the background information they may yield, but for the implied trust and respect among colleagues that they symbolize. They are also effective mechanisms for breaking down some of the barriers to research use (discussed in IIIe).

In informal discussions with colleagues, policy-makers can relatively quickly translate politically unfeasible or abstruse research into terms more relevant for a specific policy context.

The lowest ranked modes of oral communication for the aggregate sample are those which furnish general information about policy in formally structured environments. Lectures and speeches, for example, connote primarily one-way communication in which policy-makers receive information from others. Opportunities for interaction among colleagues are limited to formal question periods after presentations, a format

which limits both the number and specificity of policy-makers' questions. Conferences provide considerable information interaction among participants and are often highly topical and context-specific. However, they also require careful juggling of time and travel schedules. Consequently, for regular information exchanges they are impractical. Testimony, though structured to elicit dialogue between information providers and committee questioners, is limited to formally scheduled times and discourages informal, off-the-cuff comments that often provide texture to a dialogue. Essentially, all of the lowest ranked modes of oral communication lack the most important characteristic of usable information. None are readily available in a short period of time and they are relatively expensive.

Subfile Analysis: What Oral Modes of Communication are Most Useful - A breakdown of the total sample into issue and state subfiles surfaces few differences in the use of oral modes of communication (see Appendix B). Only in the use of telephones is there noticeable variance. The interstate special education subfile reports much lower use of telephones than do the state files. Briefings and meetings about specific policy topics are rated high. This difference might be explained by the recent and intense push to implement federal special education legislation and regulations. Special education encompasses a number of quite different handicapping conditions. Predictably, policy-makers in this area need the most detailed information possible on the nuances of educational policy decisions as they relate to the diverse handicapped groups to be served. Testimony and briefings can provide that specificity. The interstate subfile contains a large percentage of issue specialists who would be called upon to testify on various issues as well as those who wish to hear testimony.

There are differences in the way political actors, bureaucrats and researchers use oral communication. In general, political actors and bureaucrats use oral modes more often than researchers do. Researchers also use it differently. On two non-parametric tests for statistical significance, researchers systematically differ from the other two audience groups in the way they use oral communication (see Tables 8 and 9, page 40). Our survey findings reiterate those of Caplan (1975) who found that the largest proportion of variance in the ways that research is used can be explained by differences in the work styles and rewards systems of the two communities of policy-makers and researchers. Apparently, when researchers complain that policy-makers do not listen, and policy-makers retort that researchers do not say anything worth listening to, both are right. They simply 'talk' to colleagues differently.

An example of the difference in oral communication use is in the ranking of conferences. Approximately half of each audience subfile checked conferences as useful sources of information (48% of political actors, 50% of bureaucrats and 58% of researchers). However, political actors and bureaucrats are heavy users of most forms of oral communication. Consequently, in comparison to other forms from which they also use, conferences rank ninth for political actors and eighth for bureaucrats. On the other hand, researchers' overall use of oral communication is lower than that reported by the political and bureaucratic groups: Their 53% response on conferences makes that form of communication the third most useful for researchers. It would appear that they are one of the key points of face-to-face contact between researchers and other policy-makers. More than likely, conferences bring about a 'rubbing of shoulders' between researchers and state policy-makers that is crucial for information exchange. Consequently, although the work pressures of political

TABLE 8 : ORAL MODES OF COMMUNICATION ARE THOSE MOST USED BY STATE POLICY-MAKERS

	Mean Ranks		
	Oral	Written	Visual
ALL	2.46	2.26	1.28
AUDIENCE			
Political Act.	2.49	2.20	1.32
Bureaucrat	2.46	2.26	1.28
Researcher	2.37	2.43	1.20
STATE			
California	2.45	2.25	1.30
Virginia	2.57	2.15	1.28
Maryland	2.53	2.40	1.07
Interstate	2.38	2.31	1.30
ISSUE			
School Fin.	2.54	2.30	1.15
Special Ed.	2.37	2.21	1.42

Friedman Chi-Square Test for Statistical Significance is .000 for all mean ranks. Tests are significant at the .05 level.

TABLE 9 : POLITICAL ACTORS AND BUREAUCRATS DIFFER FROM RESEARCHERS IN THE WAYS THAT THEY USE ORAL AND VISUAL COMMUNICATION

MEDIAN TEST - 2-Tailed Test for Significant Difference

<u>Comparison of Audience Subfiles</u>	<u>Oral</u>	<u>Written</u>	<u>Visual</u>
Polit. Actor/Bureaucrat	.836	.009	.001
Polit. Actor/Researcher	.007	.406	.788
Bureaucrat/Researchers	.007	.176	.002

(significant at the .05 level)

actors and bureaucrats predict that conferences would not be used often, it would appear that they would be an effective dissemination activity. They create the precise conditions for low-cost information consumption that our respondents value: informal, face-to-face exchanges and expert briefings to impart research information in highly contextualized form. Conferences would also provide researchers with the most current information on political problems.

Sundquist's call for research brokers (1978) (see also Florio, 1980) and the success of linking agents for dissemination to educational practitioners (Butler and Paisley, 1976) make sense for state education policy-makers. If researchers do not use oral communication much but policy-makers do, then individuals able to bridge that information gap are needed. These brokers would be people savvy about political considerations and knowledgeable about research. More than likely, they would have high visibility within the policy community, attained either by excellent research, skillful policy-making, or both. Sundquist defines them as "men or women within a discipline who have a flair for interpreting, in non-technical or at least semitechnical language, the technical findings of their colleagues, and who make it their business to do so. They do their own research as well, probably, but the findings of their own direct investigations form a small part of the information they assemble and present to the world at large." In short, research brokers are people who know how to translate the 50¢ words of researchers into the 5¢ and 10¢ variety that hold greater currency in the non-research world. They are accessible by telephone and have the flexibility to consult and attend conferences at which research and policy information is exchanged.

In our sample, for example, the Director of the Finance Center at the Education Commission of the States, Allen Odden, and the Executive Director of the Council for Exceptional Children, Fred Weintraub, would qualify. Their organizations were named frequently as critical information sources and they received several individual citations as well.

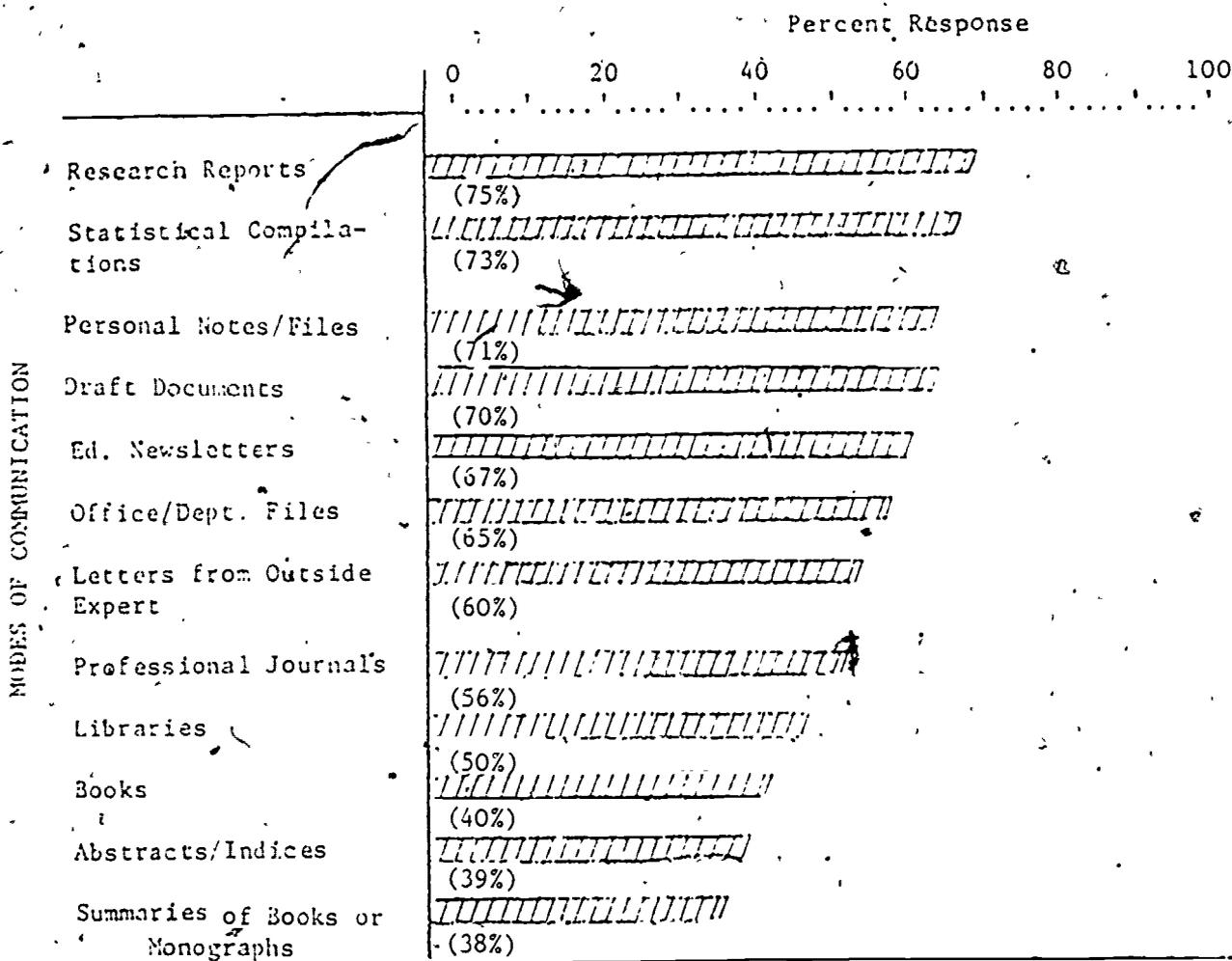
In fact, the state education policy groups surveyed would appear to have a number of these information brokers. Many respondents are frequent users of research, are sought out daily for policy information, and work through something called an informal network to get and give information. These characteristics are precisely those of the gatekeeper or idea entrepreneur, (Kirst, 1980) of the issue network who channel information into and around the policy community. More research is necessary to determine whether, in fact, school finance and special education policy networks are functioning to disseminate information to policy professionals in them.

Written Communication: Four of the first five forms of written communication reported most useful by the state respondents are research reports and research related materials, that is, statistical compilations and draft documents. Apparently, scientific knowledge relevant to state educational policy problems is available and used by policy-makers.

According to the criteria for useful information set out by our respondents, we assume that the written information used is easily available, reliable and factual (see Useful Information, III b). To ascribe these characteristics to research seems to refute earlier chapters of this report which declaim the general nature of social science research and its unavailability to policy-makers. Evidently, something in the nature of the school finance and special education state policy communities operates to reduce barriers to research use.

A clue may be found in the reports of most useful information sources (see III d). Both school finance and special education policy-makers identify informal networks, State Departments of Education and legislative information services as valued conduits of information. All are likely to provide quick access to current research. State legislative and Department sources work on issues engaging the attention of state policy-makers and could furnish research to them with a relatively high degree of issue specificity. Similarly, a phone call or meeting with colleagues in the informal network could yield references to research accessible within the policy community. Bardach would note that most useful written communication sources are also proximate to the policy-makers. Regular mailings and other routine information channels.

**TABLE 10: MODES OF WRITTEN COMMUNICATION MOST USED BY STATE
SCHOOL FINANCE AND SPECIAL EDUCATION POLICY-MAKERS
(All subfiles combined)**



Response Rate = 93% (N=244)

¹ Percent of the total reporting use of written modes of communication.

² Average of the percentage of responses in each of the four stages in the policy process.

keep policy-makers alert to research relevant to their concerns. Issue specialists within informal networks may regularly route new research to professional colleagues. The high use of draft documents in the written category suggests that this may be so. Unfortunately, without more concrete information about communication processes within policy communities, we can only conjecture as to why research appears so important to the school finance and special education policy-makers in our sample. The fact is, however, that they do report it to be the most useful written mode.

The high ranking of personal notes and files suggest an intersection between the oral modes of communication and written ones. Records of phone calls and meetings are kept in forms that are accessible and specific. They are also sources of information that policy-makers trust.

An unexpected response in this section is the low rating of summaries.

This may simply mean that books on school finance and special education policy issues are few and summaries not readily available. If summaries were available, they may omit the factual and quantitative data important to policy-makers, offering instead very general overviews of the book's contents. On the other hand, executive summaries are notoriously popular among policy-makers. The low summary rating, therefore, may be a case where policy-maker perceptions of use and actual behavior differ.

Subfile Analysis: What Modes of Written Communication Do State Education Policy-Makers Use? There are no surprising differences among the state, issue or audience subfiles in regard to written communication (see Appendix B). The school finance and special education policy-makers report very similar patterns of written information use. Education newsletters are slightly more useful to special education respondents than to those in school finance. The limited number of newsletters that focus on financing concerns make it probable that such difference would appear.

California respondents are slightly higher users of research than are those from smaller states. The larger numbers of researchers in California (a reflection of the greater differentiation of professional staff roles in that state) make it likely that research would be used more there. Additionally, California has had a slightly longer exposure to school finance reform pressures. The smaller states might not have had to call out research reserves quite as often. Instead, they rely more on the State Departments of Education's office files.

Audience differences in the use of written communication are slightly more pronounced. Yet, here, as in oral communication, variance seems to reflect workplace constraints. Political actors' responses are congruent with those of the aggregate rating. They use research, statistical compilations, memos and news bulletins.

Weiss (1980), Mitchell (1980), and Walker (1981) would all predict that these political actors would use research as often as the other types of policy-makers would. It helps them to gain professional stature among colleagues as well as to bolster partisan arguments. It furnishes them with a backdrop of scientific knowledge as a counterpoint to conventional wisdom. Most importantly, policy-makers probably want to use research as much as is feasible. As Walker notes (page 30-31):

Political scientists...have too often erred...by assuming that policy was determined almost exclusively by the clash of vested interests. All public policies eventually must be justifiable, both in moral and purely intellectual terms, if they are to be regarded as legitimate by the citizenry. The great significance of the growing role of experts in democratic systems is not, as is often feared, their ability to manipulate elected representatives... but rather their ability to provide the intellectual underpinnings of public policy.

In a separate question on the survey we corroborated the strong showing of research use. 84% of the respondents reported that they use research 'often' or 'occasionally' in their work. Half of that group selected 'often'. Moreover, by far the majority within each of the three audience groups claimed research useful at least occasionally (see Table 11, page IVI-48).

Bureaucrats are the audience group who selected 'often' least. This matches their responses on the rating of written forms of communication most useful to them. They look first to sources within their organizations--memos, office and department files and personal notes. Research and statistical compilations follow internal sources. Organizational theorists would expect this response. When information needs arise, bureaucrats satisfice and move sequentially from internal, safe sources to external ones until they find the information needed (Allison, 1965).

TABLE 11: RESEARCH IS USED BY SCHOOL FINANCE AND SPECIAL EDUCATION
POLICY-MAKERS IN THEIR WORK.

(Subfile breakdown)

	Research is used in work:		
	Often	Occasionally	Rarely
ALL RESPONDENTS	41% (103)	43% (107)	16% (39)
Audience Subfile			
Political Actor	39% (45)	42% (48)	19% (22)
Bureaucrat	31% (29)	52% (49)	17% (16)
Researcher	73% (29)	25% (10)	3% (1)
State Subfile			
California	43% (64)	43% (65)	14% (21)
Virginia	31% (11)	54% (19)	14% (5)
Maryland	29% (4)	50% (7)	21% (3)
Interstate	48% (24)	32% (16)	20% (10)
Issue Subfile			
School Finance	45% (58)	42% (54)	13% (10)
Special Education	37% (45)	44% (53)	19% (23)

Total Response: 94% (n=249)

To imply that the research bureaucrats use is an 'outside' source is misleading. In their questionnaire answers bureaucrats say they use research primarily produced by their own organizations. The small percent of research produced outside is contracted to private firms.

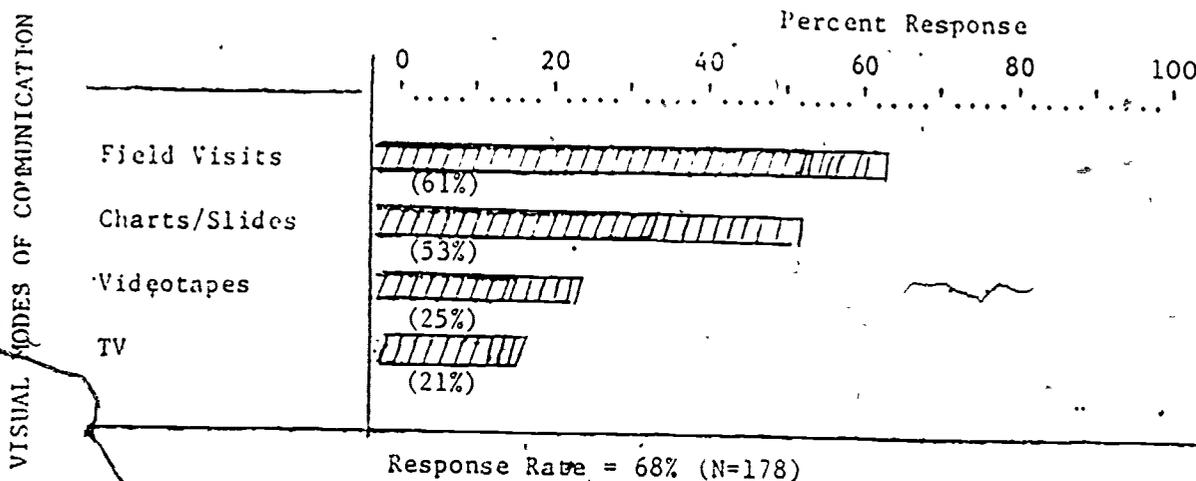
Workplace characteristics are also prominent in the researchers' responses to written communication uses. The most useful source of written information for them is research. Professional journals are the second most critical source. As noted earlier, there are the typical communication channels of academic scholars, for scholars' research, generally reported in journals, keeps them abreast of the latest developments in their field. The work of colleagues extends the research frontiers for scholars. Both are information sources as readily available and reliable for researchers as office documents might be for the bureaucrats. The higher rating of libraries and books are also predictable for individuals who trade in written forms of communication.

Visual Communication: Only 68% of the state respondents reported use of visual communication, in contrast to responses of 94% for oral and 93% for written modes (see Table 12, p. 51). These lower figures suggest that visual modes are more costly to use with lower benefits. Even here, the most contextual source-- field visits-- rank highest. They could provide important links between policy-makers and constituents and are also central to case study research. Nevertheless, the costs in time, travel inconveniences, and, for policy-makers, partisan considerations-- who to visit, when, for how long -- added to the literal expense of travel, outweigh the benefits that field visits might offer.

Charts and slides are familiar tools for conveying quick information in meetings. They are relatively easy to construct and inexpensive. Their second place rank probably reflects this ease and familiarity.

TABLE 12 MODES OF VISUAL COMMUNICATION MOST USED BY STATE SCHOOL FINANCE AND SPECIAL EDUCATION POLICY-MAKERS

(All subfiles combined)



¹ Percent of the total reporting use of visual communication modes;

² Average of the percentage of responses in each of the four stages of the policy-making process.

The low videotape ranking is probably not a qualitative judgment about its usefulness as much as it is acknowledgment that tapes are costly and have not been developed as policy communication tools. They would seem to hold the potential for providing the specificity of field visits without the time and travel costs to policy-makers. However, they are expensive to produce and not generally available on educational policy topics. (A notable exception is a videotape directed by Ira Eisenberg entitled, "Should Public Schools Compete." The film has won awards from the Public Broadcasting Network and has been aired several times in the Bay Area in California. The success of this tape would suggest a need for more investigation into this mode of communication before rejecting it out of hand.)

In contrast to Caplan's finding that TV news programs such as "60 Minutes" play an important role in information dissemination, the state education policy-makers find it of little use. Two possible explanations come to mind: the best known and most popular TV news programs are nationally syndicated. They may contain information about policy issues of primary interest to federal policy-makers. Certainly, education topics are not prominent features of most news programs.

Secondly, the low marks for TV may be a case of our respondents not perceiving how often it does influence their attitudes about policy issues. Mitchell's claim (1980) that status is an important factor in information use might be instructive here. Even if policy-makers did use TV as an important information source, they might not report it, as it does not connote careful search and research about policy issues.

Subfile Analysis: What Modes of Visual Communication Do State Education Policy-Makers Use?--In the issue subfile special education policy-makers use visual communication considerably more than do school finance respondents. Since the special education subfile has a substantial representation of technical assistance groups, this difference is not unexpected. Visual modes, especially field visits and charts and slides, are integral to technical assistance programs which instruct and encourage innovation.

