

# EDUCATIONAL PLANNING

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**PROMOTING THE STUDY AND PRACTICE OF EDUCATIONAL PLANNING**

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## FROM THE PRESIDENT'S DESK ...

Our Annual Fall Conference is now behind us but not without a legacy and a future. First, words of praise must be publicly acknowledged for George Crawford and his conference planning committee which included ISEP Board member Ann Harrison. They did a superb job organizing and lining up outstanding presentations. The attendance was good and financially we came out in the black. This conference ranks up there as one of our best. (Well, almost. I have a slight bias toward the Burlington conference.)

Of equal importance are the plans that evolved from the conference. In this regard, the ISEP Board of Directors met three times during the conference with a half-day session on Wednesday morning. This is significant from my perspective as president because we were able to set some targets for the coming year and beyond that I am hopeful will contribute a great deal to continued renewal of our organization.

Some of the actions included the acknowledgment of the success of the **EDUCATIONAL PLANNING** journal and the combined work of Bob Beach, Bill McInerney, Shalimar Ramos, and Alexia Kartis. We find ourselves in good financial shape and with plans to explore further means to interest people in the ISEP organization and the Journal. To this end, we formed a Membership/Subscription Committee co-chaired by Kenneth Ducote and Peter Angelini. Their first task is to develop an attractive brochure that will be used to recruit and interest other persons in our organization. In addition, Ann Harrison has agreed to spearhead a recruitment effort among state department of education level "planners." Ken Ducote plans to address the metropolitan school district planners with assistance from Gary Awkerman. As soon as the brochure is available, an announcement will be made in the Journal and persons who would like to assist in this recruitment effort can request copies.

Another topic explored by the Board was our international status and what we might do to improve the number of international members or affiliates. For example, we have had a request for an affiliation with the Nigerian Society for Educational Planning. The Board responded favorably to this request and will formalize this at our Annual Conference in the Fall of 1986. We do have a limited number of members in other countries and we are interested in determining how ISEP can play a central role in stimulating an international exchange of ideas concerning educational planning. To this end, I will be exploring contacts with the International Institute for Educational Planning and the International Council on Education in Teaching. Also, our hosts for the 1986 Annual Fall Conference in Washington, DC, J. Weldon Greene, Roger Fish, Sandy Anderson, and Rolanda Kirkland, have agreed to explore some international "options." Persons with suggestions or contacts are urged to contact me so that we might explore additional options.

A third area explored and somewhat related to the preceding ideas, is the possibility of developing a corporate partnership or partnerships. It is apparent that the private sector is being called upon to play a greater role in the pursuit of excellence in education than ever before. It seems that our organizational mission of promoting systematic efforts toward improvement through planning is a potential ground for establishing a working partnership with a like-minded corporation. What corporations or the nature of the relationship is an open question at this time. The Board generated a number of ideas and we are again soliciting suggestions from our membership.

## EDUCATIONAL PLANNING

Finally, we met with the representatives from Washington, DC to discuss conference ideas. We are very excited about options available to us in Washington, DC, and the enthusiasm that that group is showing toward the Conference. The exact dates are still open but it appears that October 19-22 or October 25-29 are likely dates. More on this later. In regard to the 1987 conference, interest was expressed by the contingent from Toronto to host the conference. This was approved by the Board. Some discussion was held in regard to the 1988 conference with such exotic places as Puerto Rico; West Virginia; Madison, Wisconsin; or the Minneapolis/St. Paul area being mentioned. We welcome suggestions or expressions of interest. The 1988 conference site will be decided at the 1986 conference.

As you can judge, many ideas and suggestions were explored by the Board. More importantly, some commitments were made to follow through on some of the ideas. We also welcome involvement of interested members. I shall keep you posted in future issues of the Journal. Again, we thank you all for your continued support.

Robert V. Carlson  
Professor  
University of Vermont

## **PART II**

# **BROAD TREND ANALYSIS AND PLANNING: TOWARD ALTERNATE FUTURES**

### **3.0 Population as a Central Variable of All Future Systems**

Population variables and their dynamics provide a basic focus for studying the future of natural and social systems alike. Though energy flow and the cycling of material may be the central variables of natural ecological systems, the focus of most systems study is on how populations interact with the materials that are synthesized out of energy to create at various trophic levels the food webs that sustain and limit populations. Most central of all populations is the human population with its power to influence all other populations in all ecosystems. Murdoch defines a population as "a group of organisms belonging to the same species and living in the same area so that there is a possibility of interaction among its members" (Murdoch, 1971, p. 9).

The dynamics of all populations are determined by birth, death, and movement or migration. These are the components which are analyzed in the forecasting of the future populations in natural or social systems. Given the structure, or age distribution, of the population and knowledge of the dynamic components, the future numbers and distribution of the population can be estimated. In even the most seemingly simple populations, however, the factors that influence population components are not clearly modeled, nor are all variables identified and charted. This holds as surely for estimating insect populations as it does for humans. The problem of managing ecosystems is linked to the problem of charting and managing populations. There are limits to the increase in all populations, and these are imposed by food and space, which impose cycles of rapid growth followed by the leveling-off of growth, and then decline.

#### **3.1.0 The Future Population and the Variables of Natural Systems**

In the ecological systems model, the population is a central variable. Analysts study the size, structure, and change in animal or plant populations in man's managed ecosystem. The size of future human populations can depend directly on changes in the animal or plant populations. Though the size and structure of future human populations are of interest in and of themselves, the planner is more often interested in the future population in relation to other variables that can impose limits on the size and quality of life of the population.

##### **3.1.1 Population and Living Space**

Few planners are yet concerned with the future absolute balance of population size and living space. The limit of space itself is not a direct future issue. In world perspective the earth is not physically crowded by the present population or likely future populations. The density of the population, the number per unit of area, may be of concern to those few nations where land mass is small and population large and growing. It may be of even greater concern in areas within the nation where the population is most densely

settled; but even in Calcutta, basic physical space suffices. The urban planner, who must deal directly with population and space, is more concerned about the qualitative effects of the population/space balance. Crowding is made more serious by pollution influenced by problems of disposal of household, vehicular, and industrial wastes. More serious still are the social pathologies that can be exacerbated by crowded and polluted space and the attendant poverty almost inevitably part of such areas. The urban planner, or local planner, does forecast population densities, the effects of these densities on pollution and the physical quality of life, and the social pathologies the local environment engenders. Still, even in the poorest urban areas, planners are not yet contemplating a future in which there will be no living space for populations.

Population distribution in spatial terms is a concern of spatial planners working on regional and urban development, but their major concern is with basic needs assessment and provision of services. Absolute lack of space is rarely a problem. This is true also in the branch of educational planning called school mapping.

Even though national, regional, and urban planners are not yet dealing with a future in which space is insufficient for population, forecasts and plans may be shaped differently in countries where ratios of population to space, or land area, differ. There will be obvious differences in land settlement and colonization plans, and in plans for agricultural development, depending on the ratio of population to arable, grazing, or forested land. There may also be differences in human resource development plans through education and training, and in the delivery of school services. The planning of education reform in El Salvador was shaped by population density and land scarcity and the objective of producing a highly trained and disciplined workforce capable of intensive utilization of resources on the model of Japan. Paraguay, where land is plentiful and population scarce, has, until recently, made less intensive efforts in education and in training.

Planners must reckon with the population-to-land ratio as an indicator of future problems. Currently, the ratio is of concern in a few countries of high population density and in the overcrowded urban areas of many countries. High population densities also affect planning in some rural areas in India, Bangladesh, and Java. In most situations it is the population in ratio to land as a food-producing source, rather than land-for-living space, that indicates future problems.

### **3.2 Population and Food from Land and Water Resources**

Population in ratio to land as a potential source of food is a central variable in plans and forecasts. Most countries survey and inventory the extent and quality of their crop land, pasture land, and forest resources; plan the use and productivity of the land; and forecast the future production, processing and marketing of the food and fiber yields. In the future, the land will not change in quantity, but it can change in quality and productivity. Requirements for the output of land will change over time, as population increases and per capita consumption rises. Hence, the amount and kind of land and its output in ratio to the size and consumption patterns of the population is a central force in shaping plans and forecasts. The variables can be analyzed and tracked, using several frameworks for planning.

First, there is a narrow ecological framework. Analysis centers on how the synthesis of plant food by solar energy is influenced by technological intervention in the transformation and cycling of materials. Plant and animal species are genetically modified to increase yields; nutrients and water are applied to increase yields; and disease and

pests are controlled. Within this framework the planner projects yield according to a limited number of variables identified as relevant to the managed portion of the ecosystem. This narrow ecological or technological framework is closely related to an economic framework for the system. The system is analyzed mainly according to technological intervention and effects, or by economic analysis of inputs and outputs, costs and returns. This limited framework and perspective is common in rational planning.

Ecologists and alternate futurists are warning planners who work within present technological and economic frameworks to adopt a broader ecological framework for their analysis of present and future consequences. The broader ecological framework is required because ecosystems, even managed ones, are open, and all future effects cannot be assessed within the narrower framework.