School finance policy-makers report TV far more useful as an information source than their special education counterparts. This may reflect the heavy TV coverage of the tax limitation measures and the voucher initiative coverage over the past few years. Moreover, general fiscal information, reported regularly on news programs, has greater currency for this group than for policy-makers concerned with management and teaching questions of handicapped education.

States report minimal differences in use of visual modes of communication. The interstate subfile is an exception. Responses there parallel those of the special education subfile.

In the audience subfiles, political actors and bureaucrats use visual modes far more than do researchers. Tests of statistical significance also report systematic difference in the way these groups use visual communication. Again, workplace constraints probably account for this. Political actors and bureaucrats need current information on specific client and programmatic needs, and, until recently, had travel budgets that could support occasional trips. These groups also regularly attend briefings and testimony in which

charts and slides are routinely featured. Researchers, on the other hand, rely on information sources which furnish scientifically verifiable data--sources most likely to be found in journals or case studies, research's counterpart to the field visit.

Stage in the Policy Cycle--Does it Make a Difference?

School finance and special education policy-makers use modes of oral and written communication differently at the various stages of policy-making. Visual modes are the exception. Their use is relatively unchanged over the awareness, policy formulation, management/oversight and impact states.

The awareness stage is the best time to inject new information into policy deliberations, especially if the information comes from outside the normal policy channels. Noticeable at this stage is the emphasis on informal meetings, conferences, and general policy discussions, exchanges which offer the greatest opportunity for face-to-face contact with individuals outside the policy-makers' immediate work environment. Bardach's 'gatecrashers' can most easily enter at this stage (see Chapter II). Written modes favored here also include outside sources. Policy-makers use news bulletins and professional journals most at the awareness stage. Draft documents also are important in the first two stages of policy-making.

The enlightenment function of research is very much in evidence at the awareness stage. State respondents learn the latest policy news from informal, general meetings, conferences, newsletters, and journals. More than likely, they also keep abreast of the most

TABLE 13

WHAT ORAL MODES OF COMMUNICATION DO STATE
EDUCATION POLICY-MAKERS USE?
(All Subfiles Combined)

<u>Stages in the Policy Cycle</u> (Modes of Communication)			
<u>AWARENESS.</u> 98% (256)*		<u>POLICY FORMULATION</u> 98% (262)	
1. Telephone calls	95% (242)	1. Telephone calls	83% (210)
2. Informal general'	79% (202)	2. Informal specific'	82% (206)
3. Informal specific'	77% (197)	3. Briefings	80% (201)
4. Briefings	74% (189)	4. Formal specific'	78% (197)
5. Other meetings on Several issues	72% (183)	5. Formal general'	69% (173)
6. Conferences	64% (163)	6. Informal general'	69% (173)
7. Formal specific'	59% (152)	7. Lectures specific	58% (146)
8. Lectures general	59% (151)	8. Testimony	57% (144)
9. Formal general'	57% (147)	9. Other meetings on Several issues	52% (130)
10. Lectures-specific	55% (141)	10. Lectures-specific'	48% (121)
11. Testimony	52% (133)	11. Testimony	37% (94)
<hr/>		<hr/>	
<u>MANAGEMENT/OVERSIGHT</u> 85% (226)		<u>IMPACT</u> 94% (249)	
1. Briefings	77% (175)	1. Telephone calls	77% (192)
2. Formal specific'	76% (171)	2. Briefings	77% (192)
3. Informal specific'	73% (164)	3. Informal specific'	76% (188)
4. Telephone calls	67% (152)	4. Formal specific'	74% (185)
5. Formal general'	53% (119)	5. Testimony	62% (154)
6. Lectures specific	52% (117)	6. Formal general'	57% (143)
7. Testimony	52% (117)	7. Conferences	57% (141)
8. Conferences	46% (103)	8. Lectures specific'	55% (138)
9. Informal general'	45% (102)	9. Informal general'	55% (136)
10. Other meetings Several issues	43% (96)	10. Other meetings Several issues	54% (135)
11. Lectures general	35% (78)	11. Lectures general	39% (97)

* All percentages rounded at the .05 level.
meetings



TABLE 14

WHAT WRITTEN MODES OF COMMUNICATION DO STATE
EDUCATION POLICY-MAKERS USE?
(All Subfiles Combined)

Stages in the Policy Cycle
(Modes of Communication)

<u>AWARENESS</u> 96% (255)*		<u>POLICY FORMULATION</u> 93% (248)	
1. Education news-letters/bulletins	89% (182)	1. Research reports	83% (205)
2. Research reports	83% (212)	2. Statistical compilation	79% (195)
3. Draft documents	75% (192)	3. Draft documents	77% (195)
4. Personal notes files	75% (192)	4. Memos	77% (191)
5. Memos	74% (188)	5. Personal notes/files	73% (180)
6. Professional journals	71% (182)	6. Office/department	70% (173)
7. Statistical compilations	69% (177)	7. Education news-letters/bulletins	69% (170)
8. Office/department file	62% (159)	8. Professional journals	61% (152)
9. Outside expert letters	62% (157)	9. Outside expert letters	61% (152)
10. Library resource center	58% (149)	10. Libraries	56% (139)
11. Books	54% (137)	11. Books	43% (106)
12. Summary	53% (136)	12. Abstracts	43% (106)
13. Abstract index	49% (124)	13. Summary	41% (101)

<u>MANAGEMENT/OVERSIGHT</u> 85% (226)		<u>IMPACT</u> 92% (245)	
1. Memos	72% (162)	1. Statistical compilations	75% (184)
2. Statistical compilations	68% (154)	2. Research reports	73% (178)
3. Personal notes/files	68% (154)	3. Memos internal	71% (175)
4. Office files dept	62% (139)	4. Personal notes	67% (163)
5. Draft documents	62% (140)	5. Office/dept. files	65% (158)
6. Research reports	61% (138)	6. Draft documents	64% (156)
7. Outside letters	56% (126)	7. Education news-letter/bulletin	60% (148)

TABLE 14 (cont'd)

MANAGEMENT/OVERSIGHT 85% (226)		IMPACT 92% (245)		
8.	Education news- letter/bulletins	51% (115)	8. Letter outside	59% (145)
9.	Libraries	39% (89)	9. Professional journals	51% (126)
10.	Professional journals	39% (89)	10. Libraries	45% (109)
11.	Abstract index	28% (63)	11. Books	36% (88)
12.	Books	28% (63)	12. Abstract index	36% (87)
13.	Summaries	24% (53)	13. Summaries	33% (81)

*All percentages are rounded at the .05 level.

TABLE 15

WHAT VISUAL MODES OF COMMUNICATION DO STATE
EDUCATION POLICY-MAKERS USE?
(All Subfiles Combined)

(Modes of Communication)

AWARENESS (74% (198))*		POLICY FORMULATION 64% (171)	
1. Field visits	81% (160)	1. Field visits	78% (134)
2. Charts/slides	50% (99)	2. Charts/slides	52% (88)
3. TV	36% (71)	3. Video tapes	21% (36)
4. Videotapes	28% (56)	4. TV	15% (25)

MANAGEMENT/OVERSIGHT 61% (161)		IMPACT 68% (181)	
1. Field visits	83% (134)	1. Field visits	80% (144)
2. Charts/slides	52% (83)	2. Charts/slides	56% (101)
3. Videotapes	25% (40)	3. Videotapes	25% (45)
4. TV	15% (25)	4. TV	20% (36)

* All percentages rounded at the .05 level.

current research through the exchange of draft documents, which are used by over three-quarters of the respondents in the awareness and policy formulation stages.

In contrast to the emphasis on information sources outside the formal policy communication channels in the awareness stage, later stages find respondents relying most on research, statistical compilations and the formal, routine information channels associated with day-to-day policy work: personal and departmental files; briefings and meetings on specific topics. These are information sources that are factual rather than speculative. They also furnish information that is more directly related to a specific policy context.

The high rating of research in the awareness and policy formulation stages lends credence to Walker's hypothesis that the ties between knowledge and power are stronger and more complex than political scientists often recognize. It would appear that policy-makers in both issue areas exchange ideas and attempt to build consensus on appropriate policy direction before mandates are set into law. This behavior is consistent with that of an issue network (Kirst, Peterson 1980). Policy-makers within the network generate and disseminate information crucial for determining which issues arise on the public agenda. The state education respondents exhibit these networking characteristics. They report considerable interaction with colleagues and use of newsletters, journals and draft reports early in the policy process. In later stages of the policy cycle processes take over: briefings and memos are important in the impact stage--possibly to assess the effectiveness of policy and lay the groundwork for the next policy issue to be tackled within the network.

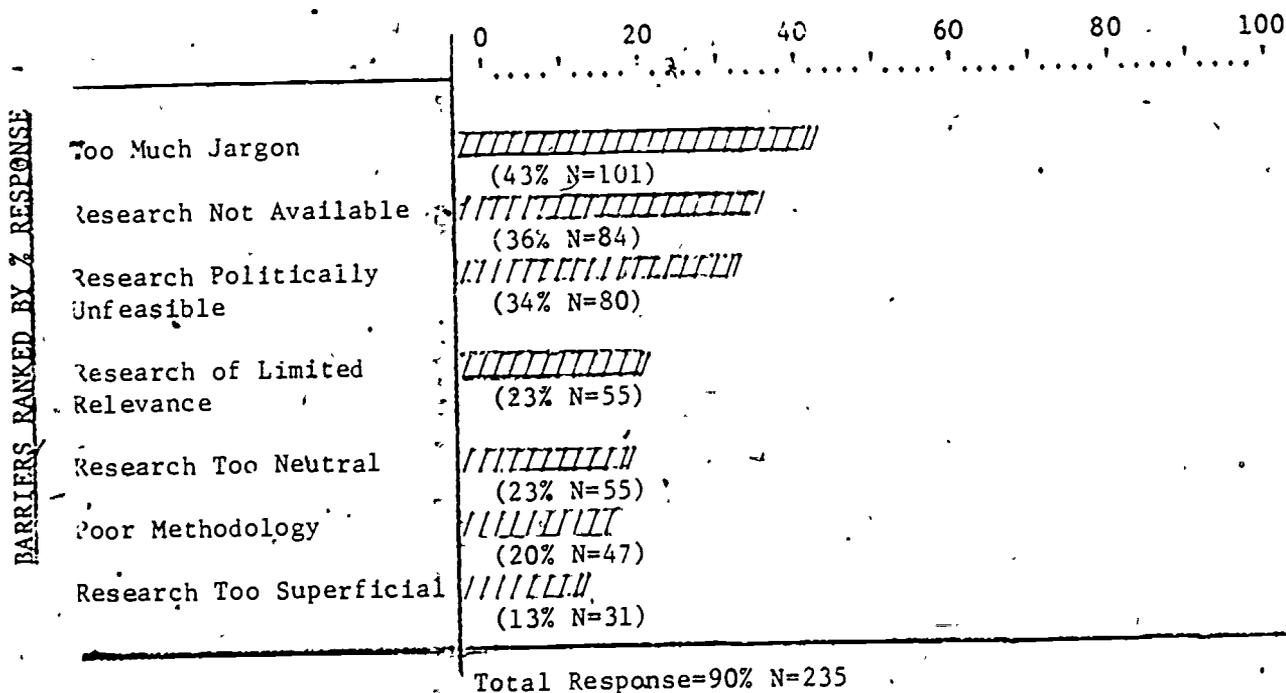
IIIId. What Barriers Block Research Use?

90% (235) of the state policy-makers surveyed identified one or more barrier to research use (see Table 19). Too much jargon is the biggest blocker. Unavailability is also a problem, although even that which is available is often politically unfeasible--and, therefore, unusable. Of less concern on this question is the methodology or superficiality of research. However, those who chose to answer an open-ended question about what would motivate them to use more research often cited distrust of researchers' view of 'real world' activities.

Reports of barriers complement the responses on what makes information usable, and further substantiate Bardach's observations about what raises the costs of research consumption. 'Good' information is available: 'bad' research is not, or it is so unreadable as to be virtually unavailable to those uninitiated in research jargon. Similarly, 'good' information is of specific, high technical quality and timed for legislative cycles. Unusable research is politically unfeasible or irrelevant to the immediate issue, and, therefore, of no use in the immediate legislative cycle.

Subfile differences also parallel differences that appeared in the subfile analysis of the characteristics of usable information. The special education respondents are primarily concerned with the availability of research, particularly that which is jargon-free, and, therefore, more easily used. School finance policy-makers do not appreciate jargon-laden research, either, but their second greatest concern is feasibility rather than simple access. They also have problems with the limited relevance of research that is available. The difference between 'new' and 'old' issues surfaces here, as it did in the discussion of useful characteristics. Special education, the 'new' issue, has greater need for information

TABLE 19: MAJOR BARRIERS TO RESEARCH USE: All Respondents
Percent Response



in general. The 'old' school finance group, exposed to research slightly longer, have higher standards for the research that they use. Bardach's comment that research consumption is inevitably non-optimal may apply here. School finance researchers have, presumably, used research more. Even though they have used a number of studies, the sheer volume that they have encountered over time may prompt negative comments about relevance and raise their expectations about standards of quality.

In the state subfile, California's responses resemble those of the school finance group. Bardach's discussion of the problems associated with the costs of research consumption may apply here as well. California is a state with greater staffing differentiation than others in our sample. It is also a place where educational crises have hit hard in the past ten years. It is likely that such problems would have motivated policy-makers to seek research help. Those policy-makers might well have found help from research, but, they also entailed the costs of sifting through to find the reports most directly of use. Hence, they report concern that research is irrelevant and superficial in larger percentages than do smaller states where the crises are later in arriving and staff to search out research fewer in number.

Virginia, a state with fewer staff and, therefore, lower capacity to integrate research into the policy process, ranks highest concern about jargon. Small staff working under pressure would probably be even more frustrated by this needless block to access than would their counterparts in states with more people available to search out and synthesize research. Virginia's concern about methodology fits our assumptions about state capacity. If small departments cannot afford or find research staff, they need to be certain that the little they receive is usable.

ACCORDING TO STATE POLICYMAKERS, RESEARCH IS HARD TO USE BECAUSE...

		TOO MUCH JARGON	RES NOT AVAILABLE	RESEARCH POLITICALLY UNFEASIBLE	OF LIMITED RELEVANCE	TOO NEUTRAL	POOR METHODS	ITS TOO SUPERFICIAL
III-63 ISSUE SUB-FILE STATE SUP-FILE	ALL 90% (235)	43% (101)	36% (84)	34% (80)	23% (55)	23% (53)	20% (47)	13% (31)
	FINANCE 88% (121)	48% (58)	31% (37)	41% (50)	31% (38)	28% (34)	19% (23)	17% (20)
	SPECIAL ED 88% (114)	38% (43)	41% (47)	26% (30)	15% (17)	17% (19)	21% (24)	10% (11)
	CALIFORNIA 86% (32)	42% (60)	36% (52)	36% (51)	29% (41)	25% (35)	19% (27)	15% (21)
	VIRGINIA 88% (14)	53% (17)	22% (7)	38% (12)	16% (5)	19% (6)	25% (8)	6% (2)
	MARYLAND 88% (14)	36% (5)	29% (4)	43% (6)	21% (3)	43% (6)	7% (1)	7% (1)
	INTERSTATE SPECIAL ED 90% (46)	41% (19)	48% (22)	22% (10)	13% (6)	13% (6)	24% (11)	23% (11)

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		TOO MUCH JARGON	RES NOT AVAILABLE	RESEARCH POLITICALLY UNFEASIBLE	OF LIMITED RELEVANCE	TOO NEUTRAL	POOR METHODS	ITS TOO SUPERFICIAL
POLITICAL ACTORS 88% (107)	44% (47)	29% (31)	34% (36)	25% (27)	25% (27)	21% (22)	14% (15)	
BUREAUCRATS 95% (92)	40% (37)	45% (41)	37% (34)	23% (21)	22% (20)	12% (11)	7% (16)	
RESEARCHERS 77% (36)	47% (17)	33% (12)	28% (10)	19% (7)	17% (6)	39% (14)	29% (10)	

Similarly, problems with the political unfeasibility and neutrality of research might be expected in Maryland. In the politically charged atmosphere that accompanies attempts at policy change, such as are currently underway in that state, political considerations would weigh heavily in judgments about information use:

Interstate special education respondents feel that the limited amount of research available is often full of jargon. Groups responsible for providing assistance to others, a larger number of whom are represented in this subfile, would likely value easy access to immediately usable research--not that which required time-consuming, costly translation. Moreover, special education has different pupil handicaps that all have different jargon.

In the audience subfile, researchers are the most critical of research language and quality; a predictable response from a group who make their living producing research and are in a position to judge the quality of the research product. Political actors also dislike the jargon in research, but they do not appreciate the political naivete or neutrality of the studies. It is interesting to note that bureaucrats are most concerned about political considerations. This may be because they are often the ones to present and defend their organizations' research findings before legislators.

Policy-makers' Comments About Research's Limitations: 153 respondents (58%) answered the question: I would use more research in my work if... Their comments corroborate the concerns about barriers discussed above. They also reveal two problems with research use that our question about barriers did not include: distrust of research and/or of researchers; and, work pressure. Table 20 summarizes the coded responses (page 52).

Typical comments about why research is not used more often include:

Access Problems.

"Academic communication circles do not reach out very well."

"(Research) is difficult to locate in a short period of time."

"Good stuff is often fugitive - or made less useful by publications lag time."

"There is so much, one must sort it out before using it."

"If the process were interactive (I would use it) - if I were in contact with people in the know more often."

"I need easier remote terminal access to NCES data!"

Distrust of Research or of Researchers

"If it were competent and honest, I would use it."

"Authors of (research) papers rarely have first hand information and experience. (Their work) consists of fantasized guestimates of little pragmatic value. (They) consistently fail to consider humanizing factors."

"(Research) is often accomplished by unknowledgable persons - it's a business transaction not a labor of life-long professional association. Also, it's too often biased to fit expected conclusions."

"Most researchers are unqualified to draw policy implications at the level of generalization necessary to develop national policies."

"I would use their work if researchers were less naive."

"I would use it if it were removed from vested interests."

"Much of it is deliberately deceptive. (It's reported) in an artfully obfuscating manner."

Problems with Jargon, Format, Timing, Generality of Research

"Most journal articles and research reports are not geared to answering specific, practical questions."

"(I would use research) if it were better synthesized, presented in clear English, and gave attention to the broad policy implications of the findings and conclusions."

"Researchers - even when they have findings of broad public interest - often do not report those findings clearly and concisely, in language the public can understand."

"(I would use it) if it were written in a clear fashion and reached specific conclusions.

"(I would use it) if it were written in English and were policy relevant."

"If jargon were diminished." or "too much jargon" or "available on a timely basis" or "related to the real world and more current" "up to date" or "more understandable", "customized to my needs", "more readable", "relevant", "specific", "up-to-date and related to specific issues" .

Problems with Methodology

"School finance research is frequently based on biased assumptions- usually, socially motivated."

"Too much writing about school finance blithely accepts assumptions about measures of wealth, effort and inputs that need to constantly be revisited rather than regurgitated."

"Conclusions drawn are based upon source data which is far too often taken for granted as being correct. Poor record keeping abounds and studies which use those records are suspect."

"I would use research if I could believe the facts upon which conclusions are drawn were more accurate."

"I would use it if I felt more confidence in the methodology and/or presentations, and if I felt that political consequences of results had not exerted a proactive effect on the research."

"I would use it if it were descriptive, anecdotal and statistical."

"Data bases used for research many times vary from data used in formulae. It is almost impossible to secure the specific computer programs used to allocate funds. A conflict of interest exists between those who can reveal the strange finance structures and politically contracted support.

Time Pressures

"I would use research if I had time to sit down and read it."

"If I had a different job. Running an agency doesn't leave time for research."

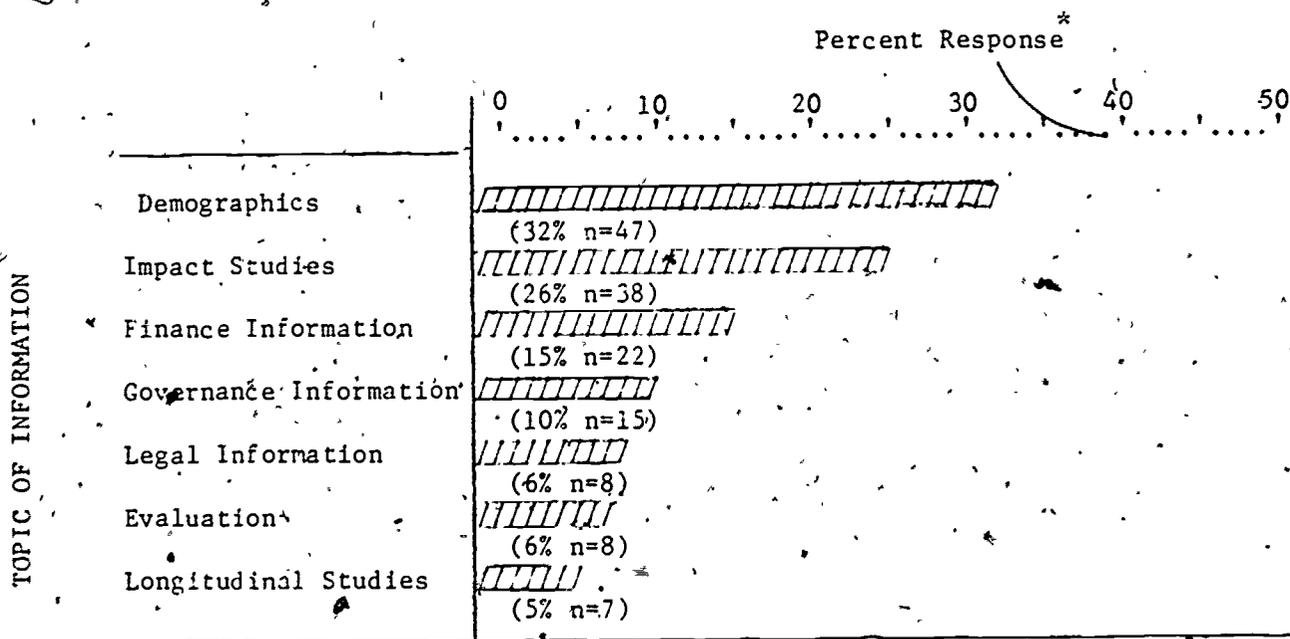
"I would use it, if other duties didn't cut into my time."

and, most frequently, "no time".

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 IIIe. What General Kinds of Information Will State Education Policy-Makers Need Over the Next Five Years?

In our survey we asked policy-makers to tell us what kinds of information they would need over the next five years that they did not have. Their responses indicated that demographic data and impact studies of the effects of the myriad of laws, legislation and regulation are most critical.

TABLE 22: INFORMATION NEEDED OVER THE NEXT FIVE YEARS: All subfiles combined



Total Respondents 55% n=145

* All percentages rounded at the .05 level.

In order to report quickly on the needs of these policy audiences; we coded the written responses into seven very general categories. Unfortunately, these aggregate groupings cannot accurately reflect the detail of the respondents' answers to this question. Below are listed examples of the comments typical of each category. Staff at IFG are now working on a more detailed reporting of the information culled from this question.

Sample Comments:

Demographics - "How many handicapped children are underserved? How many personnel are needed to serve the handicapped? I need child-change data to treatment and/or education."

"Who are in private schools? Who in public?"

"Population data - trends by school district; private school information by state, special pupils, costs; voc-ed data by school district and state"

"I need an accurate means of enrollment projections."

"How many autistic children are being served?"

"In special education, the major problem is that there is not accurate count of the children which we serve. If the recipients are unknown to planners, how can any reasonable planning be done? There are 200,000 children in the U.S. whose needs are lost on the preparing of programs!!"

Impact Studies - "I need to know the utility consequences of many of the new practices required or suggested in legislation and regulations."

"Effects on the states of federal legislation."

"Impact of state funds on categorical programs - or block vs. categorical funding."

"Effects of the tax revolt on the educational base."

"How implementation of PL94-142 and federal funds connected with it are affecting education of handicapped children."

Finance - Index of the cost of educating students in various special education programs, assigning the value 1.00 to the cost of education students in the regular program."

Financial data on transportation, integration, facilities construction and maintenance

Finance (cont'd) - "inter-district information, inter-state (with a comparable data base), meaningful per pupil expenditures data by area districts; private school data"

"Exact cost of individual school program offerings"

"Costs of students by grade level, type of program school building, adjusted for quality of the education and capability of the students."

"Information on tax burdens pertaining to school finance reforms."

Governance - "Management reforms which should accompany the school finance changes."

"Interrelationships of municipal, school district, state and federal finance programs and implications for management"

Legal Information: "legal rulings concerning federal and state laws and regulation trends of the nations."

"Legal information relating to special education"

"Effects of court controls on schools."

Evaluation - "Best program models for gifted children based on degrees of giftedness"

"Guidelines for effective integrated schools"

"successful strategies for improving higher education to handicapped youth"

Longitudinal Studies - "Long-term, longitudinal studies of equity in several states done on an annual basis, not simply two or three points in time."

"Changes over time in quality of education matched to funding changes"

Note: Not all respondents felt that there was a need for research.

A few were represented by the following comment: "There is too much noise in the system already. One must work hard to filter existing material, but we need to--otherwise, we get garbage.

Less cryptic, but also typical is: "I can hardly keep up with my sources now."

WHAT GENERAL KINDS OF INFORMATION DO POLICYMAKERS NEED?

	DEMO- GRAPHICS	IMPACT	FINANCE	GOVERNANCE	LAW	EVALUATION	LONGITUDINAL STUDIES
ALL 55% (145)	32% (47)	26% (38)	15% (22)	10% (15)	6% (8)	6% (8)	5% (7)
FINANCE	30% (22)	36% (26)	22% (16)	8% (6)	-----	1% (1)	3% (2)
SPECIAL ED	35% (25)	17% (12)	18% (6)	13% (9)	11% (8)	10% (7)	7% (5)
CALIFORNIA	33% (30)	29% (26)	16% (14)	8% (7)	6% (5)	4% (4)	4% (4)
VIRGINIA	25% (4)	13% (2)	25% (4)	6% (1)	13% (2)	19% (3)	-----
MARYLAND	13% (1)	63% (5)	25% (2)	-----	-----	-----	-----
INTERSTATE SPECIAL ED							

TOTAL RESPONSE: 55% (145)

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	DEMO- GRAPHICS	IMPACT	FINANCE	GOVERNANCE	LAW	EVALUATION	LONGITUDINAL STUDIES
POLITICAL ACTORS	30% (19)	27% (17)	17% (11)	8% (5)	5% (3)	6% (4)	8% (5)
BUREAUCRATS	27% (16)	24% (14)	19% (11)	14% (8)	9% (5)	5% (3)	3% (2)
RESEARCHERS	55% (12)	32% (7)	-----	9% (2)	-----	5% (1)	-----

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CONCLUSION: We began our study by asking three questions about the ties between research and policy at the state level in educational policy arenas. Our answers are as follows:

1) Do state education policy-makers use research in their work?

By far the majority of our state school finance and special education respondents reported that they do use research. They found it most useful in defining the parameters of issues newly emerging on the public agenda. It also helps to shape policies aimed at resolving those issues. At the final stages of policy formulation, research is used to assess impact of legislative mandates on client populations and programs.

It is important to note that the definition of research in this survey was not explicitly defined. Respondents may not agree on their definition of what sound research actually is. In fact, survey findings suggest that researchers would differ from political actors and bureaucrats in their definition of research. The former would, more than likely, require higher standards of methodological rigor and more controlled, systematic data collection than would the latter two groups. However, the identification by our respondents of multiple intermediary organizations as crucial information sources suggest that policy-makers in school finance and special education do have access to top-quality academic research. But it is generally translated by those intermediaries into more usable, context-specific forms.

2) What are the information preferences of state education policy-makers?

Across all subfiles, policy-makers liked information that was available in a short period of time, jargon-free, high quality, targeted on specific populations or problems, politically feasible, and easy to consume-- that is short or reported orally.

All respondents also like informal networks above all organizational sources of information. Next, they sought information from the nearest sources of information. They sought information from the nearest organizational sources. The most prominent outside providers of usable information were professional associations.

The modes of information that the school finance and special education respondents used were primarily oral ones. They like informal, highly interactive exchanges which can provide quick, context specific information. Telephones, predictably, are the most important forms of communication. They are ubiquitous and ensure direct one-on-one dialogue between parties.

Research reports and research related documents are the most important written modes of communication. All written modes favored seemed to be those which provided factual, quantitative information. Education newsletters and professional journals were particularly important in the early stages of policy formulation--lending credence to Weiss' hypothesis that research plays an important role in enlightenment.

Visual modes of communication were less used than the other two. They are also those which entail heavy costs (travel, videotapes, and TV coverage are all expensive; the latter two also require the availability of technical expertise).

Respondents in both issue areas named specific organizational sources of information most important to them. In school finance the Education Commission of the States and school finance conferences were cited most crucial; in special education, the Council for Exceptional Children and the National Association of State Directors of Education rated most useful. The responses provided supporting evidence to hypotheses that

that the school finance policy area represented a policy issue network, and the special education community resembled the traditional iron triangle policy configuration.

All groups indicated that they were experienced in their respective policy field and were high information disseminators. Their responses seemed to support the notion that policy communities are relatively stable, and once entry points to the networks are established, dissemination efforts may be quite productive.

III f. IMPLICATIONS OF THE STATE POLICY-MAKER
SURVEY FOR RESEARCH DISSEMINATION

As part of our research objectives, we committed ourselves to moving beyond the survey findings by deriving implications for research dissemination. In order to complete this task we held a series of seminar type discussions with a number of policy-makers and practitioners. Participants included legislators, administrators, State Superintendents, lobbyists, newspaper reporters and deans of education schools. Some of these individuals were concerned particularly with special education or school finance. Some, such as our IFG Advisory Council members, are practitioners or scholars whose interests span several education policy arenas. This enabled us to explore whether our dissemination strategies need to be specifically tailored to specific policy areas such as special education.

These seminar participants stressed that they receive more information and dissemination than their busy schedules permit them to cope with. This information dissemination overload is often handled by the structuring of interpersonal network links with other individuals. "Know-who" thus replaces "know-how" as a way of information retrieval. The practitioners reported that they do not innovate primarily on the basis of the formal evaluation reports or technical qualities. They depend on the subjective judgements of peer networks who have some experience with the idea. Policy-makers tend to have the closest ties with people quite similar to themselves, but did reach out for information beyond the people with the same job.

From the two surveys (Nelson/Kirst and Bellavita), literature search,

seminars, and theoretical paper by Bardach, we have reached the following implications for research dissemination in school finance and education of handicapped children. We believe also that these implications can be applied to other education policy arenas.

FINDING: Policy-makers in both school finance and special education are highly experienced and active information disseminators within their respective policy communities.

IMPLICATION: Policy-makers represent a relatively stable population. With the exception of elected state officials who have high turnover, policy experts tend to remain active in their specific policy community for a long period of time. Consequently, once key individuals and organizations are identified, disseminators can build linkages that will remain viable over time. Eventually, a dissemination program could establish a reasonably impressive network across several policy issues. (i.e. -- find the gatekeepers and you're in.)

FINDING: Within each policy area two or three organizations surface as primary information disseminators-- notably the Finance Center of the Education Commission of the States and legislative budget committees for school finance; and the Council for Exceptional Children and the National Association of State Directors of Special Education for special education.

IMPLICATION: The key to dissemination is finding the appropriate intermediary conduit of information into discrete policy communities. For networks, entry points are often with issue-specific technical assistance organizations like ECS. Prominent interest groups like CEC are likely to be central disseminators for the classic iron triangle policy systems.

FINDING: Research that is used entails low consumption costs (see Bardach's paper). That means information most useful to policy-makers is easy to obtain, easy to read, highly contextual, timely, and reliable.

The biggest barriers to research use are jargon, political constraints, unavailability at appropriate times.

IMPLICATION: Reduced consumption costs of research by synthesizing, targeting information to particular audiences, keeping abreast of policy issues so research products are available in the policy formulation stage (stage at which research is the most used form of written communication).

FINDING: Research is used and all three audience groups report that they value high quality research. However, survey indicates that the definition of quality changes with each policy group. Researchers value rigorous methodology and written products that conform to the standards of academic discipline. Political actors and bureaucrats define high quality information as that which synthesizes information and relates to issues currently on the policy agenda. They like high quality oral presentations with very specific information.

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IMPLICATION: Research institutes might provide high quality oral presentations of their research for select target audiences in addition to top quality research.

FINDING: Dissemination strategies vary by two structural variables: state professional capacity and audience type (political actor and bureaucrat vs. researcher).

IMPLICATION: Targeting information along all of the dimensions necessary for the highly diverse policy world is necessary but expensive. Research institutes might, instead, work through the key intermediaries who re-package and re-formulate research for their particular client audiences. (CEC, ECS, AASA are examples of these organizations) These are groups expert in adding crucial contextual information to basic research and who have extensive links to the policy community.

FINDING: Small states have lower capacity to use research by virtue of their small staff size.

IMPLICATION: Dissemination for these states takes a more aggressive program. Most likely, direct communication with State Departments of Education are key here since these are states not generally tied either to networks or the professional associations tied into the traditional iron triangle policy systems.

FINDING: Bureaucrats are hard to reach. They represent a relatively closed group.

IMPLICATION: Meltzer's research is quite important. We need to know far more about how bureaucrats get their information. If they do not reach out, how do they reach in and what is their organization for information? Also, best targets for dissemination are not bureaucrats but policy staff on the legislative and interest group action.

FINDING: Stage in the Policy Cycle makes a difference. Our survey confirms Doug. Mitchell's finding that policy-makers vary their information use at different stages in the policy cycle. In our survey, policy-makers tend to use research most in the awareness and policy formulation stages.

IMPLICATION: Research institutes like IFG that work at policy awareness and policy generation need to tailor information for use in the early stages of policy making for use in agenda setting and formulating approaches to policy. Newsletters and draft documents are useful at these stages as well.

FINDING: Conferences are about equally valued by all three policy audiences.

IMPLICATION: Conference attendees should be policy-makers that are key information brokers in the intermediary agencies like ECS and CEC that translate information for others.

BIBLIOGRAPHY

- Beer, Samuel. "Political Overload and Federalism," in Beer, Samuel et al. The New American Political System, Washington, D.C.: American Enterprise Institute, 1978.
- Caplan, Nathan, Andrea Morrison and Russell J. Stambaugh. The Use of Social Science Knowledge in Policy Decisions at the National Level. Ann Arbor, Michigan: Institute for Social Research, 1975.
- Garnet, James L. Reorganizing State Government: The Executive Branch. Boulder, Colorado: Westview Press, 1980.
- Heclo, Hugh. "Issue Networks and the Executive Establishment" in Beer, Samuel et al. The New American Political System, Washington, D.C.: American Enterprise Institute, 1978.
- Kirst, Michael. "A Tale of Two Networks, Stanford University: Institute for Research on Educational Finance and Governance, 1979.
- Kirst, Michael W., Paul Peterson and Denis Encarnation. "Policy Issue Networks," Interim Report to the National Institute for Education, March, 1981.
- Light, Alfred. "Intergovernmental Sources of Innovation in State Administration in American Politics Quarterly, Vol. 6, No. 2, April 1978, pp. 147-167.
- Lowi, Theodore. "American Business, Public Policy, Case Studies, and Political Theory." World Politics #16. July, 1974: pp. 677-715.
- Nelson, Barbara. "Setting the Public Agenda," in Judith May and Aaron Wildavsky, The Policy Cycle. Beverly Hills, California: Sage Publications, 1978; pp. 17-41.
- Sundquist, James L. "Research Brokerage: The Weak Link," in Knowledge and Policy: The Uncertain Connection, ed. Laurence E. Lynn, Jr. Washington, D.C.: National Academy of Sciences, 1978, pp. 126-144.
- Walker, Jack L. "The Diffusion of Knowledge, Policy Communities, and Agenda Setting: The Relationship of Knowledge and Power." In: Strategic Horizons of Social Policy, eds. John E. Tropman, Milar Dluhy, and Roger Lind, forthcoming.
- Weiss, Carol H. "Three Terms in Search of Reconceptualization: Knowledge, Utilization, and Decision-making." A paper prepared for the Conference on Political Realization of Social Science Knowledge. Austria, 1980.
- Zurcher, Louis and George Kirkpatrick, Citizens for Decency, Austin, University of Texas, 1976.

APPENDIX A:
Sample of the Survey Questionnaire

Institute for Research on Educational Finance and Governance

SCHOOL OF EDUCATION
STANFORD UNIVERSITY

The Use of Special Education Information

A Survey

The purpose of this survey is to identify the types of information potentially most useful to you in your current work in the field of special education. We hope to pinpoint problem areas in which special education research information, in particular, might better serve your needs. Please answer all the questions on the following pages as they apply to your needs for special education information.

Thank you for your help with this research project. All responses will be confidential.

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We have identified four broad stages in the special education policymaking process for which specific information is often needed. At each stage, you may receive information from a variety of sources. Assume that information you need for a particular state special education issue is available from each source of information listed below (in the columns on the left marked oral, written, visual).

Please CHECK the sources of information that you use for each particular stage in the special education policymaking process. Please read through all of the choices quickly before responding.

STAGES IN THE POLICYMAKING PROCESS

	<u>ISSUE AWARENESS</u> (new issues or trends emerging that may pinpoint possible special education problems)	<u>POLICY/PROGRAM FORMULATION</u> (options or techniques to help draw up special education policy - e.g. devising cost-based funding formulas)	<u>MANAGEMENT/OVERSIGHT</u> (aid in policy implementation & monitoring e.g. classification of handicapped children)	<u>IMPACT</u> (summary or evaluation of overall effects or unintended consequences, etc. of a policy)
	At the Issue Awareness Stage, I use this source:	At the Policy/Program Formulation Stage, I use this source:	At the Management/Oversight Stage, I use this source:	At the Impact Stage, I use this source:
	yes no	yes no	yes no	yes no
1. ORAL COMMUNICATION				
a. Telephone calls to friends/knowledgeable colleagues	[] []	[] []	[] []	[] []
b. Informal meetings to talk about the <u>general principles</u> of the special education issue at hand	[] []	[] []	[] []	[] []
c. Informal meetings at which the issue is discussed in relation to <u>specific</u> state, client, or policy context	[] []	[] []	[] []	[] []
d. Formal meetings at which the <u>general principles</u> and theories underlying the issue are discussed	[] []	[] []	[] []	[] []
e. Formal meetings at which the <u>issue</u> is discussed in relation to a <u>specific</u> state, client, or policy context	[] []	[] []	[] []	[] []
f. Conferences on special education	[] []	[] []	[] []	[] []

SOURCES OF INFORMATION

STAGES IN THE POLICYMAKING PROCESS

(Question A - Continued)

ORAL COMMUNICATION

g. Other professional meetings at which the special education topic is one of several interrelated issues

h. Lectures/speeches/workshops on the general special education issue

i. Lectures/speeches/workshops at which this issue is related to a specific state, client, or policy context

j. Briefings by staff or experts

k. Formal testimony/hearings

l. Other _____

2. WRITTEN COMMUNICATION

a. Letter from outside expert

b. Memo from internal staff

c. Personal notes and files

d. Office/department files

e. Draft documents

f. Research reports

g. Professional journals

h. Abstracts/indexes/bibliographies

(Continued p.4.)

	ISSUE AWARENESS		POLICY/PROGRAM FORMULATION		MANAGEMENT/OVERSIGHT		IMPACT	
	At the Issue Awareness Stage, I use this source:		At the Policy/Program Formulation Stage, I use this source:		At the Management/Oversight Stage, I use this source:		At the Impact Stage, I use this source:	
	yes	no	yes	no	yes	no	yes	no
g. Other professional meetings at which the special education topic is <u>one of several interrelated issues</u>	[]	[]	[]	[]	[]	[]	[]	[]
h. Lectures/speeches/workshops on the <u>general special education issue</u>	[]	[]	[]	[]	[]	[]	[]	[]
i. Lectures/speeches/workshops at which this issue is related to a <u>specific state, client, or policy context</u>	[]	[]	[]	[]	[]	[]	[]	[]
j. Briefings by staff or experts	[]	[]	[]	[]	[]	[]	[]	[]
k. Formal testimony/hearings	[]	[]	[]	[]	[]	[]	[]	[]
l. Other _____	[]	[]	[]	[]	[]	[]	[]	[]
a. Letter from outside expert	[]	[]	[]	[]	[]	[]	[]	[]
b. Memo from internal staff	[]	[]	[]	[]	[]	[]	[]	[]
c. Personal notes and files	[]	[]	[]	[]	[]	[]	[]	[]
d. Office/department files	[]	[]	[]	[]	[]	[]	[]	[]
e. Draft documents	[]	[]	[]	[]	[]	[]	[]	[]
f. Research reports	[]	[]	[]	[]	[]	[]	[]	[]
g. Professional journals	[]	[]	[]	[]	[]	[]	[]	[]
h. Abstracts/indexes/bibliographies	[]	[]	[]	[]	[]	[]	[]	[]

STAGES IN THE POLICY MAKING PROCESS

WRITTEN COMMUNICATION

- d. Education newsletters/bulletins/announcements
- j. Summary of book/monograph
- k. Book
- l. Statistical compilations
- m. Libraries/resource centers or information services
- n. Other _____

VISUAL COMMUNICATION

- a. Videotapes
- b. Charts/slides/films
- c. Field visits
- d. TV
- e. Other _____

	ISSUE AWARENESS		POLICY/PROGRAM FORMULATION		MANAGEMENT/OVERSIGHT		IMPACT	
	At the Issue Awareness Stage, I use this source:		At the Policy/Program Formulation Stage, I use this source:		At the Management/Oversight Stage, I use this source:		At the Impact Stage, I use this source:	
	yes	no	yes	no	yes	no	yes	no
d. Education newsletters/bulletins/announcements	[]	[]	[]	[]	[]	[]	[]	[]
j. Summary of book/monograph	[]	[]	[]	[]	[]	[]	[]	[]
k. Book	[]	[]	[]	[]	[]	[]	[]	[]
l. Statistical compilations	[]	[]	[]	[]	[]	[]	[]	[]
m. Libraries/resource centers or information services	[]	[]	[]	[]	[]	[]	[]	[]
n. Other _____	[]	[]	[]	[]	[]	[]	[]	[]
a. Videotapes	[]	[]	[]	[]	[]	[]	[]	[]
b. Charts/slides/films	[]	[]	[]	[]	[]	[]	[]	[]
c. Field visits	[]	[]	[]	[]	[]	[]	[]	[]
d. TV	[]	[]	[]	[]	[]	[]	[]	[]
e. Other _____	[]	[]	[]	[]	[]	[]	[]	[]

B. How often do people come to you for special education information? (Check one)

- 1. Several times daily _____
- 2. At least daily _____
- 3. At least weekly _____
- 4. At least monthly _____
- 5. Less often than above _____

C. What information about special education do you expect to need over the next few years but do not now have - or have access to?