The genetic modifications may lead to plant population simplicity and increased vulnerability to catastrophe; the application of nutrients and pesticides may affect surrounding area ecosystems adversely. The technology may require use of scarce fossil fuel resources to produce nutrients and to power machines. Pollution from pesticides and machines may adversely affect other areas. The soil may be depleted in the long run through overworking and through increased salinity in water application. Water resources, rivers, lakes, and the sea itself may be polluted by run-offs from pesticides and industrial wastes; and food chains affected.

The point here is not to offer a rudimentary cataloguing of environmental dangers of damaging the ecosystems, and thereby destroying future product; of degrading the environment and the quality of life; and of exhausting scarce resources. The challenge is to plan limits on future production within an ecological framework and at the same time satisfy population/food requirements. The broader ecological framework suggests a future of slow growth and scarcity that is very different from that yielded in narrower technological and economic analysis. The alternate future of limited prospects will have social and political consequences as well as physical effects. The environmentalist's criticism of the narrow technological and economic viewpoint of growth planners may be well taken. But there is no framework or model for linking natural systems to man-made social and economic systems for purposes of comprehensive planning.

### **3.3 Mineral and Energy Resources and Future Prospects**

The stock, use-rates, and depletion schedules for mineral and energy resources within a national boundary are dealt with by analysts with special competence in the field, and the general planner incorporates their assessments into the appropriate sections of his forecasts and plans. The focus of interest may be production of targets for mineral and petroleum resources, the availability and price of the resources related to the technologies and production targets of the national economy, and the export market demand and price structure. The human resource planner may also be required to estimate employment and education and training requirements in the mines and petroleum sectors, and to trace the effects of production in these sectors on manpower requirements in related sectors.

Planners may have to go beyond forecasts of supply and demand of mineral energy resources for conventional short and midterm development plans to trace the broader effects of the future world shortages of mineral and energy resources. World supplies of the principal minerals and conventional energy sources, use-rates, and depletion schedules have been charted for some time. Diminished stocks of key minerals have



long ago been forecast by Cloud (1969) and Park (1968) and foreshadowed in early surveys by Lovering (1943). The same is true of petroleum as a prime energy source. Forecasts of possible scarcities go back more than two decades and appear regularly in government publications (*Minerals yearbook*, 1965) and in special commission and study reports (Hubbert, 1962).

For the planner, the future issue is rather one of analyzing and forecasting what the technological and economic consequences of almost certain depletion of key minerals and petroleum will be. Schumacher (1973) presented technological alternatives; Boulding (1971) discussed economic alternatives; and Daniels (1964), White (1965), and Glasstone (1967) discussed alternative energy sources from solar energy, geothermal energy, tidal power, and nuclear power. Nuclear power is a typical case of a risky good. The limits on expansion of hydroelectric power capacity and the costs, direct and indirect, and the costs of greater use of coal, and exploitation of oil shales have been estimated. Here there are no options to facing the limits within a natural systems framework; and for the planner, the future issues are confined to projecting almost certain decline in production, the economic consequences of decline, the development of alternative technologies, and the environmental and social consequences which will follow.

### **3.4 The Future Costs of a Degraded Environment and Declining Quality of Life**

In a world already plagued by resource scarcity and pollution, the futurist need not resort to dark prophecies of events that lie ahead; he can point to the immediate, though not worldwide, examples of the evil. The problem is not in the future; there are already depleted mineral and petroleum resources. This is a present danger which has already passed into the world of policy and program response in more complex countries and economies.

In countries where the effects of environmental insult and pollution are not so apparent, either because population densities are low or the industrial development level is modest, the planner can use the present state of pollution and environmental degradation in advanced countries as an undesirable model; but it is doubtful if it is the blemishes of richer countries that hold the attention of poor ones. In the poorer and less densely populated countries of the world, not only are policies and programs for avoiding environmental degradation not in place, but attitudes of environmental concern have yet to be shaped except among elite minorities. Here the planner does have the task of applying ecological models to frame economic forecasts and plans. If personal experience is a guide, then receptivity is not yet high. Some government officials accept the reality of the danger and the future warnings it implies for their situation, but feel that alleviation of immediate poverty, satisfaction of basic needs, and the development of more productive—only in the short-term—agricultural and industrial enterprises is of more immediate concern. Environmental concern is perceived as a preoccupation of the rich, though pollution and deterioration affect poor and rich alike.

Even in areas where the effects of environmental pollution are as oppressive as in any developed country, as in Calcutta and Karachi, for example, there is only concern. Sometimes there is a policy response; somewhat less frequently there is a program and institutional actions but rarely any implementation. This is understandable in the setting of Calcutta where the plan norms for bustee (slum) environmental sanitation and improvement provided one sanitary latrine for every 35 people; one potable water point for every 65; one bathhouse for every 120; concrete-lined but open sewers; paved

spots at the intersection of major lanes; and an occasional street light. The need expressed by people of the bustees was for a job, preferably in a stable industry and irrespective of its contribution to general pollution. The ecological framework may serve to identify and raise serious, even fatal, problems which will affect the future, but the resolution of the problem for human populations can only come through social policies and educational programs; and the development of these policies requires analysis of the social, psychological, economic, and political forces that have the power to change the future.

#### **4.1 Futures Traced from Social Structures and Dynamics**

Population is the basic variable for analyzing the problem of planning and managing natural systems, and for forecasting future developments in the system. The size, structure, and dynamics of populations forms the basis for charting the interplay of social forces, and planning responses to future problems. Further, at risk of repeating what might be too obvious to merit mention in the first place, the danger signals that arise in the natural systems are only resolvable through action in social systems. Hence, social, political, and economic frameworks for analysis are required to identify the Principia Media variables of these systems. These variables are basically attributes of the population.

The structural characteristics of age and sex and the dynamic components of mortality, natality, and movement provide the basis for charting future social developments. Central also to the analysis of social dynamics are the cultural characteristics of the population, the ethnic, linguistic, and religious membership, and the acquired status of literacy and educational attainment. Allied are social and political group memberships and the rights of participation in cultural, political, and social activities. The economic characteristics of the population and its groups are reflected in workforce participation rates, employment, and earnings by economic sector and occupation. Related to earnings and income are living standards measured by food, shelter, clothing, and household services. The nutritional, physical safety, and health status of the population and its subgroups, and the quantity and quality of health, education, and welfare support services provided to the subgroups are also central indicators of social development. The spatial distribution of needs and services by regional or rural-urban status is also relevant. These variables, when characterized and depicted in series, can be used as indicators to compare social conditions across time and space.

#### **4.2 Social Indicator Schemes**

Comprehensive and detailed systems of economic, social, and political indicators have been developed by Textor and Banks (1963), Aldeman and Morris (1967), and Bauer (1966). National indicator series are published in the United States and in other countries, and compiled into world volumes by the United Nations and its specialized agencies. Planners and analysts have been furnished with information formats and schemas of systematic indicators for assessing population status and basic needs, monitoring service, and planning future coverage. Assessment of economic distribution and social equity, cultural and political integration, and the status of groups on political and legal rights can be assessed broadly on the basis of indicators, and—more specifically—by analysis of the workings of national economic structures, social institutions, and political and legal processes. Most basic indicator series stay the same over

the years; but new indicators are developed and different variables and combinations singled out for attention, as development interests and fashions change, or social diagnosis improves in specificity and coverage.

### **4.3 Social Systems Frameworks, Indicator Systems, and Social Dynamics**

Social indicators can be used for more than an assessment of the present. The indicator series that specify key social variables, and the ratios, indices, and norms derived from observing, measuring, and relating the variables, can also be used as a systematic basis for identifying and forecasting the broad play of forces that may shape the future. Beyond the basic difficulties of dealing with the future in any systematic way, it is difficult to relate the general systems for guiding social analysis (the systems of Mannheim (1949) and Etzioni(1968)) to the more detailed social indicators of the type discussed. The indicators in turn must be related to the organizational and individual behaviors that shape the present and determine the future. The emerging Principia Media are not easy to discern in relation to the welter of variables and indicators moving in complex social systems. Hence, either the Principia Media are left tantalizingly unspecified, as in Mannheim (1949), or they are boldly schematized, at risk of abstraction and unreality, by Etzioni (1968).

#### **5.1.0 Assessing Central Currents of the Future**

Even without a comprehensive system that will cover the full complexity of social reality, the planner can draw up his own list of broad currents that run toward the future. In some cases the social analyst can chart the direction and specify the force, flow rate, and volume of these currents; but if there is one sure Principia Media in social diagnosis, it is that some of the major currents not only will not converge, they will impact and conflict. Determining these currents to the extent it can be done is worthwhile for the planner, whether or not he can do anything about controlling them.

##### **5.1.1 Less for More**

The future as portrayed in the ecological framework provides one central set of themes. The resources of the earth, the energy and materials used by man and his technology, are running down. Man's environment and the quality of physical life are being adversely affected, and the potential for future increase of physical output—growth as it was once called—is reduced. Innovative response through alternative technologies may mitigate this, but the prospect is almost inevitably for reduced product and for sharing these reduced portions among increased numbers of aspirants. This central fact must shape the way planners view the future and respond to that view through social plans, policies, and programs.