D. Assume that information on a state special education issue about which you are concerned is available from all of the following sources.

Please check the one source you consider most important to you and the one source you consider least important to you for your work.

Please scan all possible choices before answering.

	MOST IMPORTANT (check one)	LEAST IMPORTANT (check one)
1. Federal Department of Education (program reports, contracted studies, key personnel)	_____	_____
2. State Department of Education (program reports, contracted studies, key personnel)	_____	_____
3. Other Federal or State Agency reports, personnel, etc. (non-education perspective on the handicapped)	_____	_____
4. Federal Congressional Sources (Congressional Committee Reports, Congressional Budget Office, Congressional Research Service, etc.)	_____	_____
5. State Legislative Sources (Committee Reports, staff contacts, etc.)	_____	_____
6. University-based research institutes (reports, researcher contacts, etc.)	_____	_____
7. Contract Research Organizations - Rand, Abt, SRI, etc. (reports, contacts, etc.)	_____	_____
8. Informal Networks of special education experts/friends	_____	_____
9. Professional Associations (reports, personnel, newsletters)	_____	_____
10. Special Interest/Advocacy Groups (reports, contacts, etc.)	_____	_____
11. Non-profit Technical Assistance Organizations (Education Commission of the States, National Center for the Handicapped, etc.) special reports, contacts, newsletters	_____	_____

	MOST IMPORTANT	LEAST IMPORTANT
12. National Information Services (Education Daily, ERIC, etc.)	_____	_____
13. Foundation Reports	_____	_____
14. Press and Popular Media Reports	_____	_____
15. Other _____	_____	_____

E. The list of possible sources of information in question D does not include the wide variety of sources potentially available to you. Please name the one specific source that you feel provides the best information for you in your work?

F. There are many reasons why a particular information source is useful. Please check the responses listed below which apply to the source named in question E. Feel free to add to this list of reasons why a source is useful.

The information source named in question E is useful because:

- 1. it gives me information in a short period of time. _____
- 2. it is comprehensive. _____
- 3. it is of high technical quality. _____
- 4. it is compatible with the values of my organization. _____
- 5. it is targeted on a specific state issue or audience. _____
- 6. it provides quantitative information. _____
- 7. it provides information useful for the immediate legislative cycle. _____
- 8. it provides information for long range planning. _____
- 9. it challenges existing assumptions or arrangements. _____
- 10. it provides comparative information about my state and other states/clients. _____
- 11. Other _____

(continued in next column)

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G. Do you use research reports that provide special education information: often _____ occasionally _____ rarely _____

H. Existing special education research information is not always used by policymakers. In your experience, what are the major barriers to your use of special education research information? (CHECK all of the following statements that apply to your information needs.)

1. Special education is of limited relevance to my clients, employees, constituents, etc. _____
2. Special education reflects poor scholarship, inadequate methodology, etc. _____
3. Special education is poorly presented - that is, full of social science jargon, long-winded, stuffy. _____
4. Special education is too superficial and brief for such a complex subject. _____
5. Special education is too neutral and factual: the policy implications are unclear or missing. _____
6. Special education have conclusions that are politically unfeasible or unrealistic. _____
7. Special education information is not available when I need it. _____

Other: _____

I. Please complete the following statement:

I would use special education research information more often if _____

J. The following questions ask you to tell us about your position in the special education policy arena. Please check the response to each statement that most accurately describes you. Choose one response for each statement.

1. My primary professional training is:

- | | |
|----------------------------|--------------------------------|
| 1. education _____ | 5. economics _____ |
| 2. law _____ | 6. other social science _____ |
| 3. political science _____ | 7. health related fields _____ |
| 4. psychology _____ | 8. other _____ |

K. My primary involvement in special education policy is at the:

Federal _____ State _____ Local _____ level.

M. I have worked in the area of special education for:

1. less than 1 year _____
2. 1 - 3 years _____
3. 4 - 6 years _____
4. more than 6 years _____

L. Check the ONE statement that best describes your primary work role:

1. I am an elected official of the federal government. _____
2. I am an elected official of the state government. _____
3. I am a committee staff member of the legislative branch of the federal government. _____
4. I am a committee staff member of the legislative branch of the state government. _____
5. I am on the professional staff of the executive branch of the federal government. _____
6. I am on the professional staff of the executive branch of the state government. _____
7. I am a researcher for a contract research firm. _____
8. I am an academic teacher. _____
9. I am a state school board member. _____
10. I am a program officer of a non-profit, technical assistance firm (foundation, IADP, etc) _____
11. I am on the professional staff of a professional association. _____
12. I am on the professional staff of an advocacy group. _____
13. I practice law for a non-profit firm. _____
14. I practice law for a private, profit-making firm. _____
15. I am a journalist. _____
16. Other _____

APPENDIX B:

Subfile Breakdown of Responses on the Uses of
Oral, Written and Visual Modes of Communication

MODES OF INFORMATION MOST USED BY STATE EDUCATION
POLICY-MAKERS

ISSUE SUBFILE
(Ranked by Percent Response)

SPECIAL EDUCATION

SCHOOL FINANCE

<u>ORAL MODES</u>	<u>Percent</u> ¹	<u>ORAL MODES</u>	<u>Percent</u>
Telephone calls to friends/knowledgeable colleagues	80%	Telephone calls to friends/knowledgeable colleagues	82%
Briefings by staff or experts	80%	Informal meetings to discuss specific state, client, or policy	75%
Informal meetings to discuss specific state, client, or policy	79%	Briefings by staff or experts	74%
Formal meetings to discuss specific state, client, or policy	75%	Formal meetings to discuss specific state, client, or policy	69%
Informal meetings to discuss general principles of the policy issue	63%	Informal meetings to discuss general principles of policy issue	61%
Formal meetings to discuss general principles of the policy issue	60%	Formal meetings to discuss general principles of policy issue	58%
Formal testimony/hearings	58%	Formal testimony/hearings	54%
Lectures/speeches/workshops on specific state, client, or policy	58%	Lectures/speeches/workshops on specific state, client, policy	53%
Meetings discussing interrelated policy issues	58%	Conferences	53%
Conferences	54%	Meetings discussing inter-related policy issues	52%
Lectures/speeches/workshops on general principles of the policy issue	43%	Lectures/speeches/workshops on general principles of policy issue	42%

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¹ Average of the percentage responses in each of the four stages of the policy process.

MODES OF INFORMATION MOST USED BY STATE EDUCATION
POLICY MAKERS

ISSUE SUBFILE
(Ranked by Percent Response)

SPECIAL EDUCATION

SCHOOL FINANCE

<u>WRITTEN MODES</u>	<u>Percent</u> ¹
<u>Research Reports</u>	75%
<u>Statistical Compilations</u>	73%
<u>Memos from internal staff</u>	73%
<u>Education newsletters/ bulletins/announcements</u>	70%
<u>Personal notes/files</u>	69%
<u>Draft documents</u>	68%
<u>Office/department files</u>	67%
<u>Letter from outside expert</u>	63%
<u>Professional journals</u>	61%
<u>Libraries</u>	58%
<u>Abstracts/indexes/ bibliographies</u>	42%
<u>Summaries of books/ monographs</u>	41%
<u>Books</u>	40%

<u>WRITTEN MODES</u>	<u>Percent</u>
<u>Research reports</u>	75%
<u>Statistical compilation</u>	73%
<u>Memos from internal staff</u>	72%
<u>Draft documents</u>	71%
<u>Personal notes/files</u>	71%
<u>Education newsletters/ bulletins/announcements</u>	61%
<u>Office/department files</u>	61%
<u>Professional Journals</u>	55%
<u>Letter from outside expert</u>	55%
<u>Libraries</u>	42%
<u>Books</u>	41%
<u>Summaries of books/ monographs</u>	35%
<u>Abstracts/indexes/ bibliographies</u>	35%

VISUAL MODES

<u>Field visits</u>	69%
<u>Charts/slides</u>	53%
<u>Videotapes</u>	22%
<u>TV</u>	15%

VISUAL MODES

<u>Field visits</u>	89%
<u>Charts/slides</u>	52%
<u>Videotapes</u>	44%
<u>TV</u>	27%

¹ Average of the percentage responses in each of the four stages of the policy process.

INFORMATION PREFERENCES BY

AUDIENCE TYPE

<u>ORAL</u>	<u>POLITICIANS</u>	<u>BUREAUCRATS</u>	<u>RESEARCHERS</u>
tele	77%	72%	74%
briefings	76%	71%	47%
informal mtg general	58%	62%	46%
informal mtg specific	68%	78%	64%
other mtg sev issues	51%	53%	47%
testimony	62%	46%	36%
lectures general	48%	40%	28%
conference	48%	50%	53%
formal mtg spec	64%	77%	49%
formal mtg gen	53%	63%	41%
lectures specif	51%	54%	47%

<u>WRITTEN</u>	<u>POLITICIANS</u>	<u>BUREAUCRATS</u>	<u>RESEARCHERS</u>
Ed news bulletins	65%	58%	55%
research reports	69%	70%	67%
personal notes	63%	70%	57%
draft docs	64%	65%	61%
memo	67%	78%	38%
stat comp	68%	69%	59%
letter outside expert	57%	54%	45%
Proj journal	49%	52%	62%
office/dept files	56%	71%	41%
Libraries	45%	42%	58%
summaries	37%	30%	41%
books	37%	34%	46%
abst/index	34%	37%	39%

<u>VISUAL</u>	<u>POLITICIANS</u>	<u>BUREAUCRATS</u>	<u>RESEARCHERS</u>
field visits	50%	49%	17%
charts/slides	31%	36%	8%
videotapes	19%	15%	4%
TV	14%	11%	3%

TOTAL GROUP: ALL FILES

~~INFO~~ PREFERENCES BY STATE

RANKED

ORAL

T=162
California 91%

T=53
VA/MD 93%

T=51
Interstate 96%

Telephone	80%	Telephones	82%	briefings	84%
Informal specif	78%	briefings	78%	lectures specific	84%
briefings	74%	inf specific	70%	inf. specif.	80%
formal spec.	73%	form specific	69%	telephone	61%
informal gen	62%	inf. general	62%	inf. general	61%
form gen	61%	form general	61%	testimony	60%
conf. other	55%	other mtg	57%	other mtgs	54%
mtg	55%	testimony	57%	conferences	53%
lectures	55%	lects specif	56%	form gen	51%
testimony	54%	lects general	51%	lects gen	42%
lecture gen	41%	conferences	50%	form specif	71%

WRITTEN

RANKED

T=162
California 90%

T=53
VA/MD 92%

T=51
Interstate 95%

Research rpts	77%	Off/dept files	74%	State comp	77%
memo	75%	state comp	72%	Res Repts	75%
stat comp	72%	research memo	70%	Pers Note/files	72%
pers notes/files	71%	Ed News/Bull	69%	Draft Doc	71%
draft docs	70%	Draft Doc	67%	Ed News	70%
Ed news/Bull	63%	pers notes/files	66%	memo	67%
letter out	61%	Prof Journal	68%	off Dept files	66%
office dept/files	61%	letter		Letter. out	65%
prof journal	57%	libraries	40%	Prof Journals	62%
libraries	49%	abs/index	32%	Libraries	61%
books	42%	summary	29%	books	47%
abst/index	39%	books	28%	abst/index	46%
summaries	39%			summary	43%

IV

WHAT DO INFORMATION PRODUCERS DO TO DISSEMINATE
THEIR PRODUCTS?

Prepared for the
Institute for Research
On Educational Finance
and Governance

by

Christopher Bellavita

January 1981.

WHAT DO INFORMATION PRODUCERS DO TO DISSEMINATE THEIR PRODUCTS?

SECTION I: DISSEMINATION FROM AN ORGANIZATIONAL PERSPECTIVE--AN INTRODUCTION

The title of this paper is a natural question to ask in light of the increased attention dissemination has received from government and scholars. The simple answer to the question is that most producers transmit most of their information most of the time in some written form. But simple answers typically give rise to more questions. Why the strong emphasis on written dissemination? Why aren't oral or visual methods used more frequently? How many different types of written and other dissemination techniques are used by producers? Why are some specific techniques preferred over others? What impact do the different techniques have, and under what conditions? But here we are getting ahead of the story, a story that raises more questions than it answers.

Practically all of the public policy dissemination and utilization literature has approached the topic from the perspective of potential users of information. The main theme in much of this work has been the implicit belief that policy research ought to benefit society, public policy or policy-makers, and thus the degree to which these clients were benefited is the main measure of the effectiveness of dissemination efforts.

Researchers have paid a great deal less attention to looking at dissemination from the point of view of information producing organizations. Elementary organizational theory suggest that what an organization does is shaped as much by internal dynamics and goals as it is by client or environmental demands. From this perspective, the effectiveness of dissemination is a function largely of what an organization aims to do and how it goes about doing it.

In our search through the literature, we found very little that systematically described what information producers want to do with the information they generate or what specific techniques they use to disseminate that information. A first step to take before suggesting what organizations can do to improve their dissemination capabilities and effectiveness is to find out what they are presently doing and why. This paper is a preliminary effort in that direction.

With these general ideas in mind, we surveyed a number of information producing organizations to find out what were their dissemination goals, what they thought constituted an effective dissemination program, and to identify the specific dissemination techniques they used. We were especially interested in techniques that producers thought were usually successful or innovative.

We found that "effective dissemination" means different things in different organizations. For most organizations, effectiveness is tied to an ability to make an audience aware that information exists, or to make sure that the audience understands what the information means. Other organizations believed that effective dissemination occurs when someone acts on the basis of the information, or when public policy is actually affected by the information: The primary implication of this finding is that most producers are sufficiently sophisticated (or perhaps cynical) not to expect that their information will result in specific action or changes in public policy. These limited expectations no doubt are an important reason why policy research is not more directly relevant to policy making.

Our survey respondents identified a number of well-known and documented factors that act as barriers to "effective dissemination," no matter how that phrase is operationalized.

Sometimes the way information is presented is itself a barrier. Reports,

for example, frequently are full of jargon, unclear, of poor quality, or are simply too long and detailed to be read or understood by policy officials.

Since researchers are not policymakers, the two are often separated from the concerns of each other. As one respondent characterized the separation, "Researchers are interested in problems and policymakers are interested in solutions" The differences between these two worlds make it difficult for information producers to know who is the appropriate audience for their products, and in what format and when the information should be transmitted.

Research units, such as legislative analysis and planning organizations, ~~—tied relatively closely~~ to policymakers tend to have a better understanding of how the context of policy affects audience, format, and timing consideration. But proximity still does not guarantee impact on policy since information is only one ingredient in the public policymaking process. Political, budget, time and other constraints restrict a policy actor's freedom and willingness to act on the basis of information provided by producers. Our survey revealed little explicit recognition by producers that the costs policymakers incur in getting and using information may also be a dissemination barrier.

Dissemination management, the process that links information to the audience that could use it, can be a barrier to dissemination, particularly when that link is weak or missing. An organization that aims for effective dissemination has to be willing to plan and be able to pay for it.

Based on what our respondents told us, an effective dissemination program consists of at least five major elements:

1. Audience knowledge - understanding who are the potential users of the information.
2. Communication knowledge - understanding the appropriate ways to communicate with particular audiences.

3. Timing - knowing when best to communicate.
4. An intelligible message - having a clear and understandable message to transmit.
5. Dissemination management - a program of planning for and monitoring dissemination, with the appropriate supporting resources.

The more important dissemination is to an information producer, and the more ambitious the dissemination goals, the greater the attention and resources the producer needs to devote to these five elements.

In the organizations we surveyed, dissemination was primarily a written activity. Written dissemination techniques included:

- | | |
|----------------------------------|----------------------------------|
| -Books | -Guidebooks |
| -Journals | -Table of Contents Journals |
| -Other Scholarly Publications | -Issue Papers |
| -Reports | -Summaries |
| -Memorandum | -Synoptics |
| -Abstracts | -Research Reports |
| -Newsletters | -Newsletter quiz |
| -Feedback sheets | -Mailing Lists |
| -Personal letter | -Computer Data Banks |
| -Information Transaction Banks | -Newspaper and Magazine Articles |
| -Press Release | -Letter to the Editor |
| -News Clippings | -The Envelope Announcement |
| -Loose Deck Advertising | -Delphi |
| -The Recommendation Announcement | |

Dissemination as a "human" activity - involving direct person-to-person interaction - was the second major category. Human dissemination techniques included:

- | | |
|----------------------------------|---------------------------|
| -Lobbying | -Testimony |
| -Briefings | -Consulting/Advising |
| -Networks | -Teaching |
| -Issue seminars | -Policy Conferences |
| -Workshops and Training Seminars | -Orientation Seminars |
| -Speaker's Bureau | -Press Conferences |
| -Media Liaison | -Conference Participation |
| -Advisory Board Participation | |

Audio-visual and other electronic techniques made up the third general category of dissemination activities. These methods included:

- Telephone
- Toll-Free Telephone
- Amplified Telephone
- References and Referral Services
- Voice Mail
- Video Tapes
- TV and Radio Editorial Responses
- Slides
- Conference Displays
- Other Graphic Devices
- Television Film and Documentaries
- Follow-up Phone Call
- Conference Call
- Picture Phone
- The Information Contact
- Cassette Tapes
- Public Service Announcements
- Television Visuals
- Flip Charts
- Computer Graphics
- Public Affairs Shows
- Computers and Computer Networks

Most organizations use multiple techniques when they are disseminating a single information product. For example, an organization might use an oral briefing, complete with overhead slides and flip chart graphics, to present a final written report to a funding agency. In this report, however, we have treated such dissemination techniques separately.

The respondents in our study did not identify a great many techniques that presently are being used which could be called innovative or especially creative. A number of respondents had some interesting ideas about what could be done (they are described in the report); but for the most part, creativity in the dissemination of public policy information appears to be rare. We did not directly investigate the reasons for this; however, inability to escape from habitual dissemination routines, lack of discontent with existing routines, lack of support or time for creative experiments, and a general lack of concern for dissemination are among the factors that contribute to the dearth of creativity.

The remainder of this report is divided into five sections. Section II presents some more information about how we conducted this study, Section III describes the factors that facilitate and inhibit effective dissemination. Section IV is a catalog of dissemination techniques. For each general dissemination method (written, human, and audio-visual-electronic) we first discuss when it is appropriate to use the techniques, the major advantages

and disadvantages, and the likely impact on the four dissemination goals (awareness, understanding, action, and impact). Then we list and briefly describe each technique. Section V summarizes our main findings and conclusions. Section VI is a checklist for information disseminators.

SECTION II: SOME INFORMATION ABOUT THE SURVEY

In the summer of 1980 we mailed questionnaires to 320 organizations that produce or disseminate information. We selected organizations that were involved primarily with public policy-related research, from basic through applied. The survey included organizations from government, university, profit and non-profit sectors. We asked the respondents to tell us about the goals of their dissemination activities, their views about what facilitated and hampered an effective program, and their opinions about which organizations were doing outstanding dissemination work.⁽¹⁾ Roughly one-third of those who returned questionnaires were later contacted by telephone to get more information about their answers.