##### **5.1.2 The Process of Sharing Less Among More**

Yet another current running is the growing pressure to assess and meet the basic needs of populations which are increasing in numbers and raising their aspirations. In meeting these needs in the social system, there is the further contributory stream of objectives that seek to increase the participation of a massive and growing population so that they may determine their own needs and both the manner and pace in which they shall be met. Planners in the social system must respond to this future force as well, and conflict is likely.

### **5.1.3 Power and Control of Sharing**

These currents may well not converge, and the distance between them may at best be narrowed not only by reducing waste and consumption but also by distributing products more equitably. This may have to be accomplished with more and not less exercise of power and control, for the convergence must be engineered across class and national boundaries. Instead of convergence there may be class conflict and destruction. This, it seems, is the central setting for the future, with the problem founded in physical systems limits but resolvable only through social, political, and economic analyses, and the plans, policies, and programs they shape. There are also other secondary streams that may be tributary to the central currents and thereby affect their course.

### **5.2 The Contributory Potential of Learning and Communications Systems**

The technology for increasing human learning through mass communication of knowledge is already reducing population growth, but not reducing the pressure on resources. Communications could be used to reshape human aspiration, so that the consumption and waste that competition inspire are devalued, and internalized control and cooperation are increased. There are few signs of this, except among elites for whom competition is less critical; but then it is only these elites who have shared the first fruits of improved learning and increased knowledge. Perhaps the message will be accepted by all; but if there is one set of activities which social analysts and planners should address for the future, it is the reshaping of learning systems and their environments—schools, the workplace, media, and social groups and organizational contexts. The central outcome of learning in an alternate future society will have to be a sense of reward from consumption foregone. Sacrifice must be accepted willingly by more than elites who opt for abstinence after the fruits have been tasted and the tree remains there for the shunning. There is a much more difficult task of educating so that all the population work harder, receive limited material benefits, and enjoy it more. For this the educator must get below the surface of present political and economic systems and their professed and un-lived ideologies.

### **5.3 Organizations and the Basic Community**

Working against the positive flow from improved and expended learning systems is the fact that political and organizational structures are not disintegrating, or even opening their windows. Nor is there persuasive evidence that increased political and educational openness are coming. Where are the alternatives, open forms that will serve to maintain a future of increased satisfaction from reduced consumption? Not in the notion of networks, at least until the learning systems of the future can handle deep forms of affective learning as well as they now handle deep forms of cognitive learning and shallow forms of affective learning.

### **5.4 The Base for Affective Learning: The Family**

A disturbance, roiling under all currents, is the decline of the family, which is first among communities. For good or ill, the family has been the only group in which social relations have sufficiently strong bonding to sustain and reward members who accept mutual, social sacrifice. In the Calcutta bustees, where there was nothing else to shelter man from madness, there was family, and only on the foundation of this primal commun-

ity can a future of sacrifice be sustained. If affective learning is to shape and mediate a future of conflict between natural decline and the social growth necessary to accept decline, the degradation of the family environment, ironically in those societies where concern for the natural environment is most advanced, is a tributary, if not central current, to which planners must attend. Planners work within state structures and not within family structures, but fortunately many live within families and it may be hoped, will have the chance to develop benign social policies through practice there. There seems no other social group but the family on which the affective social learning can be placed.

### **5.5 The Control of Affective Learning Systems**

In the development and control of affective learning, based on the family as a primary community, there is a resource to be developed that in future potential can replace the physical resources that inevitably will be depleted through time. This is the resource that is currently dead, filed under female in the bulk populations of the world. One obvious current in the future will be the opening of this group to the opportunity for full economic and political participation. As a consequence of this, work and struggle may provide a surer test of those who are fitted psychically for leadership in developing the affective learning that must prepare humankind for mapping the convergence of currents of the future.

Proposed is something somewhat beyond giving those presently classified as female control of the powerful technologies of learning systems and communication that must surely dominate the future if humankind is to survive. The proposal is that social role be determined by free individual election after trial and test, and not by physical accident attendant on birth; and that the determination be based on the preferred and dominant method of dealing with problems in the world. There might be three role categories: physical, intellectual, and affective; and the latter group, predominantly female until the culture changes, would control the communication and learning facilities which shape basic values. Reproduction of the species would go on as physiology and technology dictate, but not to dominate other vital ecological, social, economic, and political dynamics of thought and action for social survival.

### **6.1 Other Eddies and Flows**

There are other currents to which the planner may attend, according to his ranking of values and his judgment. These may be Principia Media of a dying force, but with consequences for the near future.

### **6.2 Urbanization and Industrialization**

Urbanization may have spent its force in some parts of the world, but there are still strong effects from migration and the attendant social pathologies of rootlessness and family and communal deterioration. These signs of urban disorganization and chaos are apparent to the unaided eye. Some students of urban ecology, Smock (1971), for example, see signs of better tidings for cities, where the diversity of the populations may be the basis for future social strength, and the city may provide the setting for resurgence and social growth. Others see the city as perhaps providing the foundation from which some as yet unidentified social form may emerge. We may infer from the wide acceptance of the term post-industrial society that industrialization, at least in its own

form, is a partly spent force, in the backwash of which we now live, rather than a future force. This seems consistent with the central ecological argument and the alternative technology advocacy. Still, many rundown mills will have to be turned into museums and schools before the old form disappears, and alternate technology and cottage industry may permit swords to be beaten into plow shares, or the reverse. Industrial and manpower planners are still sketching out their near futures pretty much as of old, but there is more attention being given to the service professions in even the smaller and less complex economic plans. Here the concern is for future changes that are more sweeping in their effects.

### 6.3 Denationalization and Decentralization

Some see significance in the trend toward greater differentiation within nation-state boundaries. The strength of some tribal, ethnic, and old national groups may be rising and the power of the central national unit declining.

In partial response, planners and policy makers have stepped up the rhetoric on differentiation, and in some cases educational programs have followed which address linguistic and cultural differentiation and aspirations. These forces and responses can only continue in the future. The improvement in learning systems technologies will be capable of serving more diversity. More books, and books in a greater number of languages, are coming into countries where homogeneity was once a sound economic argument. The same is true of media broadcasts.

National fragmentation and decentralization currents run strongly at the same time the trend toward transnationalism continues. The power of the multinational firm grows. The world state does not seem to be emerging, but perhaps the basic ecological framework and need will permit attention to problems across national boundaries. Within countries there is much talk of decentralization of services and social response, and this is sometimes combined with hopes for increased local participation and more equitable distribution of power. This is a force that is clear in most national planning and will continue to be. Allied with it are the expressed needs for bottom-up as well as top-down strategies (Hudson & Davis, 1976), and this trend will continue. Planners have been accused of resisting this trend because it makes their work more complex, but this does not seem an accurate assessment. Planners may well welcome the trend to participatory planning: first, because even if it makes work more complex, it at least makes more work; and second, because planners thrive on systems complexity even when the systems do not.

Decentralization, participation, and bottom-up strategies are the preferred political and social approaches of most of the liberal elites who foresee alternate futures. The inherent paradoxes have been mentioned. As a broad trend, it would seem that decentralization, participation, and local differentiation can only increase steadily in the future. The improved learning and communications technology will facilitate it; and both planners and their critics are in favor of it. No political or economic system or ideology is publicly for dependency, although one gets the impression that the dependency theorists are taking on the dark forces of the world. Conservatives are against dependency as it is manifested in welfare action, at least at retail level. It becomes industrial development when governments wholesale welfare to large industries. Anti-imperialists are against dependency fostered by nation-states and multinational firms, even when the patron states and firms claim to be aiding weaker states. People believe in the work ethic left and right, and both majorities and minorities are against patronage. Majorities

oppose it because it costs them money and time, and minorities because it is partial and demeaning.

The disestablished Marxists, especially in the affluent countries, oppose dependency fostered by imperialism, espouse local participation under ideological guidance, and advocate policies and programs that promote more equitable distribution of economic benefits. The future should be hospitable to these features of their social program, but other political winds may prevail if there are unbearable scarcities and competition among chauvinist nation-states or transnational firms.

### 7.0 Summary

These and other currents run into the future, and the planner must identify them and trace their consequences as best as he can. The selection of a framework for viewing the present and glimpsing the future is arbitrary and based on the values of the viewers. The ecological framework is no exception to this. Once the danger signs in natural systems are read out, all further response is determined by political, social, and economic forces, and analysis must go forward in these systems' frameworks where they have been closed to ecological concerns.

In the social systems' frameworks, the population and its characteristics are the basis for analyzing the key variables, characterizing their relationships, and developing indicators of past and present status and future possibilities. There are no systems of thought that cover social systems comprehensively, and yet permit analysis of social forces in all their details and complexity. Systems of social thought do help in diagnosing broad forces that move toward the future. Some of these future currents will conflict, or interact in ways that cannot readily be analyzed. Selection of certain broad forces that will shape the future is arbitrary, as the choices here illustrate. But futures thought is not devoid of reason and usefulness, even when it is difficult to trace the future or to do anything about it, to the extent that it can be glimpsed. There remains the question of whether future changes in natural and social systems can be understood, and diverging currents charted, without some encompassing teleological framework. Transcendental religions have provided such a framework, but materialistic ideologies do not seem to stretch this far, at least in our age.