TABLE I
ORGANIZATIONS THAT RECEIVED
AND RETURNED THE QUESTIONNAIRE

	<u># Sent</u>	<u># Returned</u>
Government	131	42
University	64	22
Non-Profits	96	17
For Profits	29	7
Total	320	88

Table I describes who received and who returned the survey. Almost half of the returns were from government (e.g., state and federal legislative

analysts, planning units), and one-quarter were from university-based policy and other research units. The sample was not randomly drawn and the return rate was very low. The responses are nevertheless useful. A major aim of the survey was to tap the collective dissemination experiences of information producers to get a sense of the range and types of techniques used to transmit information to policymakers, to their staffs, or to others who influence the course of public policy. The eighty-eight responses probably represent those who are especially interested in dissemination, and that was sufficient for our exploratory purpose.

SECTION III: AN EFFECTIVE DISSEMINATION PROGRAM

In this section we describe what the respondents told us about the goals of their dissemination programs, about the key barriers to achieving those goals, and about the elements that contribute to an effective dissemination program.

Dissemination Goals

We asked the organizations in our survey what the major goals were of their dissemination activities. Most organizations want an "audience" (the people who receive their products) to be aware that certain information exists and to understand what that information means (see Table 2). Awareness indicates that one perceives or knows about information that was not evident before. Understanding means that one knows the significance of the information. Awareness denotes perception, understanding implies meaning.

TABLE 2

MOST ORGANIZATIONS WANT THEIR AUDIENCE TO BE AWARE
THAT INFORMATION EXISTS AND TO UNDERSTAND THAT INFORMATION

<u>Dissemination Goal</u>	<u>% Responding*</u>
Awareness	66
Understanding	60
Action	30
Policy Impact	23
No Goals	9
Other	6

*Multiple responses permitted

A producer who wishes an audience to be aware of the information is faced with the task of injecting the information into the audience's field of perception. When understanding is the aim, the producer additionally must present the information so that the audience is able to recognize its significance to something that the audience cares about. Awareness is usually easier (but not necessarily easy) to stimulate than understanding.

Thirty percent of our respondents also want an audience to act on the basis of the information they provide. They want the audience to do more than appreciate significance; they want appreciation to become manifest as behavior: e.g. discussing the information with others, initiating additional information request, proposing new legislation; or otherwise intervening in the policy process. A producer with this dissemination goal has to present the message so that it triggers one or more of the factors that motivate an audience to take action.

A little more than 20% of the organizations aim for specific action. They want public policy to be affected in a particular way as a result of the

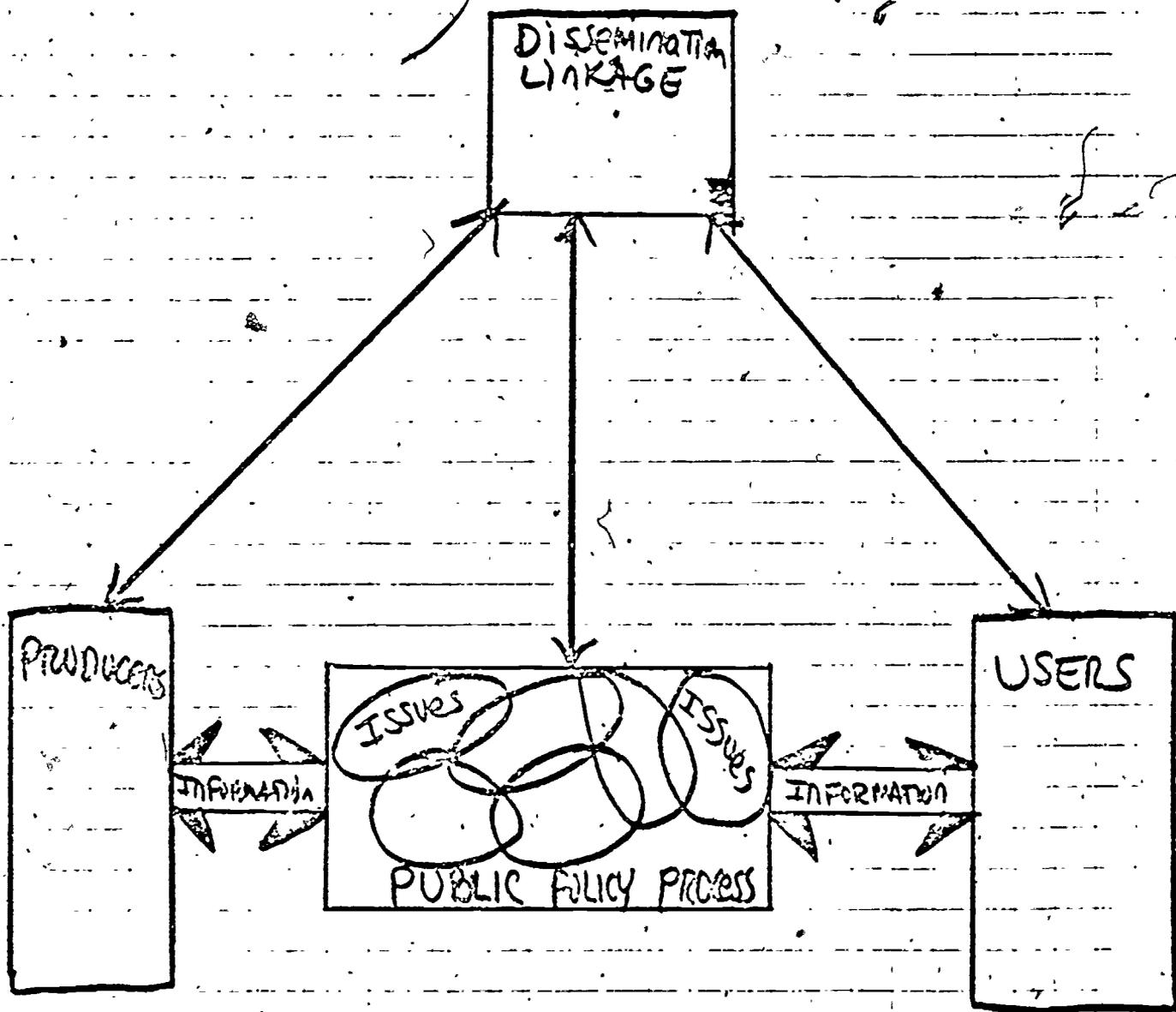
information they provide. Since public policy is formulated and carried out by numerous actors, the information producer with this dissemination goal must present the message to a variety of audiences and in ways that will tap specific motivation factors of each actor.

In general, the more directly involved with public policy an organization is (primarily special interest lobby groups) the more likely it will want its dissemination program to trigger action or to affect public policy. The more removed from policy (like universities and some planning agencies), the more likely it will be satisfied to disseminate for awareness and understanding.

Interestingly, a sizable number of legislative analysis units--organizations quite close to the policy firing line--reported that they were uninterested in directly influencing public policy ("That's the legislator's job," said one respondent). As we mentioned in the introduction, the majority of respondents do not intend, and thus do not expect, that their information will affect public policy or policy actors. If this outcome is not the result of our sampling (which we think not, for reasons given in Section II), then these limited expectations may be one reason why research plays such a relatively small role in policymaking. On the other hand, it may simply reflect a realistic appraisal of what research can contribute to policymaking or a strong commitment to a service-oriented organizational mission.

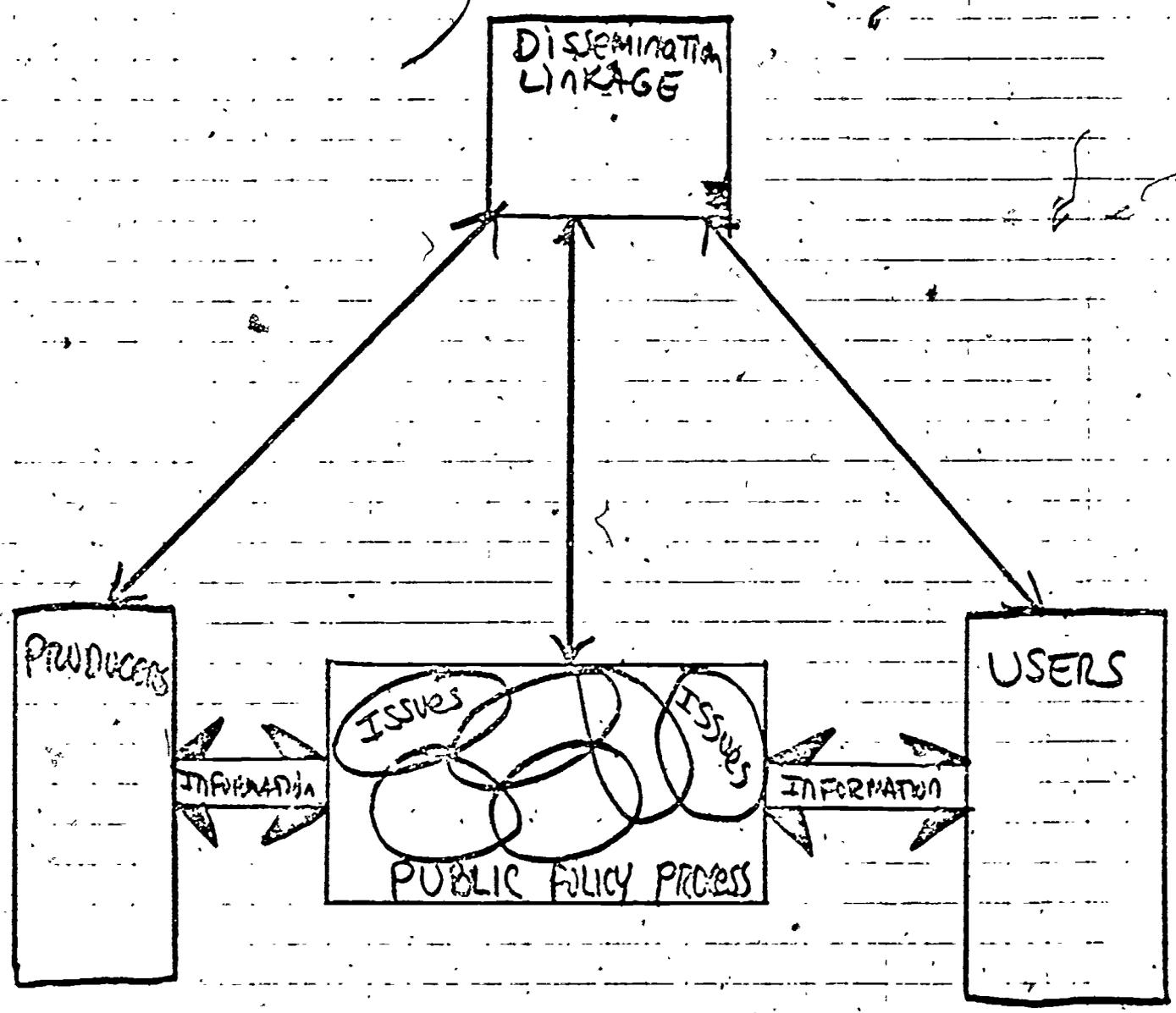
The information producer is not the only element in the dissemination process. The message itself, the means used to communicate, the intended audience and its characteristics, and the overall environmental context of the communications process affect the impact of dissemination. The producer cannot control all of these elements, but he can identify what interferes with "effective dissemination" (however that phrase is operationalized) and which

FIGURE 2. SOME BARRIERS TO EFFECTIVE DISSEMINATION (14)



[Handwritten signature]

FIGURE 2. SOME BARRIERS TO EFFECTIVE DISSEMINATION (14)



[Handwritten signature]

of the research are missing, unclear or wrong, and when the quality of the research is poor.

The policy researcher and the policymaker often do not live in the same world.⁽⁴⁾ As one respondent phrased it, "Researchers are interested in problems, and policymakers are interested in solutions and possible solutions." The gap between these two worlds interferes with dissemination. Almost a third of the respondents indicated that researchers are a major dissemination barrier when they are overly concerned with the values of their own discipline, when they do not share the same substantive concerns as policy makers, and when they are largely unconcerned with what happens to the information they produce (see Table 4).

Table 4
RESEARCHERS TEND NOT TO HAVE THE
SAME CONCERNS AS POLICYMAKERS

<u>How Researchers Are a Barrier</u>	<u>Number Responding*</u>
Uninformed about policy issues	27
Concerned with professional discipline	27
No concern for dissemination	26
Uncommitted to policy relevance of work	21
Uninformed about policy process	18
Unrealistic conclusions/recommendations	16
Conservative conclusions/recommendations	13
Conclusions/recommendations too innovative	10
Other	6

*Multiple responses permitted

Some researchers are simply uninterested in the public policy relevance of their work; they toil for different purposes. Often recommendations they

come up with are incompatible with what the policy sector can or wants to accept.

The policy process can be a barrier. Public policy emerges hesitantly or aggressively from a sometimes routine, sometimes unexpected process of conviction, hunch, conflict, compromise, and fatigue. Information producers, who are baffled by the policy process may not know when or to whom to disseminate (see Table 6). Information is only one element in the calculus that generates policy. Tradition, precedent, law and political factors can and often do outweigh the importance of research. Thus it is not always evident to the producers how information contributes to policymaking, either in the short or the long term.

TABLE 5

DISSEMINATORS DO NOT ALWAYS KNOW WHO SHOULD
RECEIVE THEIR INFORMATION, AND INFORMATION MAY NOT BE
AS IMPORTANT AS OTHER ELEMENTS IN THE POLICY PROCESS

<u>How Public Policy Process is a Barrier</u>	<u>Number Responding*</u>
Don't know who key policy actors are	31
Information outweighed by other concerns	31
Don't know best time to disseminate	25
Don't know immediate information needs	25
Don't know long range information needs	23
Don't know how information contributes to policy	23
Don't understand policy process	20
Other	4

*Multiple responses permitted

The character of particular policy issues, such as school finance or special education, may also make dissemination difficult. According to a majority of the respondents, political feasibility (what "can" be done) and

value preference (what "ought" to be done) clearly can be more significant determinants of a policy decision than research (see Table 6). As one policy researcher told us, "It's hard to come right out and talk about the political implications of information, so our stuff tends to be fodder for a rational deliberation that simply doesn't exist."

Additionally, some policy issues may be too complex or too difficult to explain to non-specialists and, "People are not going to take a lot of effort to make sense out of something difficult; they'll rely on their feelings instead of the data," we were told. Occasionally there may be too much information available about an issue, or the issue is understood quite well by just about everyone involved. In those cases it is difficult for new information to be "heard." A few of the respondents also mentioned that for some policy areas ("most," according to one person) there is more unknown than is known, and that "We don't even know what questions to ask to get information we ought to have."

TABLE 6
FOR SOME POLICY ISSUES, POLITICAL FEASIBILITY AND
VALUE PREFERENCES OUTWEIGH THE IMPORTANCE
OF RESEARCH INFORMATION

<u>How a Policy Issue Is a Barrier</u>	<u>Number responding*</u>
Politics outweighs research	47
Values outweigh research	36
Issues are too complex	27
Too much information available	15
Issues too well-defined	13
Other	3

*Multiple responses permitted

More than half of the respondents believed that policymakers are constrained from acting on the basis of information they receive. They may be unable to act (because of political, institutional, cost or other reasons), unwilling to act (due to personal predispositions or doubts about the reliability or value of the information), or they may be uninterested in acting (because the information does not support what they are already doing). (See Table 7.) One person told us that policy makers and their advisors "don't know how to use the information they get, or they want too much information in too short time." Other people said that policymakers "have a limited time to find out new information. They have too little time to pay attention to research;" "there are too many issues, too much information, and not enough time for policymakers to use it all;" and "Policymakers would rather have verbal information than written information."

TABLE 7

SOME POLICYMAKERS ARE UNABLE TO ACT ON
THE INFORMATION THEY RECEIVE:
OTHERS ONLY WANT SUPPORT FOR THEIR EXISTING POSITIONS

<u>How Policymakers are a Barrier</u>	<u>Number responding*</u>
Unable to act	46
Only want support existing position	43
Unwilling to accept information	32
Can't understand information	24
Unclear how policymakers get or use information	14
Other	4

*Multiple responses permitted

The information disseminator's job--whether a full or part time occupation, whether performed by an individual or an organization--ideally is to be the link between those who produce and those who use information. (5) Sometimes

that link is missing or ineffective. "We don't have any clear objectives for dissemination," we were told by one organization, "people get their work done and dissemination is up to them." A university researcher said, "there are no faculty rewards given out for effective dissemination." The Public Information Officer of a nationally known consulting firm wrote, "We're not going to gain contracts from policymaking agencies because of our ability to disseminate information."

Even when there is a formal link, dissemination management may be inadequate, or the resources allocated to dissemination may be insufficient to do the job well. "There's no time or money for dissemination here," we were told by one correspondent. Other comments included, "We can't do any follow-up to see if (the information) had any effect (on the audience)." "We don't have the resources to target audiences like we should." "We don't have enough money for production, postage or promotion." "Inadequate staff. Insufficient interest." But the response cited most often in this category was the failure of anyone to translate information into a form that could be used by policymakers (see Table 8). Ideally, that is a central task of an information disseminator.

TABLE 8

SOMETIMES THERE IS A FAILURE TO TRANSLATE RESEARCH
AND OTHER INFORMATION INTO A POLICY-RELEVANT FORM

<u>How a Producer-User Link Is a Barrier</u>	<u>Number Responding*</u>
Failure to translate research	38
Insufficient dissemination resources	32
No effective link	25
Inadequate dissemination management	17
No concern for dissemination	15
Other	7

*Multiple responses permitted

Respondents mentioned several other barriers that inhibited effective dissemination. They were particularly notable: "We need a greater recognition of the role that information plays in policy before we can expect dissemination to get better." "We need professional disseminators. The job won't be done well until it is treated as something more than an afterthought." "Dissemination will never be effective on purpose. Nobody (except people who do research on it) gets any benefit from dissemination . . . Researchers . . . get other bennies. Policymakers get all the information they want whenever they need it . . . Dissemination is its own barrier."^(5a)

Some Conclusions About Dissemination Barriers

Several major conclusions about dissemination emerge from this portion of the study:

1. The way information is presented affects who will be aware of it and who will understand it.
2. Information is neither the only nor the most important determinant of a policy decision.
3. People who produce information and people who use it tend to inhabit two worlds of different values, priorities, and language.

If research--from basic through applied--is to be understood and used, it has to either start out with that objective or be translated into a form that is relevant to policymakers. Neither academic or disciplinary-oriented researchers nor policymakers have much incentive to do the translation.

Elements of an Effective Dissemination Program

According to the people who responded to our survey, an effective dissemination program consists of five basic elements: knowledge about the audience, knowledge of the communications process, intelligible information,

timeliness, and dissemination management (see Table 9). The more important dissemination is to an information producer, and the more ambitious the dissemination goals, the greater the attention and resources the producer needs to devote to these five elements.

TABLE 9
EFFECTIVE DISSEMINATORS KNOW THEIR AUDIENCE
UNDERSTAND THE COMMUNICATION PROCESS
AND HAVE A CLEAR MESSAGE TO DISSEMINATE

<u>Elements of an Effective Dissemination Program</u>	<u>Number Responding*</u>
Knowledge of audience	42
Understand communication process	35
Have an intelligible message	33
Dissemination management	22
Timeliness	13
Other	4

*Multiple responses permitted.

Knowing the Audience

Effective dissemination requires that the producer know something about the people who are to receive the information. The basic questions the producer has to answer are:

1. Who are the potential and most appropriate users of the information?
2. What do they want or need to know that we can tell them?
3. How best can they "hear" the message?

Audiences, whether composed of a few identifiable individuals or an unspecific mass of people, differ in their information preferences.⁽⁶⁾ The more a producer knows about his audience, the easier it is to tailor a message and use a communication mode that satisfies those preferences.

Survey respondents said that disseminators have to find out what

information is relevant to potential users. This can be accomplished by establishing close relationships with users, and by becoming a part of the users information network. Involving users in the planning and production of information stimulates user interest and encourages a commitment to use the information produced. Knowing how an audience assimilates information, who the gatekeepers, opinion leaders and early adopters are in a policy arena can also be used to plan targeting strategies; the more experience a producer has in a policy issue area, the easier it is to obtain this knowledge.

Knowing about Communication

Effective dissemination demands effective communication. Respondents identified some specific elements of the communication process that affect dissemination. The producer ought to have a deserved reputation for quality work; he ought to sound authoritative, credible, and knowledgeable about the information being disseminated. The information has to be perceived as fair, accurate and non-trivial. It has to be easy and inexpensive for the user to obtain. The options for action have to be immediately apparent. It helps also to present and discuss opposing arguments or alternative interpretations of the data.

Producers should use more than one method to disseminate particular items of information, using different techniques as appropriate to disseminate to particular audiences. Multiple information channels, redundancy and duplication help to increase the likelihood that the message will get through. Feedback from the users is critical if the producer wants to make certain that the message was understood.

Intelligibility of Information

To disseminate effectively it is first important to have a clear idea about what is to be communicated. Once the producer knows what is to be

disseminated (and who is to receive it), the information has to be tailored to specific audiences. This means that the material has to be presented in the users language. For policymakers this generally means plain English, clearly and well-written or spoken, concise, attractively presented, well-organized, and perhaps above all, easy to understand. The ideas have to be well thought out, yet presented at a level of sophistication appropriate to the audience. The information has to be complete, but not too detailed. It has to contain meaningful data, yet it ought to include primarily only the main points needed to understand the topic.

Although some of the requirements for intelligible information suggested by the respondents are paradoxical and conflicting, knowing who the audience is and how to communicate to them usually untangles paradoxes and resolves conflicts. A central point here is that there is no "one-best-way" to make information intelligible to an audience; but additionally, there is no way to disseminate effectively without paying attention to intelligibility.

Timeliness

Knowing when to disseminate for maximum impact is an important component to an effective dissemination program, particularly if action or affecting public policy is the producer's objective. Providing information to users at the right time in their planning, budgeting and decision-making cycles helps to encourage audience receptivity and use. The keys to providing timely information are knowing the audience and its policy context, and incorporating that knowledge into the producer's research plans.

Dissemination Management

Dissemination management refers to the link between information producers and information users. When the link is weak or missing, the organization has little influence over what happens to the information once it's produced.

Effective dissemination requires planning and resources. Organizations have to plan for dissemination by finding out about audiences: who they are, what information they want and need, when they have to have it, and how they want or can receive it. This information is not especially easy to come by or to maintain. To be done well, this type of planning requires resources. If an organization wants dissemination to be something other than a pro forma exercise it must be willing to pay for it. Effective dissemination requires money to hire writers, editors, administrators, publicists and other staff; to purchase space and equipment; to monitor and evaluate operations; to refine traditional dissemination techniques; to experiment with new, possibly more effective techniques; and to reduce the costs to policymakers of getting and using information.

SECTION IV: INFORMATION DISSEMINATION TECHNIQUES

We will now describe the specific techniques used by the organizations in our survey to disseminate information. Our primary intention here is to make the reader aware of the techniques in use. Most are quite well known and require little discussion. References to this paper will guide the reader to more detailed information.

We asked the organizations surveyed to describe any of their dissemination activities that they thought were creative, successful or innovative. Table 10 shows the range of responses we received. Sixty-nine of the respondents mentioned at least one form of written dissemination technique; thirty-six mentioned what we are calling "human dissemination" (i.e., forms of face-to-face interaction); and twelve cited some type of audio, visual or other electronic technique.

TABLE 10
 MOST ORGANIZATIONS USE WRITTEN
 DISSEMINATION TECHNIQUES

<u>Types of Dissemination Techniques</u>	<u>Number who Mentioned, at Least One Technique</u>
Written	69
Human	36
Audio-Visual-Electronic	12

A number of the people we talked with said there was nothing especially innovative about the dissemination techniques they were using, but they did get the job done. A state legislative research director, discussing why his office was not more innovative, said, "I'm too busy just trying to keep on top of what I'm responsible for now. I don't have time or the support to do any of those esoteric things people talk about." This theme, little time and support, surfaced several times as a major reason for the lack of more creative techniques for disseminating information to policymakers.

One other comment: the use of human dissemination is probably greater than is reported in this survey. When we spoke with the organizations, it was apparent that many did not consider such "human" techniques as a researcher discussing the findings of her latest project with a friend in a state office as dissemination. "We do a lot of that, I'm sure," said one university respondent, "but that's not a formal part of our (dissemination) program."

Writing for Dissemination

Written dissemination is the easiest, most reliable and over time the cheapest method of transmitting information to an audience. The basic requirements of this technique are information, paper, a writer, a typewriter, a Xerox machine and the post office. Written dissemination does not require

the personal involvement required for, say, testifying at a congressional hearing; nor does it require the technical facilities needed for something like videotaping.

Writing can facilitate impersonalization, so the personality of the researcher does not obscure the message. Writing permits a message to be several places at the same time; it allows ideas to be considered carefully, reviewed, verified, stored and retrieved when necessary. Writing can also be used as back-up for human and electronic dissemination.

The major disadvantage of written dissemination is that hardly anyone reads anymore. More books are sold today than ever before, and there are new magazines, journals and newsletters appearing almost weekly. Yet, national polls indicate that the average American adult is spending less time reading today (about 30 minutes) than in 1950 (50 minutes). There also is more to read than anyone can. In one survey of 180 corporate executives, 83% complained of a lack of time to keep up with necessary reading. (7)

Policymakers do not escape the paper blizzard. State legislative staff and researchers frequently told us how unusual it was when a legislator actually read one of the documents prepared for him. A state legislator said, "On my vacation I read four books. That was more reading than I had done all year . . . I get all these reports . . . I don't read most of them . . . I only read what I have to." A person from a legislative research service said, "A committee member will ask us to do a report on waste water, and we'll be lucky if one or two staff people read it. Unless it's controversial; then a lot of people will read it, most of them looking for flaws." In 1979, one university group offered for free distribution the written proceedings of a conference on health care costs. All but one of the twenty-seven requests came from academic institutions, suggesting that researchers

are primary audience for written policy research, or that horizontal dissemination is more likely to take place than vertical dissemination.

A written product is evidence of a completed job. It is not proof that anyone other than the author (and perhaps the typist) will be aware that the information exists, or will understand what it means.

Some types of written information--such as budget allocation decisions or grant formula--can be understood more easily than other types of data. Our survey respondents, however, tended to discount the ability of the written word to motivate people to action or to affect public policy. "Tom Paine would never make it today," we are told.

Survey respondents mentioned more than two dozen written dissemination techniques. Not all of the methods are used by policy researchers, but all of them have some potential value for transmitting policy information.

1. Books

Some organizations disseminate the results of their work in book form. There are at least three major formats for these books.

a. Single issue books are written typically by no more than one or two authors about one particular subject, like school vouchers or national health insurance. The book presents research findings or advocates specific policy positions. Single issue books when well done are integrated works of scholarship with each chapter relating directly to the topic. (8)

b. Theme books are collections of original articles, conference papers or other commissioned works. Typically, each article is written by a different author. The articles are connected, sometimes more clearly than others, by a single theme such as housing, education, etc. (9)

c. Reprint books are collections of previously published articles. The articles may or may not have an integrating theme. (10)

2. Guidebooks

Like the Baedekers of old, guidebooks are designed to help the reader find his way through a new or an unfamiliar territory. One state research bureau has published local government guides intended to help citizens know to whom to go for which services. One management association annually published a guide to new research findings to help its members keep up with the management literature. Another state office offers legislators a book describing the state's economic profile, broken down by election districts.

Guidebooks can be used to provide summary information about policy issues (e.g. legislative histories, new issues, projections about future concerns) or information about policy process (e.g. implementing a new law at the local level, influencing the regulatory process).

3. Journals

Policy information found in journals is typically of the academic or research variety. Journal articles can be used by policymakers as a source of new ideas, or to support or refute particular policy positions. The lag between the time an article is written and when it appears in print may be a year and a half or longer, thus restricting its immediate utility to policymakers.

4. Table of Contents Journals

In response to the proliferation of information, some journals do nothing more than reprint the tables of contents from other journals. Typically, these are organized by discipline. The idea behind these publications is to provide interested readers with a quick way to identify articles that might be of interest. (11)

5. Other Scholarly Publications

Monographs, occasional papers and working papers are three names for

research or think pieces that may one day become journal articles. They are frequently polished drafts (but may also be finished works) sent to colleagues for comment, to funding agencies as evidence of work in progress or completed, or to names on a mailing list. Because most of these papers do not go through any formal review process, they are more current than most journal articles. Some organizations regularly send out announcements about papers that are available. To receive others, policymakers have to be a member--directly or indirectly--of the author's own dissemination network.

6. Reports

Reports are the primary visible product of contract or legislative research. Reports vary greatly in scope and quality. They might be a one or two page letter in response to an elected official's request for information, or a multi-volume treatment of a complex policy issue. As a rule of thumb, the longer the report, the fewer the number of people who will read it. (12)

The utility of a report to a policymaker varies primarily as a function of who initiates the research and for what reasons. Unlike applied or action research (e.g. evaluation or investigative studies), basic research carried out by scholars in universities or think-tanks is rarely intended to have any immediate policy impact.

Some universities, interested in improving the link between faculty research and legislative needs, have programs for funding policy-related research which requires the investigator to attend directly to the potential policy use of his work. (13)

7. Issue Papers

Issue papers are one subspecies of report. Issue papers in the policy arena include the most current information available about a single policy

issue, such as taxation or school finance. They are intended primarily as briefing documents to provide a context for policy deliberation. They are most often prepared by government staff or contract researchers. When done well, they can be the best way for a policymaker to obtain a quick written overview of an issue. Some national conferences also provide issue papers for participants. (14)

8. Memorandum

A memo is another variety of the report. Because a memo need only be typed and distributed, it is one of the quickest written ways to apprise a policymaker of new ideas, research findings, etc. Memos are most frequently used for interoffice or agency communications.

9. Summary

A summary is intended to provide the reader with a quick overview of the information contained in the complete document. Readers use summaries to decide whether to read the entire work, but more often to avoid having to read the full report.

At its best, a summary is a complete micro version of its parent document, roughly 5 to 10% of the full text. At its worst, a summary is a few sentences describing in general terms the topic of the report. A comprehensive summary facilitates understanding; a briefer version does little more than make the reader aware the document exists.

At least one state government research bureau has stopped its general distribution of complete reports to policymakers. Instead, they have the author of each report write a one page descriptive and explanatory summary that is distributed to interested parties. Requests for the complete report are handled through a central distribution office which also disseminates reports from other state agencies.

10. Abstract

An abstract is a skeletal summary. Rarely more than two or three paragraphs, an abstract aims to distill a document into its most essential features, typically a few sentences about purpose and a few additional sentences about findings. It is distinguishable from a summary by its brevity, although the two terms are used interchangeably in some settings. There are several outstanding examples of how an abstract can be written to trigger interest or convey understanding. (15)

11. Synoptics

A synoptic is a more utilitarian type of summary. As one person described it, a synoptic is:

... a concise presentation of key ideas and results of a longer paper or report, in an easily grasped and directly usable form. . . . This requirement for direct usability sets a synoptic apart from an abstract or the traditional conclusions section of a paper. (16)

The synoptic might include a concept, table, formula or a technique that the reader can use without having to go to the complete work. While the usual summary provides an overview, a synoptic provides an in-depth treatment of the meat of the document. Synoptics may be 20 to 40 percent the length of the full work. Summaries and abstracts can be written by an editor, but synoptics generally have to be written by the original author to ensure that the ideas to be used are accurately presented.

11. Newsletter

Newsletters are the fastest growing form of publication in the United States. In 1979 there were more than 5500 newsletters, four times more than were around in 1969. (17) The function of most newsletters is to provide specialized, up-to-date information in an easy-to-read format. Good newsletters (and not every publication calling itself a newsletter is one),

are short, filled with headings, underlinings, bold type and other visual devices; and are meant to be read at one sitting. As the name implies, they are written as letters and are filled with news. There are several examples of well-written, user-oriented newsletters, some of which actually are read and cited by policymakers!⁽¹⁸⁾ There is usually a subscription charge for newsletters.

12. Research Reports

These documents (also called research bulletins, research up-dates or other similar terms) are used primarily by university, think tanks and other research organization to provide summaries, abstracts or synoptics of recent studies. These reports range from a one or two page flyer announcing a new publication, through a compilation of abstracts, to a multi-page, detailed description of completed research work.⁽¹⁹⁾

Some of these documents are advertisements meant to sell products; some are designed to build an organization's reputation; other research reports are intended specifically to disseminate information to a wide or specialized audience. At least one consulting firm employs an artist to illustrate its reports.⁽²⁰⁾ The information in research reports is generally not as current as that in newsletters. Research reports are usually sent free of charge to people on an organization's mailing list.

13. Feedback Sheets

A feedback sheet may be included with a newsletter, research or other report. Its purpose is to provide the producer with information about the reader and his reactions to the document. The information solicited ranges from requests for comments about the material to requests for more detailed data about the user's information preferences. Feedback sheets can be used to revise an organization's publications, to expand or to better serve its

target population.

14. The Newsletter Quiz

One newsletter, The Harvard Medical School Health Letter, occasionally includes a one-page quiz (true-false) "designed primarily to lead you back to material in the HMS Health Letter that you might have missed or forgotten."^{20a} This idea might also be used in research reports. Questions whose answers relate to key ideas or findings could be written for each report. Answers to the quiz ought to be included with the report, on the back of the quiz, for example. This approach could be used to underscore the important points of the articles, and to increase the likelihood that the main message gets across, even if the quiz is the only part of the document that is read.

15. Personal Letter

Some researchers use personal correspondence to communicate informally with colleagues and friends. Following the tradition of the 19th century scientific community, researchers report their latest findings or ideas to a relatively small network of people who have an interest in an issue or, in the case of policy research, who are in a position to act upon the ideas. One nationally-known university researcher who is an active proponent of "free-market" solutions to policy problems routinely sends copies of his latest publications to key policymakers. He sends a cover letter with the publications describing briefly the main idea of the article. He addresses the recipient of the letter by first name, and he signs the letter with his own first name.

16. Mailing Lists

Most organizations with a publications program maintain, or purchase, mailing lists. In its most rudimentary form, a mailing list is an indiscriminate collection of names and addresses of people who are to receive

publications. In a more refined form, the individuals on the mailing list are profiled by a set of characteristics that can be used to target particular information where it might have the most impact.

17. Information Transaction Bank

The information transaction bank was originally developed to help professional societies process information about their constituents. It is a highly refined mailing list. The "bank" consists of an information record for each person who participates.

Each person's record contains a number of items of information concerning him, such as educational background, area of specialization, professional affiliation, work setting and address. In addition it records all significant (information) transactions between the person and the (information) producer. (21)

An information bank might also include such items as studies requested, format and mode preferences, telephone transactions with information producers and so on. This information although costly to get and maintain, would permit an organization to target information directly where it could have the biggest impact. Individuals must participate voluntarily in such a bank because of the society's sensitivity to dossiers and because of the potential for misuse. There are several cases in the literature of individuals and organizations using such information banks to affect the outcomes of elections and policy deliberations. (22)

18. Computer Data Banks

On-line data banks, where information is stored, processed and retrieved, are another growth area in the information industry. There are presently more than 450 on-line data banks, with 50 new ones added during the last three months of 1979. (23) The National Technical Information Service (NTIS) is the primary information storage and dissemination system for U.S. Government sponsored scientific research. Other data bases used by federal

legislative and executive branch policymakers include: New York Times Information Bank, Lockheed's Dialog (which includes the Federal Index, NTIS, Public Affairs Information System, Social Services Citation Index, et al.), the Library of Congress' SCORPIO file, Index to GAO reports, and others. (24)

Some policy areas, mental health for instance, have a great deal of research data on computer banks. (25) There are some well documented problems associated with using computer data bases, including superfluous or irrelevant information, inadequate abstracts, overload, and ignorance about how to use the system. (26)

19. The Press Release

Some organizations routinely issue a press release to announce the results of a major study. The release is intended to publicize any key findings, or to stimulate additional interest in the completed work or in the organization itself. National, local and specialized written publications are the primary direct audiences for press releases. There are a number of written guides available about how to prepare a press release and what to do with it once it's prepared. (27)

20. Newspaper and Magazine Articles

On occasion an organization will use a study as the basis for a newspaper or (less frequently) a magazine article. One research unit in an eastern urban university maintains a neighborhood news bureau whose purpose is to identify campus and other research of potential interest to neighborhood groups, and then to translate that information into articles published in local newspapers. National periodicals, such as the Wall Street Journal and the New York Times, routinely publish study results as news items or offer "op-ed" space for brief, research-based articles.

In general, articles that are related to an issue of current public interest have the best chance of being published. Organizations who use

articles to disseminate their work typically employ a professional writer for the task. At least one university-based organization uses journalism graduate students to produce their articles. Some public relations firms will help organizations get their work into popular print media. There are also several specialized periodicals devoted specifically to printing research results in magazine format. (28)

21. News Clippings

A clipping service is one device that people use to stay on top of issues. For a fee, these services provide copies of articles on user-selected topics published in national, local or specialized media. A typical service charges a flat rate for the first, say 100 articles per month, with an extra charge for additional articles. The user may specify the range of topics and the publications searched. Because the service is tailored to a specific client's interests, a research organization could improve information targeting by channeling its products to these services.

22. Letters to the Editor

Sending a letter to the editor of a periodical read by policymakers is another way to disseminate information. This "target of opportunity" style of dissemination is most likely to work when the letter comes from a well-known person and is written in response to an editorial position taken by the periodical or to a recent public event.

Before this device can be used in a systematic way, someone in the organization must be aware of both the contents of relevant publications (perhaps through a clipping service, although most services have a lag time) and the research that is going on in-house. Since letters over 300 words (100 words is the norm) are rarely published, and since most letters are edited down even further by the periodical, the letter writer must be able

to put the key points in the first paragraph of the correspondence. (29)

23. Loose Deck Advertising

Market researchers concluded several years ago that people enjoy getting mail with more than one item inside each envelope. Several organizations have extended this logic and now send post card sized decks of publication announcements to people on their mailing lists. On the back of each card (usually two to three dozen cards in each deck) there is a descriptive abstract of the article or book offered. If an individual wishes to order the item, she fills in her name and address, and drops the postage-free business reply card into a mail box. A major plus for this type of dissemination is that the cards are easy to read and, as a change of pace, rather fun to go through. Since no stamp is required, it may also increase the chances that someone will order a document. Obviously this device would not be cost efficient for an organization with a small publication program.

24. The Envelope Announcement

Frequently study announcements are thrown away without being opened. Some organizations use the envelope to try to stimulate interest in its contents.

The "hot letter" announcement is a suggestion from one of our private sector respondents. It was designed originally to encourage people to re-subscribe to a newsletter. The words "A HOT LETTER" are printed in red on the outside of the envelope. Inside is a folded piece of paper. A sentence begins on the first fold, continues as the reader opens the second and the third folds, and continues until the paper is completely opened revealing the punchline of the message, written upside down.

Because it differs from most mailings that policymakers get from

information producers, an organization could use this technique to break through the "noise" in the information cluttered environment surrounding policymakers to draw attention to particular study or research findings. It can be used (once, anyway) to mark an organization as different, perhaps more creative than others. This gimmick obviously has limited uses, and assumes that policy makers actually see their mail; but the idea behind it is to break out of the traditional mode of mail communication.

There were some other ideas offered that used the envelope announcing the research information. The "?" letter contains a large red question mark on the front of the envelope. The "to be continued" letter starts a provocative message on the envelope in hopes that the reader will be interested enough to open the letter, wherein he will find several items to sift through. The mail order marketing literature discusses a number of such devices. (30)

25. The Recommendation Announcement

Imagine opening a letter to find a one-page article about a new book or study. The article was torn by hand from a newspaper. Scrawled in ball point pen across the top, obviously written by a busy person, are the words: "Hi. Just thought I'd let you know about this. It's really worth reading. R." Who do you know whose name begins with the letter "R"? Perhaps it is someone important whose recommendation you ought to consider. At a minimum, the recipient of such a letter is likely to read the newspaper article. For some information producers, even that much is sufficient.

26. DELPHI as a Dissemination Technique

Delphi is a forecasting technique based on sharing knowledge among experts. (31) A research organization that sponsored a delphi could use it

as an opportunity to disseminate current research on an issue to a select audience of key policymakers who would participate in the exercise. Participants could be paid for their time, and the exercise could continue until it became clear that the policymakers understood the significance of the disseminated material. This costly and time-consuming device ought to be reserved for important dissemination that cannot take place by some other means, although it could also be used as a public relations device.

Human Dissemination

Human dissemination is any method of transmitting information that involves the direct, face-to-face interaction of two or more people. Because the people who send and receive the information are in the same physical location, such as a room, they can experience both the cognitive and the affective components of the message. They can hear each other's words; they can feel the intensity and the color of the emotions behind the words. They can see nonverbal actions and reactions; they can ask questions, clarify or debate in real time. Human dissemination is more than speaking; it involves listening, sensing, feeling and intuiting the substance and the context of the communication.

Human dissemination techniques are appropriate to use when information is immediately required, confidential, potentially controversial, easily misunderstood, when the message is tentative or when understanding is a must. The face-to-face element permits the kind of interaction, fluidity of expression, personalization and feedback required to ensure understanding or to stimulate action.