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## GEO-REFERENCED DATA SYSTEMS RESULT IN BETTER DECISIONS

Beginning in the late 1970s and extending into the 1980s, school systems and local governments throughout the nation were forced to begin to deal seriously with a world of decline. This phenomenon caught many school administrators by surprise because they were not trained to observe the signs of decline and because the decline began so abruptly. Most practicing administrators had been trained in a world of expansion, which was, in essence, considered the standard or norm. Consequently, it was difficult for school administrators to accept any state of development other than the expansion model. The realities of decline in both numbers of clientele and resources as well as the actual extent of decline have been with us long enough for all educators to change philosophically their thinking and even their ways of performing.

The first five years of the decade of the 1980s has brought the management of decline into sharper focus in the manner in which school systems are to be administered. Unfortunately, the past two budget years have been hard on a great number of school systems in the country—some systems have been forced to exist in 1984-85 on the same level of resource funding that they did a year earlier, which means at least a five to seven percent reduction in resources due to inflation. Every indicator seems to point to the possibility that at least for the next half-decade the vast majority of school systems will continue to experience decline in both numbers of students enrolled and, very importantly, in the very lifeblood of the organization—its operating resources. Indeed, it may well be that the period of reduced level of funding for local education purposes will extend into the next century.

If the problem were simply dealing with decline by reducing everything proportionally, this would be one thing that administrators could handle with a certain degree of clarity and reliability. But making decisions regarding the use of reduced resources for a declining or fluctuating student population does not end just there. Educators and school boards have painfully discovered the inverse relationship between declining population and increasing resource needs. Having a smaller school population does not necessarily mean that fewer resources are needed. In many cases, quite the contrary is evident. But more importantly, the ripple effect of decisions is stronger now with a limited or reduced number of resources than ever before. For every decision regarding the use of resources in one area, there are ramifications of that decision that reach into other areas.

For instance, the decline in enrollments can cause an oversupply of staff and space in selected schools which make necessary the weighing of decisions on how and when to begin reductions of staff and school building closures. These decisions then make it necessary to consider problems involving pupil projections, program and staff projections, school costs, public relations programs, equality of educational opportunities, racial composition of student bodies, alternative use of school space, land use, busing, and student/teacher ratios. In addition, these decisions touch upon considerations

such as the concept of the comprehensive high school, development of the neighborhood school, staff inservice training, and the need for a management information system. Not only do the original decisions have a ripple effect upon other areas of administration, but almost every major decision of public school administrators and school boards must pass the muster of federal and state regulations, court orders, program requirements, and even community assent.

Thus, the need for data to aid the administrator to assess the ramification of every primary decision is considerably greater today than in the past. Along with the need for more usable data, there is a need for different types of analyses of the data to determine various possibilities to answering the problem (Corff, 1976). This need must be satisfied by greater amounts of data and more sophistication in the manipulation and reporting of these data. The computer hardware to satisfy a school manager's needs, of course, is available as are types of programs to produce the data analyses (Vigilante, 1980). But the general utilization of both the hardware and software is not as universal in our educational systems as it could and should be.

To provide school administrators with the types of data needed to make intelligent decisions, some school systems have been improving and expanding their management information systems to include more than just accounting of pupil school data. One such approach is that of developing what is generally termed a geo-referenced student personnel data bank (CEFP, 1976). Loosely defined, a geo-referenced management information system is a database that contains not only standard student demographic data, but also data regarding the geographical location of each student, selected descriptors regarding that location, and growth factors attached to various sections of land, land usage, and zoning designation. The theory behind the accumulation of such data is that through their analysis and utilization, school managers would be able to project the total number of pupils that a given geographical or geo-political area could expect if the land in the unit were completely developed and utilized according to the present and proposed zoning and to assist in assessing the impact of certain primary decisions on various aspects of the organization (Maltley, 1970). Originally such data were developed and utilized to project the student population for a given school system, but it has been found that this database can be useful to aid in any number of administrative decisions. Such a system gives the school manager considerable leverage in estimating the consequences of a decision. The manager no longer has to guess entirely as to the consequences of a decision. The quality of the decision is enhanced because of more usable data and better analysis of existing data upon which to base the decision. The school manager then has an opportunity to explore the ramifications of that decision.

One of the earliest programs of a geo-referenced nature was the ENSIM Program developed under auspices of the Simu-School Project in the Santa Clara Public School District (Gilmore, 1974a). This program was developed to permit those persons responsible for projections of student enrollments to use a multivariable method of projection and to consider a broad range of data from both the school system and sources outside of the school organization.

The ENSIM Program was initially developed for a small community in California and was based upon several factors which, when added together, were used to predict the results of new development in a geographical area. The ENSIM Program produced enrollment predictions for a school division by grades K-12 and by year of projection based upon the rate of complete development of all land within the school system.

The long-range prediction of dwelling unit construction was the heart of the ENSIM Model which was applied to this particular geographic area. The variables of student immigration, total number of child-bearing females, and eventually the new births were calculated on the projected number of new dwellings to be constructed each year to obtain a predicted student population.

Data regarding special characteristics of the Santa Clara school system were gathered: development of population centers, governmental agencies that control growth, transportation routes, zoning regulations, industries and their influence on growth, and external forces that may affect the development of the school system. From these data, trends in development of the area were identified (Gilmore, 1974b). It was also possible to identify several critical development factors that were perceived as being instrumental in predicting growth in the school system. These factors may vary according to the local school jurisdiction, but in the ENSIM Model in Santa Clara the following factors were identified as being critical to the development of the school system:

- sewer line extension
- water supply line extension
- annexation policy of the cities
- new transportation routes
- new industry
- major proposed housing developments
- changes in zoning regulations regarding lot size.

Under the ENSIM Model, changes in these factors indicated changes in population in the school system (Linebarger, 1976). Then through analysis of the data from these factors, patterns of student growth could be constructed. This system was one of the first to marry student personnel data with selected demographic data relating to the segment of land upon which they lived and also to every segment of land in the geo-political area under consideration.

Although the ENSIM Program was developed primarily to project student enrollment in an expanding population, it does not follow that the program or any other geo-referenced data system is applicable only to growth situations. Quite the contrary, the system can work accurately in either declining or expanding systems and even in those communities that experience both student growth and decline at the same time (Pitruzzello, 1980). The shifting school population within a school system has caused many school administrators considerable concern for proper utilization of existing facilities and staff as well as for program delivery. Although most school systems are experiencing declines in the total enrollments, there are also those systems that face the additional problem of shifting population within the local jurisdiction. Transient populations within the school system have put strains on local school building attendance zones and attendant building capacities, while at the same time almost emptying other facilities. Obviously, school systems have difficulty in maintaining programs and the personnel to staff them under conditions of changing populations. Even though this phenomenon is more of a problem of accounting for students within a geographical area than a pupil projection problem, the same types of data can be utilized in making decisions regarding shifting populations that can be utilized in projections of students.

To help administrators make decisions regarding this phenomenon and to keep track of the fluid student population, educators have developed data banks coupled with computer hardware that are almost identical to that in the ENSIM Model. Data in these

types of systems are geo-referenced to selected demographic selectors in almost the exact manner as described above. Within such programs typically are contained data to help in preliminary attendance boundary planning, the capacity for analysis of geo-coded student addresses and demographic data for making planning decisions, and a programming capability for student assignment between racially imbalanced schools. The point is that where there are changes in enrollments in the school system, the administration requires more and better data upon which to base decisions because these decisions impinge upon the programs offered, the funds necessary to support the program, and the required faculty. To present all of the types of information that might be required to support the above decisions, considerable data must be generated, maintained, and analyzed. This is where computers can greatly assist school administrators in managing the data obtained for the management information system.

The Richmond Public School System was faced with the same set of problems of most other large, urban systems: declining enrollments, loss of tax base, shifting populations within the school system, and growth of special programs to fit a school population that was predominantly classified as poor and minority. Also, like most school systems throughout the nation, projecting student populations had traditionally been done by using a Cohort Survival technique. Additionally, a hand-spot map and pin map were utilized to locate and count students in specific geographic areas. These methods are today considered adequate for those small school systems with populations that are static or changing very slowly. These information systems do not, however, produce the type or quality of data necessary in a time frame required to make important decisions in those school systems facing severe and rapid changes in clientele; nor are these methods of handling data considered accurate or current enough to accommodate the demand of decision making in the school system today.

In the case of the Richmond Public Schools a new approach to the projecting of student enrollments was developed under a geo-referenced database that produced projections for the school system as a whole, for each attendance zone, and for each school building separately (Best & Pederson, 1980). Based upon the previous year's grade enrollment, the projection system uses three rates of change—winter migration rate, summer migration rate, and promotion rate. These rates correspond to the proportion of students who are in a grade at the end of the year compared to the beginning of the year for winter migration rate and the proportion of students who actually enroll in a grade in September who were promoted to or retained in that grade the previous June for the summer migration rate. The promotion rate is the proportion of students in each grade who are promoted in June to a succeeding grade. By using the above sets of figures a system-wide enrollment forecast can be made. The system-wide projections use overall grade totals rather than the counts of students in each grade and attendance zone. The projections for the different attendance zones and for individual schools are produced using basically the same model used for the school system. Refinements are made in the projections to account for such exceptions as students attending enrichment classes in a city-wide program and students attending schools outside of their home school because of non-program requests. In these cases of personal judgment, the students need to be subtracted from the projections and placed in the proper location to modify the empirical projections. The migration rate is seen by the Richmond Public Schools as a composite of the social and economic factors that affect the decline or increase in any given grade during the school year and the summer

period. This assumption is viewed as more valid and usable than attempts to make estimates for these effects (Best & Pederson, 1980).