Human dissemination is also appropriate to use when the speaker does not have to be precise, when it is sufficient to sketch the outlines of the

message. Written products can be used to provide supporting data. Human dissemination allows personality to influence the dissemination process more easily and directly than the written word. This means that dissemination can be helped by certain personality traits: warmth, openness, authority or trust. The risk, however, is that negative traits can also influence the way the message is heard or understood.

Once information is available, it is generally easier to talk to someone about it than to write (less so the more complex the message), and it's often easier on the audience too. It requires less effort for most audiences to listen to a well organized presentation than to read. Reading demands active participation--you cannot get the message until you pick up the document and work through the words. Hearing is more passive and reactive. The audience can be inattentive, but an effective experienced speaker can note this and make on-the-spot modifications in his presentation to bring the audience back.

Human dissemination can also be time-consuming, inefficient and ineffective. It takes time to prepare an oral presentation for a sophisticated audience, time that might be better spent writing something for the audience to read. Traveling around the country giving the same message to different audiences uses time, money and other resources that might be employed in more productive activities. Speaking can also be a quite ineffective way to transmit a message, particularly if it is complicated. According to some estimates, we retain between 20 and 40 percent of what we hear, making it difficult to retrieve, verify or review the information we receive from a speaker. (32)

Effective human dissemination ideally requires that the audience and the speaker meet each other on a human as opposed to a role or organizational basis. People, however, do not routinely open themselves up to others merely to facilitate dissemination. The dissemination techniques described in this

section, then, are most effective when they involve people whose relationships have persisted over time (to permit the human dimension to emerge in the communication), when the relationships provide the participants with social-psychological as well as with substantive benefits, and when the participants have learned what they can and cannot reasonably expect from each other.

The capacity for using human dissemination techniques effectively has to be built into an organization and nurtured. Once the basic mechanisms, relationships and structures are in place, the techniques can be used to alert audiences to new information, to ensure understanding, to motivate action and--under some circumstances--to affect the direction of public policy. (33)

The people we spoke with during our survey were almost unanimous on one point. In the words of a Washington, D.C. researcher, "If you want to make sure someone truly understands what you have to say, you have to talk to them; over the phone if necessary, in person if at all possible . . . I don't know of any better way (to disseminate information) . . . than one-to-one."

1. Lobbying

Lobbying is a time-honored and proven method for getting information to policymakers. Traditionally, legislators and their staffs use lobbyists as a primary information source. Lobbyists become more effective as trust and their reputations grow.

A few of the organizations we contacted viewed lobbying as "the only way to make sure (policymakers) act (on the information)." One public interest research firm described for us how an individual researcher's personal interest in returnable soft-drink bottles led, sequentially, to a

cost-benefit analysis on the merits of returnable bottles vs. non-returnables, to writing and introducing legislation, to lobbying for the bill and (when the bill was narrowly defeated) to devising strategies to get the bill through the next session.

Executive and legislative branch research units at the state and federal level often are involved in lobbying, some more openly than others. Some organizations are prohibited from actively lobbying because of legal or institutional constraints. Other organizations (in our survey, most) are uninterested in trying to turn the fruits of research into policy action.

There are many consultants and a fairly substantial literature available to guide organizations that want to increase their capacity for advocacy dissemination.⁽³⁴⁾

2. Testimony

Presenting information at a legislative or other public hearing is a frequently used dissemination technique designed to influence the course of public policy. Although some hearings are intended more for symbolic than substantive purposes, this forum does offer producers the chance to present a message directly to policymakers.

Giving clear and effective testimony differs from writing effectively, but there have been numerous hearings where the speaker ignored the differences. Effective testimony is short, to the point, and involves the concerns of the key members of the audience (the ones one wishes to influence).⁽³⁵⁾

3. Briefings

A briefing is another common way to transmit information. A briefing is intended to highlight what an audience needs to know to understand research or other data. It is sort of an oral synopsis. A briefing may be as informal as an ad hoc report by a member of a study team to a project director

about work in progress, or as formal as a multi-media presentation to a top level policymaker. Briefings may also be used to develop support for a particular policy idea. (36)

4. Consulting or Advising

Individuals who provide expertise to others may use that relationship as the vehicle for disseminating new information. Consultants and advisors (such as legislative staff, policy analysts or planners) are employed because they have access to information needed by policymakers, or because they know where to get it. They frequently act as the first step in the two-step information funneling process. Several organizations we contacted described how they routinely provide relevant information to key people on legislative staff, rather than trying to get directly to the law maker. When the consultant is the person who generated information, through his own research for instance, consulting is dissemination.

5. Networks

A network is a persisting set of relationships among people with common interests. Sometimes the members of a network meet frequently with each other as a network. At other times, a network may not be called a network and its members may not consciously be aware that they are a part of it. Instead, the members may think of others as friends, colleagues, informal contacts or professional associates. Whether connected formally or informally, a network is a device that transcends organizational, disciplinary and geographic boundaries.

Most, but not all, network relationships can be maintained by mail or telephone. However, some personal contact among members appears to be necessary to get the relationships started or solidified. The people we spoke with who talked about network dissemination said they usually first met

other members at a conference, field visit or in the course of some additional work-related activity.

Organizations use networks as a dissemination technique primarily by becoming a part of the network, or secondarily by providing information to individuals who are members of the network.

6. Teaching

People who teach classes in graduate or professional schools and use material based on their own research products are practicing one of the oldest forms of dissemination. We spoke with several researchers who said that their graduate students were among the first to receive new information. This type of dissemination may be particularly (but not immediately) effective when students who are not already in policy-related jobs go on to these positions. Organizations doing policy research which are not presently connected with professional policy schools, might consider creating more direct information sharing relationships with those institutions as a long term dissemination strategy.

7. Issue Seminars

These seminars or conferences are organized around a central policy theme, such as school finance, drinking water quality, etc. They are sponsored by organizations in the public and the private sectors, and may be non-profit making ventures. The primary informational function of these seminars is to present and discuss research on current issues; typically the sponsors are not especially concerned with the direct utility of these seminars to policymaking. Issue seminars may take place as a part of professional meetings or may be called specifically to provide information about a topical issue.

S. Policy Conferences

Policy conferences are a relatively new variation of the traditional conference format. They differ from an issue seminar by aiming to do more than present information. Policy conferences are designed to generate potential solutions to policy problems. The U.S. Environmental Protection Agency recently completed a conference whose purpose was to come up with new drinking water standards. They brought together 80 representatives of federal, state, local, public and private interests. The participants were told to develop some goals and regulatory mechanisms. As one of the conference organizers reported:

The idea was . . . to put them all in one room at one time and let them yell at each other and try to get something constructive out of it, to see if they could develop any positions of consensus. (37)

A policy conference is based on the premise that solutions to policy problems must emerge from a process of conflict, cooperation and compromise. There is no set format for a policy conference, but one common design is first to bring together representatives from the interest groups in the issue area. Next, either several of the participants or a formal speaker present some preliminary background material on an issue: the participants present the issue from their different points of view, or the formal speaker summarizes each group's perspective. Participants are then divided into small groups, each group containing a mix of the represented interests, and given a relevant problem to solve or task to complete. Group findings are then presented to the entire conference and discussed.

The preliminary presentations and the small group work appear to be especially effective ways for information from many different perspectives to be shared. One is continually surprised by the failure of groups in a

policy issue area even to be aware of how others see the world, let alone understand those different perspectives.

We surfaced little evidence that policy conference actually resulted in the adoption or implementation of new solutions.⁽³⁸⁾ The absence of follow-up procedures and the difficulty of getting key policymakers to attend the conference were cited by two conference directors as reasons why the format is not yet as useful as it might be.

"Policy decisions aren't made in public," one director told us. "Maybe the most we can expect is that (participants) will know more after they leave because they're exposed to a lot of different ideas." But policy conferences must do more than that if they are to differ from the traditional conference. The chief potential of policy conferences is in issue areas characterized by many interest groups. The conference provides a forum for negotiation and compromise that could serve as the basis for future legislative or administrative action.

9. Workshops and Training Sessions

These seminars are most appropriately used when there is a specific body of information, skills or techniques that can be transmitted and assimilated within a set period of time. The central focus of these sessions is utility. Participants come to learn something of direct relevance to their job responsibilities. These sessions are a form of continuing education.

For-profit, and to lesser degree non-profit organizations are particularly active in this area. Some issues that have been covered in workshops and training seminars include how to implement a new law, how to apply for a grant, and how to influence the legislative process.

10. Orientation Seminars

These seminars are designed to provide information to a well-defined

target audience. They are one variety of the issue seminar. Legislative orientation and media orientation seminars were mentioned by several organizations we spoke with as techniques they used to disseminate information.

One university provides an annual briefing to interested legislators and their staff about emerging issues in their state's policy arenas. (The seminar is held on a Friday afternoon and a Saturday morning in the autumn. After the Saturday session, the participants attend a football game, courtesy of the seminar sponsors. "It helps increase conference attendance," a member of the university's research staff told us. Other organizations provide background briefings to reporters from newspapers and other media about policy issues, research findings or social trends.

These orientation sessions help the organization develop contacts with people who are influential in policy circles, encourage shared views concerning what is known and unknown about an issue, and provide participants a quick way to find out about an issue.

11. Speaker's Bureau

A public speech is another way to disseminate information. A few of the organizations in our survey maintained lists of people who were available to talk about certain policy issues. One private company routinely sends people to community meetings, university classes and to service organizations. The speakers are used primarily to give the company's perspective on topical policy matters.

Sometimes the speaker's bureau is a much more informal activity. Some researchers in universities, think-tanks and in government agencies make speeches as a normal part of their job. These speeches provide the opportunity to convey information about their current work and, depending on the audience, influence policy.

12. Press Conference

The press conference is a way to disseminate particularly "newsworthy" information. These conferences typically begin with someone reading a prepared statement about the results of a study or investigation, or announcing the start of a new activity. Then reporters have the opportunity to ask questions.

Reporters look for a good piece of film for the television news or an interesting story for the evening paper. The people who convene the news conference are looking for publicity. Unless one has an especially hot story, one does not simply announce that there will be a news conference and then wait for reporters to appear. A successful news conference requires planning, coordination and attention to the needs of the reporters. There are useful guidebooks to help someone plan for a news conference. (39)

13. Media-liaison

Organizations that have frequent dealings with the media often find it useful to assign someone as a liaison between the media and the organization. The liaison job is to know which media people would be most interested in a piece of information, and also to answer questions from reporters; the liaison essentially acts as a bridge. Several of the larger organizations we spoke with maintain lists of reporters in the major national newspaper and television markets with interests in specific policy issues, to whom they provide information for wider dissemination.

14. Conference Participation

Earlier we described how organizations use conferences as a dissemination technique. We also found a few organizations that send its members to attend conferences, among other purposes, to present any relevant information it might have about an issue. Most conferences usually provide time for

audience discussion and questions. These opportunities are used by some attendees to disseminate their own information. For instance, the president of a bottled water company attended a conference about the quality of drinking water and gave a 20 minute presentation about the merits of bottled water, complete with slides.

15. Advisory Board Participation

Several organizations have built a dissemination component into their advisory boards. Board members were selected not only because of the guidance and prestige they can provide an organization, but also because they were information channels to another arena. One community-oriented organization had the president of a local television station, the managing editor of the major local newspaper and the owner of a national magazine on its five person advisory board. They indicated they had no dissemination problems.

The information channel can work the other way as well. We spoke with an organization which encouraged its employees to join advisory and other such boards in the community. Information obtained from board meetings could be disseminated rapidly back to the employees' organization when necessary. Within a certain context, this might also be called spying.

Audio, Visual and Electronic Dissemination

The phrase "audio, visual and electronic" (AVE) dissemination is used to mean any extra-human method of transmitting information. It is extra-human in the sense that these methods extend a human's communication capability. Technically, written dissemination is also extra-human, but the frequency of its use demanded the separate discussion provided earlier.

Audio techniques are addressed to an audience's hearing, visual techniques to what an audience can see, and electronic techniques refer to a particular

and increasingly important method of communicating. The bulk of the techniques described in this section depend in some part on electronics.

AVEs are appropriate to use when the communication situation is sufficiently important to warrant using the time and resources required to prepare materials. AVEs can be used to direct or influence the perception of audiences, to bridge distance and time, to facilitate a standardized presentation, to overcome audience apathy, to provide dramatic impact, to reinforce messages and to provide clarity. AVEs can be used by speakers as notes for an oral presentation, and as a substitute for more expensive human media (e.g., using an amplified telephone to transmit a well-known, or high-priced person's speech to a local conference).

AVEs can at times override and contradict intended messages. A graph that is too complicated to understand, a table of numbers that is added incorrectly, a harsh, grating voice on the telephone, or a hot personality on a cool medium can speak louder and more persuasively than the desired communication. As is true for any technological device, something can always go wrong: a bulb burn out, promised equipment undelivered, or devices employed that are too complicated to use without extensive training.

To be effective, AVE content needs to be clearly audible or visible, immediately intelligible, simple, and deal with something concrete. Most AVEs are not appropriate vehicles for transmitting complicated, detailed or highly abstract ideas. (Even though one picture may be worth a thousand words, not everything that can be communicated can be pictured.) Additionally, it is difficult to use AVEs to create trust or rapport with an audience, and AVEs tend not to encourage or permit audience feed-back.

AVEs are a good way to provide a quick awareness of an issue, especially

if that issue can be presented visually. They tend to be less successful in providing understanding, provoking action, or in actually influencing public policy. Here, as elsewhere, electronics and visuals are ineffective substitutes for human action.

Traditionally, AVEs have been used to supplement or support oral and written dissemination. There is clear evidence, however, that in the age of video, computers and microchips, AVEs are starting to take a place as a primary mode of disseminating information to general audiences. The evidence with respect to disseminating information to policy audiences is much more suggestive than conclusive, but the seeds for a transformation are apparent. The effect on public policy of using AVEs as a substitute for more traditional techniques has yet to be adequately assessed. (40)

1. Telephone

The telephone is a major dissemination tool. It is fast, easy to use and often cheaper than the price of preparing and mailing a written communication. A telephone call generally is not considered an appropriate way to make an initial contact with a potential user of information. Information transmitted by telephone is colored by the sound, rhythms, speech patterns and pauses of the human voice. If people don't already know each other, their telephone voice can give misleading clues about the value, purpose or accuracy of the dissemination information. A phone call is an ideal way to transmit information among people who have had prior dealings with each other.

2. The Follow-Up Telephone Call

One legislative service organization in our survey made it standard practice to telephone all recipients of their reports to make sure they received the documents, and to solicit questions and comments. They also used the follow-up call to repeat, thus underscoring, the main message of the report.

3. Toll-Free Telephone Number

A few organizations provide a toll-free "800" telephone number that can be used to request information or reports. One government agency wants to establish a "dial-a-summary" line that would provide the caller with abstracts of recently completed work. Organizations located in major cities may be able to take advantage of lower cost long distance services offered by MCI Telecommunications, SP Communications, International Telephone and Telegraph, or other firms competing with the Bell System.

4. Conference Call

Although still in the experimental stage, the Bell System offers a Picture Phone Meeting Service in selected locations. This service permits the parties to a conversation to see as well as hear each other. Presently, the service is used primarily by international and other large corporations. The service is expensive to use, and callers must all go to a central station in their local area in order to use the picture phones.

7. Reference and Referral Services

Several large research organizations provide a free-of-charge, on-demand reference service to provide clients with information within the organization's research scope. Information may be provided to users in the form of computer generated bibliographic abstracts, specially prepared reports, or oral briefings (either over the telephone or in person). Requests for information can be triggered by a telephone call or letter.

8. The Information Contact

We found two state government organizations that assign specific individuals to be the central information contact for local governments in their state. When someone at the city or county level has a question about

a state program, he or she can call one person in the state capital, who will either provide the information or find out who has it. The contact is a bridge between organizations with information and potential users.

9. Voice Mail

Voice mail is another technique used predominantly by private sector firms. Although there are several variations of this system, the simplest is for an individual to have two telephone lines, one of which is attached to a telephone answering device. The telephone number for the answering device is listed separately from the other telephone. Someone who wishes to send a memo, letter or other relatively short document telephones the message to the answering device. The person to whom the message is sent listens at his or her own convenience.

10. Cassette Tapes

Cassette tapes have long been used for training purposes. We found one organization that used tapes to disseminate evaluation reports to legislators and legislative staff. The man responsible for this project recognized that top-level policymakers rarely read reports. So he had synoptic summaries of five evaluation reports taped professionally by a public broadcasting station. He then provided key policymakers with tapes and portable tape recorders. He reported that the policymakers listened to the reports while they exercised or drove to work. During legislative hearings, the policymakers who received the tape were able to ask "sharper and more informed questions" about the evaluation projects than would normally have been expected. "They obviously had listened to the tapes," the project director told us. One sidenote: the people who objected the most to using the tapes were the analysts in the office who prepared the evaluations. The staff resisted

having to prepare the broadcast scripts; they preferred to stay with written reports.

11. Video Tapes

The use of video taping has increased over the last few years in business, educational and other organizations. Primarily they have been used for training, rehearsing presentations, and for standardizing sales presentations. They could also be used to disseminate briefings or other reports. (41) Although video tape equipment is available for less than \$2,000, a polished dissemination product requires professional preparation and equipment. (42)

12. Public-Service Announcements

Radio and television public service announcements (PSAs) are brief-- 10 to 60 seconds--messages from non-profit organizations. PSAs are typically non-partisan and are related directly to the organization's work. Organizations could use this device to report research findings especially interesting to a local community. (43)

13. Responses to TV or Radio Editorials

Organizations can also take advantage of the largely untapped editorial response opportunities on radio and television to disseminate information. This format is more appropriate than PSAs for transmitting controversial or partisan information.

14. Television Visuals

Because television is a medium with a practically insatiable appetite for pictures, organizations can provide TV stations with film (16 MM optical sound on film) or video tape (generally 2-inch-high band) clips to support or reinforce PSAs editorial responses, or other stories about the work the organization is involved in. Except for the largest organizations, the public

computer-drawn picture of school expenditures per district or health manpower distribution is worth more than 1000 words of description. The impact is immediate, and with a properly designed chart title, the conclusion that should be drawn from the graphic is obvious. (47)

19. Other Graphic Devices

Transparencies, opaque projectors, film strips, flannel and magnetic boards and blackboards are all common methods of presenting visual information to an audience.

20. Public Affairs Shows

Local radio and television stations produce public services or public affairs programs such as talk shows, debates, panel shows, interviews and special reports. Producers of these shows usually need people to talk about their work, especially if it is linked to a topic of current public interest. Organizations might also consider sponsoring such shows. The American Enterprise Institute, perhaps the most media-oriented policy research organization in the nation, sponsors its own "Public Policy Forum" television shows as well as a syndicated radio program.

21. Television Films and Documentaries

"I can pretty much anticipate the information requests I'll get from legislators on Monday by watching '60 Minutes' on Sunday," a state legislative affairs director told us. It is part of the conventional wisdom that people, including top level policymakers, get most of their information from television. (The television is on about six hours per day in the average U.S. household.) The growth of cable television (present state-of-the-art now permits 56 channels to be transmitted into a home), the national television news station (CNN), the projected expansion of local and national news programs, the anticipated continued growth of home computer links and two-way,

"talk-back" cable television all portend an increased demand for visual information to supplement a pure "talking head" approach to news and public affairs features. Television programs, like local and national newsmagazines, are ideal opportunities for 5 to 20 minute feature films about a particular policy issue. As television increases its ability to target audiences the way magazines can at present, the opportunities for organizations to transmit more sophisticated and detailed information to a well-defined audience will also expand.

There are some types of information that television cannot communicate, (48) and it is expensive to prepare material for and to use the medium. So its use will probably be restricted to the largest and most economically well-off organizations, with a few smaller but innovative firms participating as well. Since large organizations in this country have remarkably similar world views, whether nominally members of the left or right; there is a danger that economics will constrain the range of views included in television policy material even more than such views are restricted presently by economic, ideological and other barriers. Today, however, television remains a largely unexplored source for the purposive dissemination of public policy information. (49)

22. Computers and Computer Networks

The smaller computer promises to be the next major advance in dissemination techniques. In the office of the future, each person will have a video terminal at his or her desk and will be connected to several different computer networks. (50)

There are more than 800,000 computers in the world; 400,000 in the United States; 16,000 used by the federal government. (51) Every U.S. senator and

half the members of the House of Representatives have a terminal in their offices. Executive branch agencies--the Executive Office of the President, Defense, Health and Human Services for instance--are using computers with increasing frequency. Today the computer is used mostly for fairly routine information processing tasks, such as literature searches, billing and mailing, and record keeping. Its promise to replace the printed page and to change our lives more than any technological device since the automobile has yet to be kept. When computers become as easy to use as the telephone, they can offer information producers a dissemination technique that can provide instant written, visual and personal communication to policymakers.