With the computerized student location system, it is possible to study any number of hypothesized trends regarding migration and promotion rates that might be occurring in each attendance zone and apply these to the model. The heart of this system, much like other projection systems, is the data contained in the United States Census Bureau's DIME (Dual Independent Map Encoding) file. This is a geographic-base file that defines a street network in terms of street segment, nodes, and enclosed areas. The DIME file also includes non-street features such as railroad tracks, municipal boundaries, and rivers. By matching pupils' addresses with DIME street segments, the X and Y coordinates of every school child's house with the school boundaries can be interpolated. With a simple point-in-polygon routine the system determines which elementary, middle, and high school boundaries are applicable to the individual address and can also assign census tract, block, and zip code for future use.

A system to accommodate shifting populations within a school system similar to Richmond's system has been developed by the Denver, Colorado Public Schools. Again using the DIME file as the database upon which to develop the system, the Denver Public School's Geographic Analysis System was designed primarily to account for shifts in population to assist in planning for school attendance boundaries within the city (Hanson, 1981). But because of the nature and kinds of data in the system, school administrators are able to use the products of the system to assist in decision making for other problems of the school district.

The system is composed of geo-coded address data obtained through the DIME system just as it is in the Richmond model plus selected demographic data supplied by the students and the school system itself. This body of data can then be utilized to develop preliminary attendance boundary lines. There is also a linear programming model in this system that assists in re-assigning students between racially imbalanced schools. The key to this system is the marriage of the above database and a map system of the school district that was coded with the census tracts and block numbers of the Census Bureau Metropolitan Map series. Although the Denver Public Schools System primarily was developed to provide data to assist administrators to do some preliminary boundary change planning and to assist in maintaining racially balanced school buildings, the potential for assisting in other decision-making tasks is readily available for the school administration and school board.

The Geographic Analysis System provides a variety of outputs that are used in a daily operation of the school system (Hanson, 1981). Tying the demographic data to a mapping system enables central administrators to observe many trends and movements on a city-wide basis and enables the administrators to plan accordingly. The school system has been able to coordinate the Census Block boundaries with each school building attendance zone for greater efficiency and preciseness of data. For instance, one output, called the Trend Surface Map, illustrates the percentage of ethnic students' (such as Anglo, Chicano, Black, Asian, and others) achievement test scores and welfare recipients in each census and school attendance area. This map helps in maintaining racial balance within the various school buildings and helps monitor the Free Lunch Program.

Other data output include a Projected Transfer File of students who will transfer or be graduated to another school at the end of the year because of the natural progression of students. Another output is the list of students who do not live within the attendance

zone but attend the school for either programmatic or administrative reasons. Additionally, students who are enrolled in a school and who do not reside within the school district boundaries are identified for tuition-billing purposes.

The system also produces a list of students by grade and building who are eligible for transportation. The Denver Public Schools System transports students who live a predetermined distance from the school they attend. The distance from the school building depends upon the level of the school the student will attend. The system is able to list those students who fall within these categories of service.

All of these outputs are used by the school system administrators to help them make better decisions and to make them in a time frame that is necessary in today's fast-moving flow of events. Any of the above reports or lists would be virtually impossible to produce with any degree of accuracy in a reasonable period of time without the Geographic Analysis System and the computer.

Much of these data, if not all, that comprise the present system are currently available not only in the Denver Public Schools System, but also in almost every school organization in the country. But bringing together all elements into a cohesive whole and computerized data system requires some effort and exacting work on the part of the school administrators and technicians. Much of these data are collected now by the school system for varying reasons in the normal course of registering students for school and in maintaining student records. The additional student demographic data that would be needed for a particular system output could be easily obtained through normal channels.

It follows that if better data are available for use in making decisions, then the quality of these decisions will improve and the time involved in completing the decisions will be reduced. Not only is it important to improve the quality of decisions regarding the operation of the public schools, but the time frame within which these decisions are made is ever narrowing. Consequently, good, sound decisions must be made in a short period of time by the school administrator if the administrator is to be successful in the future. This can be done only if a more sophisticated type of information system is made available to administrators.

A geo-referenced student information system has provided such a vehicle for administrators in at least two urban school organizations to help administrators make better decisions. Such systems can be developed by school systems of any size and location. The data sources and the technology are already available to administrators and school boards. What is needed now is to gather the various segments and to create an integrated whole. The key to this process is to obtain the DIME file for the school organization and to interlace data contained in this file with existing student and geo-coded data available in the school system plus any new data deemed necessary. Of course, the first step is to ask oneself what are the types of decisions that the school administrator needs to make and then decide what kinds and amounts of data and in what form are needed to make any of these decisions. The answers to these questions will then serve as guidelines for building the type of geo-referenced information system by the particular school organization.

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## PROPOSAL FOR A COMPARATIVE STUDY OF EDUCATIONAL PLANNING

This is a proposal for a large-scale, comparative, cross-national study of educational planning. The organization of the paper follows a proposal format to: (1) identify the problems and the context, justifying the need for such research; (2) highlight the design of research and its inherent complexities and compromises; (3) provide one perspective on how the purposes of the research could be achieved; and (4) suggest some limitations of the methodology proposed and results that could be attained. The assumption reflected in the structure of the paper is that the research framework and research agenda, as well as the substantive analyses of problems, conditions, and theories of educational planning, have relevance to the reader.

### Problems of Educational Planning

Educational planning at the national and regional (subnational) levels has maintained popularity since the early 1960s. In numerous countries of the world, including those of varying levels of industrialization and different political persuasions, branches of the public administration have prepared one or more educational plans of varying coverage which may or may not be integrated with their plans for socio-economic development. (See Adams, 1976; Benveniste, 1970; McGinn & Warwick, 1979; Organization for Economic Cooperation and Development, 1983; Schiefelbein & Davis, 1974.)

On the other hand, the last several years have seen much criticism of development planning generally and educational planning particularly. Articles referring to the "failure" of educational planning efforts have been found in the literature for at least a decade (Benveniste, 1974; Davis, 1980; Kluchnikov, 1980; Levin, 1980; Organization for Economic Cooperation and Development, 1983; Psacharopoulos, 1978; Weiler, 1978, 1980; Wildavsky, 1973; Windham, 1975).<sup>1</sup> However, the critics who have presented sketchy evidence, at best, to support their claims, have frequently confused any lack of educational success with planning failure and have offered little constructive insight for those who must design educational futures.

The judgment of failure of educational planning seems to have been associated with a judgment of failure of (1) the instrumental value of education for promoting change and development, and (2) the quality of the techniques and technology of planning. As enthusiasm waned for the ability of education to solve persistent economic and social problems, so did popularity decline for educational planning—at least among some academics. But the charge of failure is not without controversy and the criteria of failure seem to be associated, at least partly, with the conceptualization of the planning process itself. Two exchanges of the literature illustrate these points. Windham (1975) argued that "in the last three years the most dramatic development in the economics of

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education has been the increasingly critical re-evaluation of the traditional premises of educational planning" (p. 187). Windham elaborated this thesis by identifying criticisms of manpower and rate-of-return approaches to educational planning and offering suggestions for refocusing the directions of educational planning.

In a response to Windham, Farrell (1975) observed:

I . . . have never believed that the use of manpower planning, rate-of-return analysis, or any of the other tools in the economist's kit bag, is either co-terminous with, or even always necessarily essential to, the practice of educational planning at the "macro" level. (p. 202)

Farrell not only defined educational planning more broadly than Windham, he harshly condemned the manpower and rate-of-return approaches as "educational novelties" not widely practiced in the West, but forced on the poor nations.

Weiler (1978) particularly critical of the close relationship between educational planning and the labor market, after reviewing international experiences in educational planning concluded: "It seems that both confidence and consensus have disappeared and given away to considerable doubt as to the utility and educational planning as we knew it" (p. 247).

Kluchnikov (1980), however, gathering evidence largely from national educational plans and presumably associating educational planning with the general practice of educational administration, took exception to Weiler's interpretation of the lack of planning success: "Educational planning, when properly applied as a method for achieving goals of educational policy, greatly contributed to systematic educational innovation" (p. 30).<sup>2</sup>

These and similar exchanges suggest that the alleged failure of educational planning can be attributed to a variety of shortcomings that have surfaced in international experience. The problems encountered include:

1. Inability of educational planning to divorce itself from human capital theory which itself has become increasingly suspect over the years (Psacharopoulos, 1978; Weiler, 1978).<sup>3</sup>
2. Inability of planners and policy makers to match educational output with labor needs of the public or private sectors, resulting in chronic oversupply of certain skills and occasional undersupply of others (Organization for Economic Corporation and Development, 1979b).
3. Inadequate techniques that have resulted in unacceptable inaccuracies in forecasting the future need or demand for schooling. (Organization for Economic Corporation and Development, 1979b).
4. Frequent avoidance or neglect of questions and costs and problems of implementation, (McGinn & Schiefelbein, 1977).
5. Preoccupation with growth in educational systems to the exclusion of qualitative change (Adams, 1976; Organization for Economic Corporation and Development, 1979a).
6. Lack of sufficient attention to the educational needs of the rural, the poor, and those with special educational problems (McGinn, 1980).
7. A conservative bias reflected in the implicit acceptance of existing social and economic structures, lack of attention to alternative structures, and failure to guide significant social change (Weiler, 1980).
8. The lack of cultural sensitivity among planners who use foreign technology and techniques that thwart creative capabilities of the peoples (Amin, 1982).

The proposed research makes no assumption about the frequency of past failures or successes of educational planning but does take a much broader view of educational planning than those critics who would make it a branch of the economics of education. The research, when implemented, will address all eight problems identified above.

### **Proposed Courses of Action**

Not only are there different views regarding the definition and the degree of failure of educational planning, but there are different prescriptions for its future role as well. Advocates can be found for the following options:

1. Educational planning, like other types of social planning, should be discarded in favor of free-market forces.<sup>4</sup>
2. Traditional, centralized, top-down, rational educational planning should be replaced by an interactive, radical, or transactive approach.<sup>5</sup>
3. Educational planning fundamentally should be limited to the forecasting of easily quantifiable and measurable educational variables, e.g., facilities, and under certain conditions, enrollments.<sup>6</sup>
4. Educational planning has been successful and although certain refinements, e.g., more decentralization of responsibilities, may be necessary, this style of management should be strongly encouraged.<sup>7</sup>

In sum, the literature clearly shows disagreement on how educational planning is or should be defined, lack of consensus as to the success or failure of educational planning, and conflicting prescriptions for a future course of action. The earlier popular typology that identified three planning approaches—social demand, rate-of-return, and human resources requirements—considered only some of the aspects that should receive attention in educational planning, but described little and explained less of the complex process of making educational decisions. The elaborate mathematical models that encompassed portions of one or more of these approaches are now viewed as instruments that could become useful if they are adapted to the characteristics of decision making, implementation, and control processes. The model, common to much of UNESCO literature, that permitted any kind of educational decision making to be labeled planning allowed little systematic study of planning variables.

### **Extending the Conceptualizations of Educational Planning**

An emerging planning literature—although as yet slowly intruding into educational discussions—shows promise for opening new windows on possible variegations of the purposes and process of educational planning. The scope of planning models and approaches as conceptualized by social and urban planning is much greater than the educational planning literature generally suggests and offers planning methods ranging from rationalistic to transactive with supporting theory ranging from logical positivism to Taoism. (See Friedman, 1973, 1979; Warwick, 1980.)

Without attempting to build a complete typology of planning models, at minimum, two broad groupings are readily visible. First, and most familiar, are the rational (or rationalistic) models that would include: synoptic or comprehensive planning approaches, most resource allocation models, limited rationality or “satisficing” models, mixed scanning models, and, possibly, incremental approaches. Human Resources and rate-of-return approaches, because of their assumptions and technologies, would fit here as would most comprehensive national educational planning efforts.

A second set of planning models could be labeled interactive or perhaps interactional, reflecting the emphasis on the human dynamics of decision making. Models to be included here are the social and political systems-oriented approaches, the transactive model, some versions of the radical model, and, possibly, the advocacy approach (Windham, 1980). Much local educational planning in the United States reflects at least partial commitment to interactive planning. Revolutionary and communal-oriented educational planning in several developing nations also falls into this category.

These models extend our view of planning and suggest a range of purposes, a variety of models and technologies, and a multiplicity of planning roles. In some approaches the social and political environment is of crucial importance; in others, it is virtually ignored. Similarly, within the process of planning, the definitions, importance, and functions of such concepts as *need*, *goal*, and even *plan* itself lack agreement across the various models. The conceptualization of planning varies from planning *for* the people to planning *with* the people to planning *by* the people. The planner, then, may be one of many or all of many. And the epistemological foundations of the several approaches clearly are heavily biased toward positivism with regard to the rational models but may develop phenomenological overtones in the interactive models.

The elaboration and comparison of planning models do not merely represent imaginative speculations but have at least some empirical reinforcement and have added new insights to the study and practice of planning. Yet at present, in spite of extensive real-world planning experience, generalizations about educational planning that have a firm empirical base are virtually nonexistent. An exception, which has particular relevance to this proposal, is Correa's (1975) study on the implementation of educational plans in Latin America. The research being proposed here is an attempt to continue along the paths suggested there. It is hoped that such a study will help to fill the knowledge gap by making readily available some comparative empirical analyses of international educational planning experiences.

### Proposal for a Comparative Study

The comparative study described here has three main purposes: (a) a systematic tabulation and description of the characteristics of educational planning in a sample of countries; (b) an analysis of the achievement of the targets of those plans with special attention to the specification of the factors influencing that achievement, and (c) an analysis of the influence of the planning environment, planning structures, processes, and achievement targets on the educational development of the countries.

It is expected that the analyses enumerated above will contribute to both the theory of planning and to the actual effectiveness of planning. The study's contribution to the improvement of planning effectiveness is viewed as particularly important, since, despite the limited success of the educational plans and the disenchantment with them in some circles, planning or other closely related forms of rationalization of government activities is one of the major instruments available for improving the performance of the educational administration of the various countries. More specifically, efficient educational planning processes seem to be at least a necessary condition for the achievement of many educational and social goals.

### Conceptual Framework for the Analysis of the Planning Process

Although the description and definition of educational planning are considered outcomes of the study, an initial conceptualization representing preliminary assump-

tions about planning relationships is a necessary point of departure in the specification of variables and for shaping the direction of inquiry. For the purposes of this study, a systematic view of the planning process is taken. It distinguishes (a) the planning environment, (b) the stages and activities or functions that have to be performed to plan, and (c) the actors that perform those functions (see Figure 1). Thus, planning is viewed as a technical and political process open to a variety of external influences.

Cultural, social, economic, general political, and administrative characteristics of the countries are taken to the planning environment. Three main stages—normative/strategic, technical, and operational—and four functions—decision making, technical analysis, implementation, and control—are distinguished and, to a limited extent, associated as sequential processes. The normative and strategic stages take place during decision making. More specifically, in the normative stage the basic direction of planning is specified by determining general needs and identifying most goals. Based on these "intelligence" activities, the strategic stage involves choice and commitment to specific courses of action. During the technical stage, conceptual links between goals on the one side, and instruments and resources on the other, are used to specify the characteristics that these instruments and resources must have to achieve the goals. The operational phase is concerned with implementation and control.

This last phase is subdivided into evaluation and feedback processes. Although debate continues over whether implementation should be considered part of planning, there is no doubt that this is the case in a systematic view of planning processes.

In this model of planning, the main actors involved in the planning process are interest and pressure groups, high levels of government, technical departments of planning and various levels and branches of the public administration in charge of implementing the plans. Persons designated as technical planners may play a number of roles: they may work in isolation as technical experts elaborating the information needed for decision making; they may work as partners to policy makers in educational decision making; they may manage and supervise the activities of a group of statisticians, researchers, and other specialists; or they may assist administrators in the use of

FIGURE 1  
MAIN RELATIONSHIPS BETWEEN STAGES, FUNCTIONS, AND ACTORS  
IN A PLANNING PROCESS

STAGES	FUNCTIONS	ACTORS			
		Interest Groups	High Levels of Government	Technical Planners	Public Administration
Normative Strategic	Decision Making	+++	+++	---	---
Technical	Technical Analysis			+++	---
Operational	Implementation				+++
Operational	Control	+++		---	+++

Note: ++++ = Primary actors  
---- = also participate

the technical plans as guidance for implementation. Likewise, persons designed as administrators may also engage in a variety of activities ranging from decision making to implementation. However, except for the higher-level bureaucrats, the bulk of the effort of most administrators would be directed toward implementation. Figure 1 cannot, of course, capture the dynamic nature of the interaction of actors and functions within an environment itself in a constant state of flux.

The description of planning outlined above is easily recognized as having characteristics of what are usually called the rational and political system models. We make no claim for the normative advantages of this model over any other model. We do, however, believe that this systemic view of planning offers an initial conceptual framework with sufficient descriptive validity to guide our study.

### **Sample to be Studied**

To reach valid conclusions, examples of planning processes involving combinations of the different forms that environment stages, functions and actions could take should be studied. This might not be possible because some of the theoretical combinations might not have been used in practice. The best alternative is to consider all the countries of the world as the universe to be investigated. However, not all countries have formally adopted educational planning, and the proposed study will not attempt to analyze the reasons for this decision.

Using the expertise of the international organizations that provide assistance in educational planning, the countries where planning is being practiced will be subdivided into homogeneous strata. The criteria that can be used in this stratification include level of socio-economic development, degree of decentralization, ideological commitment of government, orientation of development policy (e.g., industrialization, rural development), characteristics of the planning process, etc. A sample of several countries from each stratum will be selected for analysis. The size of these samples will depend on the size of the stratum and its degree of homogeneity. The selection of the samples should be made, as much as possible, using random procedures. However, attention should also be paid to the interest of the countries in participating in the study, and availability of experts from the international organizations who are familiar with the countries.