The most advanced computer networks are used by large corporations (such as Xerox and Citibank) and government agencies (such as the Defense Department and the Department of Energy). Access to most of these networks is limited to a small population of users, but these are the networks in which most of the significant technological innovations occur. (52)

None of the organizations in our survey are presently using computers for more than routine information tasks. But several of those whom we spoke with talked about the future dissemination possibilities of computer terminals.

One person wants each of the analysts in his office to work at home and to communicate with colleagues via computer. Another wants his office to be able to provide same-day research services to clients throughout the state using computer networks.

The hardware is available, and the costs are coming down. But the availability of software and the problem of computer illiteracy are two major barriers to an expanded use of computers for interactive communications. (53)

SECTION 1: SUMMARY OF MAIN FINDINGS AND CONCLUSIONS

We identified a number of factors that, when combined in an organization's dissemination program, virtually guarantee ineffectiveness. These Rules for Ineffective Dissemination include:

- Rule 1. Don't try to influence public policy. An organization that does not expect to influence public policy probably won't.
- Rule 2. Make sure your information is communicated poorly. Do not make an effort to translate policy research into a policy relevant form.
- Rule 3. Make sure the people who are doing the research don't care about the policy implications of their work. Better yet, make sure the researchers don't understand the public policy process.
- Rule 4. Have no idea who should receive or who can benefit from your information.
- Rule 5. Work on policy issues that are heavily political, extremely complex and where there is a great amount of information already available.
- Rule 6. Make sure your organization allocates practically no resources (like people and money) to dissemination activities.

One might be tempted to argue that we ought not to expect too much from dissemination. The world of public policy is too complex, too irrational and too overloaded with information to expect that purposive dissemination will have much of an impact. But our findings suggest that a great many information producers are not collecting the kinds of information that policy makers need or want, or if they are, that the information is not being disseminated in a format that policymakers can use. The reasons for this are many: inappropriately conceived research, ignorance of policymakers' information needs, reliance on written material in an increasingly electronic and visual world,

sector rarely uses television visuals; they are generally expensive to prepare and require professional equipment and staff (44)

15. Slides

Slides are a proven communication device. Although the initial investment for well-prepared slides can be substantial, the investment pays off if the presentation is important, if it's given several times at different locations, or if appearance is a critical factor. Slides are easy to transport and provide a clear image. Practically no training is needed to learn how to use a slide projector. (45)

16. Flip Charts

Flip charts are another commonly used visual device for disseminating information. These charts are mounted on a table-sized or free standing easel, and offer more flexibility than slides. With flip charts, it is relatively easy for a presenter to write on the charts during the presentation, shift the order of the charts, and move backward or forward to emphasize points as needed. Charts are awkward to transport. (46)

17. Conference Displays

Some organizations use visual displays (charts, graphs, video-tapes, etc.) at professional or trade conferences to bring attention to their products. Although this device is used primarily by firms with something to sell, it could also be used to bring research findings to the attention of conference participants or to stimulate interest in the organization's work.

18. Computer Graphics

Computer graphics is one of the fastest growing areas of applied computer technology. It offers a great deal of promise as a partial remedy to information overload and pollution, and a way to help sort out meaningful information from among massive amounts of data. To see a three dimensional,

lack of concern for dissemination, insufficient resources, inadequate management, and an absence of strong incentives to disseminate effectively.

Some students of dissemination maintain that dissemination can have its greatest impact in "information poor" jurisdictions and in new policy issue areas. (54) But policy makers active in other jurisdictions and in other issue areas also need help in treating the omnipresent uncertainty that characterizes practically every proposed policy action. If researchers get their rewards for finding interesting insights and policymakers get theirs for finding solutions, we need to find a way to reward people who can bridge the gap between the two worlds. At present there are practically no extrinsic rewards for serving this function. Professional policy analysts are likely candidates for this bridging role since that is what they are trained to do, at least in part. But disseminators also need to recognize that their role is as much to act as a "kidney" in the policy world--removing information waste products from the system--as it is to serve as the nerve system that channels information where it ought to go.

But still we have to return to the theme that a dissemination program is unlikely to be effective in the absence of a desire to do more than produce information. Lobbyists and special interest associations active in policy-making have an incentive to make sure their information is used to facilitate or prevent the adoption of specific policies. Other organizations typically stand to lose little if their information is ignored by policymakers. Although there is social and cultural justification for why tax money ought to be used to support the production of information--e.g., we may hit upon another polio vaccine, we can't always tell immediately about the importance or possible use of a new idea--the economic and political climate in this country is clearly in a state of flux. As the country retools, and as

as efforts are made to reduce government expenditures, funds for research with little apparent utilitarian impact will make a ripe target for budget cutters. One way for organizations to counter this trend is to pay more attention to "effective dissemination"--even if effectiveness is defined by "awareness" or "understanding." The five point program described in this report--knowledge of audience, understanding the communications process, intelligible information, effective dissemination management and appropriate timing--is one way research organizations can become more relevant to policy-makers, and thus increase the odds of their survival.

Although there are many techniques used to disseminate information (we identified over 60), creativity in the dissemination of policy information appears to be quite rare. We have attributed this to the absence of incentives for dissemination, and to all that contributes to and follows from that. When incentives are present, creativity is encouraged: recall the university think-tank that wanted to build a reputation with state legislators--it tied together a conference with a football game to encourage attendance; or the analyst who put what he considered to be important evaluations on cassettes for busy legislative officials. Creativity also requires a discontent with existing routines, support and time for experimentation, and the ability to escape from habit. But a precondition to all of this is a concern for dissemination.

We indicated in the introduction that our survey raised more questions than it answered. In addition to the issues raised earlier, there are a number of topics that could be the subject for additional research, such as:

1. The relationship among types of information, dissemination strategies and impacts.
2. The limits of dissemination: what realistically can we expect

dissemination to accomplish, and under what conditions.

3. The costs of using different dissemination techniques--to both the producer and the user--and what can be done to modify or redirect those costs.
4. The ethical implications of purposive dissemination in public policy.
5. Strategies to encourage experimental dissemination efforts.
6. Organizational rewards or penalties for effective or ineffective dissemination.

We live in an age of increasing uncertainty, of complexity and of information-overload. Effective dissemination offers a promise of regaining control over the morass of information that engulfs the policy arena, so that information can be used to untangle complexity and to calm uncertainty. Today that promise appears to be more of a longing than an expectancy, and that condition needs to be turned around. Policy research organizations could be in the forefront of such a movement.

SECTION VI: A CHECKLIST FOR INFORMATION DISSEMINATORS

This checklist is designed to be used by information producers to stimulate thinking about dissemination strategies. We assume here that the "information" (i.e., material to be disseminated) is already available. Even though the literature suggests that the best time to plan for dissemination is during the initiation of a study or other information-producing activity, that is often not possible. Checklists are available to guide producers who wish to incorporate dissemination concerns into research plans. (55)

A. Thinking About Your Dissemination Goals

1. What do you want to disseminate?
 - a. Specify categories of information (e.g., concepts, formulae,

problems, solutions, etc.)

- b. Write a one sentence description of the information you want to disseminate.
 2. What do you hope to accomplish? (Consider both long-run and short-run objectives.)
 - a. Awareness
 - b. Understanding
 - c. Action
 - d. Policy impact
 - e. Other
 3. How will you measure your accomplishments?
 4. How will your organization (client, constituency, etc.) be helped or harmed by dissemination?
 5. How does this dissemination contribute to your organization's mission?
 6. What else should you think about under this category?
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B. Thinking About Your Audience

1. Who are the most appropriate users of this information?
 - a. Primary audience
 - b. Secondary audience
2. For each different audience (primary and secondary) what information is most relevant to them? Why?
3. Does the audience know you have the information?
4. Do you have information channels to the users? What are they?
5. Do you have an established reputation with your audience?

- a. How can you take advantage of a good reputation?
 - b. How can you overcome a bad reputation?
 - c. How can you use this dissemination to create a good reputation?
6. How do the different audiences prefer to receive information?
 7. When is the best time to disseminate to your audience?
 8. What don't you know about your audience that you ought to know?
 9. How can you find out more about your audience?
 10. Is the information easy for your audience to obtain?
 11. How can the audience benefit from the information (or be harmed by it)?
 12. What costs will the audience incur receiving your information?
How can those costs be reduced or shifted?
 13. What else should you think about under this category?
-
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C. Thinking About the Information to Be Disseminated

1. What is the source of the information?
2. Was the information produced to be disseminated, or is dissemination a second priority?
3. Is there something about the nature of the information that will restrict or facilitate dissemination?
4. Is the importance of the information, including action options, apparent?
5. Are recommendations feasible and realistic?
6. What is the technical quality of the information?
7. Is the information sensitive to political, legal, economic and other social factors?
8. Are significant opposing arguments and interpretations included?

9. What else should you think about under this category?

D. Thinking About Presentation

1. Is the information presented in language the audience can understand?
 2. Are visuals clear and understandable?
 3. Is there an abstract or summary of the key points?
 4. Is the information presented in an attractive manner?
 5. Is the information well-organized?
 6. Is the information easy to understand?
 7. Is the information presented with an appropriate level of sophistication, objectivity and scholarship?
 8. Is the information presented with an appropriate amount of detail?
 9. Is back-up documentation or material available?
 10. What special materials, skills or people will you need to present the information?
 11. What else should you think about under this category?
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E. Thinking About Dissemination Strategies

1. What specific dissemination techniques will you use?
 - a. Written
 - b. Human
 - c. Audio-visual-electronic
 - d. Other
2. How are the techniques selected appropriate for the target audiences?

3. Are you using different dissemination techniques for different audiences?
 4. Are you using multiple dissemination channels for an audience?
Duplication? Redundancy?
 5. Are you taking advantage of informal as well as formal opportunities for dissemination?
 6. Does the audience have the opportunity to provide feedback?
 7. Is the audience encouraged to provide feedback?
 8. What kind of feedback do you want to get? What will you do with it?
 9. How will you monitor the effectiveness of your dissemination strategies?
 10. Are you experimenting with new dissemination techniques? Why?
 11. What else should you think about under this category?
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F. Thinking About Dissemination Management

1. What resources do you need for dissemination?

	<u>Need</u>	<u>Available</u>
a. Staff		
b. Time		
c. Money		
d. Space		
e. Materials		
f. Other		

2. Who is responsible for planning and managing dissemination activities?

	<u>Task</u>	<u>Responsibility</u>

3. How will the information be translated into a policy relevant format?

Who will do it?

- a. Written material
- b. Oral presentations
- c. Audio-visual-electronic
- d. Other

4. What else should you think about under this category?

G. What Can Go Wrong?

FOOTNOTES

- (1) The organizations mentioned most often were: American Enterprise Institute, Brookings, Rand, Urban Institute, Congressional Budget Office and the National Council of State Legislators' Council of State Government.
- (2) This list of six categories was drawn from a review of the dissemination literature; we relied specifically on the articles in L. E. Lynn (Ed.): Knowledge and Policy: The Uncertain Connection, Washington, D. C.: National Academy of Science, 1978; and Mitchell, Social Science Impact on Legislative Policy: Theory and Research, Washington, D.C.: National Institute of Education, December 1977, (NIE-G-76-0104).
- (3) Weiss, Carol H. "Improving the Linkage Between Social Research and Public Policy," in Lynn, Knowledge and Policy, p. 69.
- (4) Davis, H. and S. E. Salasin. "Strengthening the Contribution of Social R & D to Policy Making," in Lynn, Knowledge and Policy, p. 99.
- (5) Sundquist, J. L. "Research Brokerage: The Weak Link," in Lynn, Knowledge and Policy, p. 126ff.
- (5a) For a discussion of this perspective, see J. Knott and A. Wildausky. "If Dissemination is the Solution, what is the Problem?" Knowledge, Vol. 1, #4, June 1980.
- (6) See the studies accompanying this report by Wilson, Kirst, Bardach and Meltsner for more information on this point.
- (7) Robinson, J. "The Changing Reading Habits of the American Public," Journal of Communications, 30:1, Winter 1980; Kobert, N; Managing Time, New York: Boardroom Books, 1980, p. 63.
- (8) For an example, see Schultze, C. L. The Public Use of the Private Interest (Brookings, 1977).
- (9) For an example, see Duignam, P. and A. Rabushna. The United States in the 1980's (Hoover Institution, 1980).
- (10) For examples, see one of the Policy Studies Review Annuals, published by Sage.
- (11) See Current Contents: Social & Behavioral Sciences; Institute for Scientific Information; Philadelphia, PA.
- (12) Two interesting discussion of writing technical reports are contained in Ehrlich, E. and D. Murphy; The Art of Technical Writing, New York: Cornell Company, 1964 and Morris, L. L. and C. T. Fitz-Bibbon: How to Present an Evaluation Report, Beverly Hills: Sage Publications, 1978; See also Meltsner, A. J.: Policy Analysts in the Bureaucracy; Berkeley; University of California Press, 1976, p. 233-240.

- (13) Handbook for Authors of Comissioned Papers, Institute of Governmental Studies, U.C. Berkeley, 1979-1980, p. 2-3.
- (14) For a discussion of Issue Paper contents; see Quade, E. S. Analysis for Public Decisions, New York: Elsevier, 1975, p. 68-74.
- (15) See "The Future Survey," issued by the World Future Society; The Wilson Quarterly, published by the Woodrow Wilson International Center for Scholars, or Medical Care Review; issued by the Michigan School of Public Health.
- (16) Capital Systems Group, Inc. Improving the Dissemination of Scientific and Technical Information, Washington, D. C.: U.S. Department of Commerce, 1975, p. II. 1. 1a ff.
- (17) Wall Street Journal, 12/24/79, p. 1.
- (18) For example, McGraw-Hill's weekly Washington Report on Medicine and Health.
- (19) For some examples, see "Monthly List of GAO Reports," U.S. General Accounting Office; "Recent Research Results," U.S. Department of Housing and Urban Development, Office of Policy Development and Research; "Policy Research Report," The Urban Institute; "The MPR Policy Newsletter," Mathematica Policy Research; and "Public Affairs Report," University of California, Institute of Governmental Studies.
- (20) "Abt Books," Cambridge, Mass.: Abt Associates.
- (20a) Harvard Medical School Newsletter, April, 1980, p. 3.
- (21) Capital Systems Group, Inc. Improving . . . Dissemination, p. I.7.8.1.
- (22) Haydon, W. "How Congress' Computers Con the Public," and Green, M. and A. Buchsbaum, "How the Chamber's Computers Con Congress," both in the Washington Monthly, Volume 12, #3, May 1980, p. 43-50.
- (23) Kiechel, W. "Everything You Always Wanted to Know May Soon Be On-Line." Fortune, May 5, 1980.
- (24) Gregory, N. "The U.S. Congress--On Line Users as Policymakers;" and Kadec, J. T. and R. Mancher, "On Line Services in the Executive Office of the President;" both articles in On Line Review: Vol. 3, #4, 1979.
- (25) Davis and Salasin, "Strengthening the Contribution of Social R & D to Policy Making," in Lynn, Knowledge and Policy, p. 120-121.
- (26) Ibid.
- (27) Cauble, M. Effective Promotion: A Guide to Low Cost Use of Media for Community Organizations. Do it Now Foundation; Institute for Chemical Survival; Phoenix, AZ: 1977, p. 13-15.

- (28) Baus, H. M. "Publicity in Magazines," in Lesly, P. (Ed.): Lesly's Public Relations Handbook, New Jersey: Prentice Hall, 1971, p. 378-389.
- Davis and Salasin, "Strengthening and Contribution of Social R & D to Policy Making," in Lynn, Knowledge and Policy, p. 122. Newsmaking International Inc., with offices in Chicago, New York, San Francisco, and elsewhere, is one of many publicity firms that specialize in getting information about an organization and its work published in magazines and other written media.
- (29) Cauble, M. Effective Promotion, p. 20.
- (30) Direct Marketing is one of several magazines specializing in this area.
- (31) Dalkey, N. C. The Delphi Method--An Experimental Study of Group Opinion, Rand Corporation Memorandum RM-5888-PR, Santa Monica: The Corporation, June 1969 is the original Delphi article.
- (32) Better Communication, #101 A; Information Plus, Inc., 1980, p. 2-3.
- (33) The use of human media is discussed in Vardaman, G. T. Effective Communication of Ideas, New York: Van Nostrand Reinhold Co., 1970. Our discussion of human disseminated benefit greatly from this work and from conversations with telephone respondents.
- (34) Alderson, G. and E. Sentman. How You Can Influence Congress, New York: E. P. Dutton, 1979; Anderson, K. What Matters to You? Grassroots Lobbying (mimeograph); Smith, D. In Our Own Interest, Seattle, WA: Madrona Publishers, 1979.
- (35) For one person's experience in using Congressional testimony as dissemination, see Marmor, T. "Politics of National Health Insurance," in Policy Analysis, Winter, 1977, p. 47-48. For how-to-do-it instruction on testimony, see Alderson and Sentman. How you can Influence Congress, Chapter 14; Grimes, A. J. A Guide for Providing Scientific Testimony, Washington, D.C.: American Institute of Biological Sciences, p. 21-24; and Smith, In Our Own Interest, Chapter 8.
- (36) Meltsner, A. J. Policy Analysts in the Bureaucracy, Berkeley: University of California Press, 1976, p. 230-233; and Morris and Fitz-Gibbon. How to Present an Evaluation Report, p. 38-44.
- (36a) Sundquist, J. L. "Research Brokerage: The Weak Link;" in Lynn, Knowledge and Policy, p. 127ff describes a four step dissemination linkage process.
- (37) Christian Science Monitor, July 15, 1980.
- (38) For a conference that did affect policy, see Neustadt, R. E. and H. V. Fineberg. The Swine Flu Affair, Washington, D.C.: U. S. Department of Health, Education and Welfare, 1978, p. 77ff.

- (39) Lesly, P. "Relations with Publicity Media," in Lesly, P. Public Relations Handbook, p. 349-352.
- (40) This discussion benefitted from Vardaman, G. T. Effective Communication of Ideas, p. 54-69. For a discussion of the social and policymaking implications of emerging communications technologies, see Harms, L. S. "From What? To What?" Intermedia; 8:1, January 1980; American Council of Life Insurance, "Frontier Technologies, Part Two", Spring, 1975, p. 7-8; and "Power and Decisions: Institutions in an Information Era," Summer, 1979.
- (41) There is at least one case in the literature where a report was prepared as a documentary film; see Meltsner, A. J. "Don't Slight Communications," Policy Analysis, Summer 1979, p. 387. Video-tape reports may be less expensive to prepare.
- (42) Focus III Productions, 121 N. Robertson Blvd., Beverly Hills, CA., is one of many firms that will produce video-tapes and other visuals for organizations.
- (43) Caubel, M. Effective Promotion, p. 16-17.
- (44) Ibid., p. 18-19.
- (45) U.S. Civil Service Commission, Bureau of Training. Visual Materials: Guidelines for Selection and Use in Training Situations, Government Printing Office: Washington, D.C., December 1971.
- (46) Vardaman, G. T. Effective Communication of Ideas, p. 62.
- (47) Wall Street Journal, March 5, 1980, p. 40. Wait, M. Computer Graphics Primer, Indianapolis: Howard W. Sams and Co., 1979. Newman, W. M. and R. F. Sproull. Principles of Interactive Computer Graphics (2nd Ed.) New Jersey: McGraw-Hill Book Co., 1979.
- (48) Mander, J. Four Arguments for the Elimination of Television. New York: William Morrow and Co., 1978, p. 263ff.
- (49) For a bibliography on issues related to this topic, see Policy Studies Journal, Vol. 9, #1, p. 132-145.
- (50) Executive Office of the President. Toward An Information Efficient Executive Office of the President, Washington, D.C.: Office of Administration, 1980; and Strassman, P. A. "The Office of the Future: Information-Management for the New Age," Technology Review; 82:3, December-January 1980.
- (51) Figures supplied by Aspen Institute for Humanistic Studies, 1980.
- (52) Kleiner, A. "Life on the Computer Network Frontier," in Brand, S. (Ed.) The Next Whole Earth Catalog, New York: Random House, 1980, p. 534-535.

- (53) Wise, K. D. et al. Microcomputers: A Technology Forecast and Assessment to the Year 2000, New York: Wiley-Interscience, 1980; Barron, I. and R. Curnow. The Future with Microelectronics: Forecasting the Effects of Information Technology, London: Francis and Taylor Ltd, 1979; and Nora S. and A. Mic. The Computerization of Society: A Report to the President of France, Cambridge, Mass.: MIT Press, 1980.
- (54) Knott and Wildausky, p. 572.
- (55) Rothman, J. Using Research in Organizations, Beverly Hills: Sage Publication, 1980.