### **Data Required and Methods of Collection**

The data needed for the study being outlined can be subdivided into four classes: (a) the planning environment; (b) the characteristics of the planning institutions, actors, and processes; (c) the outcomes of the planning process; and (d) the educational status and development in the countries being studied.

It is likely that data on the planning environment, on the institutional structures, on the planning actors, and on the process of planning will have to be collected by means of one or more surveys. The principal steps needed to carry out these surveys are: (a) preparation and testing of the questionnaire; (b) actual execution of the survey in each of the countries included in the study; and (c) codification and tabulation of the results in a form that will permit their integration with the data to be described below.

The assistance of international organizations, both informally requesting information from the various countries, and in the follow-up of the formal requests by officials in those countries, is crucial for the success of the project.

In addition, to the extent possible, the experts from international organizations and

planning actors from the countries studied will be asked to evaluate the educational planning institutions and processes in which they have participated. A systematic analysis of these evaluations supplements information derived from questionnaires and documents and could contribute additional qualitative insights.

One source of data about the outcomes of the planning process is the plans themselves. However, the most important outcomes are the achievements of the targets of those plans and the impact of educational planning on the educational development of the countries. It is assumed that the plans themselves are presented in sets of published documents. Various organizations sell copies of these documents. As a consequence, except for the cost involved, no particular problem is expected in collecting the published educational plans. In addition, a systematic summary of the targets or plans must be prepared. This summary should make it possible to compare the education targets of the countries. Except for clarifications that must be obtained from education officials in several countries, this step does not present any special problems.

Data on educational status and development include indices of literacy, population classified by level of educational achievement, school attendance, education facilities, education personnel, etc., at several dates before, during, and at the end of the period covered by the educational plans being studied. A substantial portion of these data is collected in the countries on a regular basis. The main problem for their utilization is that publication is frequently delayed for long periods of time. For this reason, the data being considered must not only be collected from published statistics, but might also have to be requested directly from the countries themselves.

### **Analysis of the Data**

The analysis of the data involves three main steps: (a) description and expert evaluation of the planning environments, planning institutions, planning actors, and planning processes; (b) analysis of the achievement of the targets of the educational plans and of the factors influencing it; and (c) analysis of the impact of the planning process on educational development and of the factors influencing it.

In the descriptive and evaluative study addressing the cultural, social, economic, and political environments of planning, variables such as size, wealth, and topography of the countries will be considered as points of departure. More subtle, but equally important, may be the level of political stability, ethnic, ideological, and linguistic integration, and "modernity" of attitudes. Scales will be used to rate both quantitative and perceptual data.

The structural characteristics of planning include aspects such as the location of the planning unit in the bureaucratic hierarchy and its size, technology, and resources. It is frequently assumed that these characteristics affect lines of communication and authority, levels of resources, and status of planners.

The main planning actors typically consist of political leaders, high-level bureaucrats, technical planners, and a range of educational administrators. The capabilities, resources, power, and commitment of the planning actors may be important in designing the structure of planning, in defining the planning process, and in determining planning success. The particular variables to be studied include: educational background, previous professional experience, autonomy, commitment, etc.

Planning, like football, is said to be a contact sport. Organizational theory suggests that the processes of human interaction and exchange, the utilization and transmission

of information, and the coalescence or dispersion of opinion are important ingredients of decision making in the real world. One general question is: To what extent is planning a "political" as opposed to a rational or technical process? Or, perhaps, which educational problems are more amenable to the technical tools of planning? Two variables of particular importance would include the extent of participation of various actors and groups in the planning process and the role of technical information in arriving at decisions.

In addition, special attention will be paid to the study of the formal methods employed in the preparation of the plans and the internal consistency of specified targets for students, teachers, classrooms, and expenditures. To analyze the achievement of the targets of the educational plans, an index will be constructed based on a comparison of the achievements described by the data on the actual development of education and those represented by the targets of the plan.

At a conceptual level, the analysis of the factors influencing the achievement of the targets of the education plans can be subdivided into two parts: (a) acceptance or rejection of the hypotheses stating that the characteristics of the planning process, of the actors participating in it, of the organizations charged with preparing the educational plans, the methods used, etc., influence the achievement of the targets of the plans; and (b) if the decision in (a) is to accept the hypotheses, then the magnitude of the influence of the stated characteristics must be evaluated. These two parts can be studied with standard statistical and econometric techniques such as multiple regression, analysis of variance, and two stages least squares. At this stage, the usual problems associated with the computer handling of large data sets can be expected.

To study the impact of educational planning, it is necessary to decompose the actual growth of education into the part that can be attributed to its spontaneous development and the part that can be attributed to planning. This means that the data available on the conditions of education before the implementation of the plan will be used, together with information on environmental, demographic, and economic conditions during the period of implementation of the plan, to prepare forecasts of what the status of education would have been without planning. A comparison of these forecasts without planning with the actual conditions in which planning took place, will be the basis for the decomposition mentioned above. In addition, both quantitative and perceptual indicators of changes in education and of the impact of planning will be used.

The analyses described show that if the targets of an educational plan completely coincide with the spontaneous growth of the system, it cannot be said that planning had any impact, even if the planned and actual growth were identical, and, as a consequence, the targets were 100% achieved. On the other hand, a planning process could have a significant impact on education even if implementation does not succeed in achieving the planned targets.

At the present time it seems that statistical and econometric methods are the most appropriate to conduct the decomposition of the actual growth of education into those components. This means that the methods to be used in the analysis of the factors influencing the achievement of the targets of the plans and of the factors determining educational growth are quite similar.

### **Limitations**

At this stage in the development of our research design, it may be appropriate to take stock, be self-critical, and re-ask certain fundamental questions about possible limitations of our efforts:

1. Is educational planning treated only as a function of the state?

If educational planning is an essentially decentralized, participatory, communal process or if, as Windham states, the important educational decisions are made at the family/individual level, then this research fails to address adequately some important questions. The conditions, incentives, and processes by which individuals make educational choices are not seriously considered. The organization of research questions assumes an interactive political process with rational/structural characteristics. The family/individual level influences are expressed through the pressure groups. As a consequence, planning which exclusively follows an interactive or transactive model, might not be best studied by our approach which centers attention on actions and actors within the political center and the governmental administrative hierarchy.

In defense, we believe that many countries do indeed attempt to follow a planning process similar to that which most influences the design of this study. However, the descriptions of planning in action obtained from the sources utilized will show if this is the case.

2. Are the linkages of educational planning with other components of social planning adequately explained?

Educational planning is a component of social planning. Planning among the various components is interdependent, a situation with which planners and political actors cope by using at least two very different strategies. Planners typically seek consistency, coordination, and integration, recognizing that these ends are constrained by the competition between sectors for limited resources. Or, strategies may be employed, most likely by politicians, which purposely create imbalances and inconsistencies within or between sectors to force significant responses in other parts of the social system.

Our research recognizes that the inter-sectorial linkages exist and seek insight as to how educational goals are adapted to broader social goals. However, little attention is given to the cooperative or conflictual interactive process between sectors which constrains sector plans in education and which may influence educational planning success.

3. Does the research help us understand the epistemology of planners?

Thorough understanding of the planning process requires insight into such questions as: (1) How do planners define the truth? and (2) What is considered valid knowledge? A planner who views the world through a prism of logical positivism would be expected to define the planning process quite differently than, for example, a phenomenologically inclined planner. One might expect the former to be more oriented toward use of empirical methods and to give more reliance to technical, manipulative ways of bringing people and institutions into conformity with an ideal state. For the positivist, improvement of planning would be expected from a more thorough analysis, better techniques, and more accurate communication.

On the other hand, a planner with a more phenomenological view might focus on the dynamic quality of planning contexts and an experimental view of social reality. McGinn (1980) uses the term "situational planning" to refer to a form of interactive planning with phenomenological characteristics. Situational planning emphasizes knowledge emerging from experience, the individualization of reality, and the dynamic quality of all social contexts. Situational planning does not equate objectivity with validity nor does it view differences in interpretations necessarily as differences in data. In situational planning,



McGinn explains that "it is assumed that actors may have fundamental and irreconcilable differences in objectives" (p. 346).

The model of educational planning guiding our research assumes a less individualistic and less open-ended view of change. Although explicit in our approach are assumptions or hypotheses about the environment, structure, and process of educational planning to be verified or rejected by the questions asked, the information to be acquired may not probe adequately the individual and situational character of understandings and commitments of planning actors or the ephemeral character of human relationships.

### Summary

Educational planning as a complex, interactive process involving actors in struggles over ideology, power, and technique has been subjected to little intense empirical scrutiny. Comparative, cross-national studies of educational planning are almost non-existent. This paper represents an attempt to design research that could test certain assumptions found in planning literature in an international context, thus contributing new and, to a limited extent, generalizable knowledge.

The research proposed, which describes the process and dissects the impact of attempts at national educational planning, will encounter many of the problems and complexities of any large-scale social research. Attempts to rely on easily measurable indicators can result in over-simplification and tend to offer little insight into the quality of subtle human interactions. Emphasis on the dynamics of process can magnify the possibilities of multiple interpretations and typically is more demanding of the always scarce resources of time and money. This proposal attempts a compromise by defining standard quantitative measures of targets and other planning outputs, while also including attention to important process variables. Such a compromise over indicators and styles of inquiry makes the research more feasible, if less powerful. This should be an acceptable price to pay given the potential for significantly strengthening the weak empirical foundations of educational planning.

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## FOOTNOTES

<sup>1</sup>The status of planners likewise is controversial. Jimmy Carter could proudly say, "I consider myself ... a planner." However, Ronald Reagan in a State of the Union Address, became the only president in U.S. history to denigrate planners: "These federal programs have only been effective in creating an array of planners, grantsmen, and professional middlemen." (See Anthony J. Catanese, (1984), *The politics of planning and development*. Beverly Hills, CA: Sage).

<sup>2</sup>This argument reflects the economic view that the economic marketplace is the most efficient mechanism for the distribution of goods. Consistency or balance between supply and demand of education or other goods is an automative or, at least, not necessarily consciously intended consequence of market exchanges. The different reliance on markets and market incentives under private enterprise and communist systems is explored in Charles E. Lindblom (1977), *Politics and markets*. New York: Basic Books. It has also been argued that the supply and demand for education are regulated in a *cultural*, not an economic marketplace. See Randall Collins (1977), Some comparative principles of educational stratification, *Harvard Education Review*, 47(1), 1-27.

<sup>3</sup>Human capital theory lends credence to the instrumental value of education in significantly and directly contributing to economic growth and development. This theory has stipulated the view of educational planning as a subset of economic planning and thus the concepts and tools of educational planning become a part of the economics of education.

<sup>4</sup>The harshest opponents of the traditional centralized approach to educational planning argue that educational planning efforts may have succeeded by the criteria of international agencies and their associated indigenous elites but because planning has reinforced hegemonic and dependency relationships, it has been ruinous to authentic development.

<sup>5</sup>The argument here suggests that some minimum level of forecasting of the future is feasible. However, the educational system being a "loosely coupled," "complex social system," existing in a "turbulent" environment and exhibiting "wicked" problems cannot be subjected to successful planning given the existing quality of planning technology.

<sup>6</sup>This position concludes that much of the expansion and improvement of education has been the result of deliberate, conscious decisions and actions. According to this view, efforts should be placed on furthering the

efficiency of educational planning through improved techniques, increased participation, more attention to non-formal education and better integration with national planning for socio-economic development.

<sup>7</sup>As identified in the planning literature, the conceptualizations, models or theories of planning include: the rational model, the incremental model, the mixed scanning model, the general systems model, the transactive model, the learning adaptive model, the situational model, the advocacy model, and the radical model. While aspects of a variety of planning models may influence any national educational planning process, the overwhelming commitment of most countries is to rational planning. For a brief review of such models and references to their supporters, see Don Adams, *Theory and process in educational planning*, International Development Education Program, University of Pittsburgh (mimeo), and Russell Davis (1980), *Planning education for development Volume II*. Cambridge: Harvard University, Center for Studies in Education and Development. For more extensive discussions of planning models and theories, see: David Braybrooke & Charles E. Lindblom (1970), *A strategy of decision*. New York: MacMillan; J. Friedmann & B. Hudson (1974), Knowledge and action: A guide to planning theory, *Journal of the American Institute of Planners* (January), 2-16; Barclay M. Hudson (1979), Comparison of current planning theories: Counterparts and contradictions, *APA Journal*, 45,(4), 387-398; David E. Wilson (1980), *The national planning idea in the U.S. public policy: Five alternative approaches*. Boulder, CO: Westview Press; Robert W. Burchell & James W. Hughest (Ed.), (1978), *Planning theory in the 1980s*. Princeton: Rutgers University Center for Urban Policy Research.

## SCHOOL IMPROVEMENT, GRADUATE EDUCATION, AND EVALUATION: A SYMBIOTIC RELATIONSHIP

Most educators are familiar with Public Law 94-142 and its legislative intent of “mainstreaming” handicapped learners in public school programs. What is often lost in the debate of the merit or demerit of such legislation is the quiet but often strong commitment of various institutions such as local school districts, state departments of education, universities, and federal agencies, to the development of programs that result in providing improved educational opportunities for all students, particularly the handicapped. In the State of Vermont, the efforts of these institutions were focused upon the development and implementation of an innovation training program for school administrators. In this article a report is provided on the Interactive Leadership Program (ILP) which is a graduate-level program at the University of Vermont and which is specifically designed to prepare and update school administrators for the purposes of improving local school programs and services for handicapped learners. To ensure that the program intentions of school administrator development and local school improvement were attained, a comprehensive evaluation approach was pursued. Sections of this article include a brief description of the ILP, an overview of the components of the evaluation approach, and a review of the evaluation data and its impact on program goals, processes and content. The article concludes with reflections on the implications of a collaborative arrangement among several independent and autonomous organizations for professional development of educational administrators, for school improvement, and for designing graduate-level programs.

### **Interactive Leadership Program (ILP) Description**

The ILP was designed with the improvement of learning opportunities for all students but especially the handicapped as its primary mission. The overall stated goal for the program has been to improve educational services for all children and youth, including handicapped learners, through individualized, interdisciplinary, inservice options for administrators (Paolucci-Whitcomb & Meyers, 1981-83). To enable the improvement of educational opportunities for students, particularly handicapped learners, the inservice professional development of special and general educational administrators was seen as crucial and central. This reality has been brought about by associated requirements and expectations of Public Law 94-142, the Education for All Handicapped Children Act of 1975. The law and subsequent state-level compliance efforts have placed school administrators in a position of having to provide local-level leadership to meet the intent of this landmark legislation.

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As a result of a review of the literature and the conducting of state-wide meetings with school administrators and state department of education personnel, a set of general administrative competencies was developed (Carlson & Nevin, 1978; Nevin, 1979; Paolucci-Whitcomb & Meyers, 1981-83; Paolucci-Whitcomb & Bright, 1983-85). The competencies were clustered within four general objectives which focused upon the needs of administrators concerning the acquisition of resources, the development of interactive processes, leadership, and the dissemination of successful practices. The objectives and related competencies provided a framework for the content of the ILP and subsequent student and program evaluations. The ILP instructional delivery model was derived from the Interactive Research and Development on Teaching (IR & DT) Model developed by Tikunoff and Ward (1975). The aim was to provide practitioners, researchers, and trainers an opportunity to interact and work together to identify and investigate educational problems and subsequently to develop training sessions at which direct and indirect findings would be disseminated. The program was further guided by the work of Joyce and Showers (1980) who stated:

The most effective training activities, then will be those that combined theory, modeling, practice, feedback, and coaching to application. The knowledge base seems firm enough that we can predict that if those components are in fact combined in inservice programs, we can expect the outcomes to be considerable at all levels. (pp. 384-385)

The net effect of this conceptual base was to design a program in which the participants found that their busy schedules could be accommodated and which would have on-the-job application. This resulted in scheduling a full week of classes in late August and scheduling of Friday night and Saturday morning sessions once a month during the academic year. The classes were planned and taught by two regularly assigned instructors who provided instructional continuity, student supervision, and advising. They also scheduled guest instructors from a variety of disciplines and areas of expertise to provide supplementary instruction on topics such as systems change, communication skills, and strategies for facilitating educational equity.

### **Comprehensive Evaluation Approach**

For the past several years, practitioners of educational evaluation have been exposed to a gamut of evaluation theories, models, approaches, strategies, and technical innovations designed to gather information about school curriculum, programs, and projects in a systematic manner. An early attempt at cataloging models of evaluation was presented by Worthen and Sanders (1973). A more recent effort has been made by House (1980). The literature over the past 10 years has been rich with overviews and theories for approaching and conducting evaluation studies of educational programs. The intent here is not to present the history of educational evaluation but to provide a background for the rationale and methodology employed in the evaluation of the Interactive Leadership Program (ILP). The Center for Evaluation and Policy Research (CEPR) in the College of Education and Social Services at the University of Vermont has developed a five-phase approach for the design of evaluation studies known as the CEPR Multi-Phase and Multi-Approach Model (Carlson, 1980). The phases represent a synthesis of current strategies in the design of educational evaluation studies and provide a framework for the design of the ILP evaluation. The phases are as follows:

**Phase 1-Development of Study Focus & Contractual Arrangements**

**Phase 2-Design Specification**

**Phase 3-Design Implementation**

**Phase 4-Information Sharing**

**Phase 5-Utilization and Feedback.**

These phases are comparable to efforts of others in attempting to provide a clear, concise, and understandable framework which can guide the interaction between the evaluator and the evaluatee (Morris & Fitz-Gibbon, 1978; Patton, 1978).

**Phase 1-Development of Study Focus & Contractual Arrangements**

Early in the development of educational theories and practices, there were considerable discussions concerning the definition and/or purposes of the evaluation process. Often those choices were presented in dichotomous or either/or terms. A synthesis of the two positions has been needed and has emerged through practice.

For example, frequently the question arises whether an evaluation study should serve primarily the staff of a project or whether it should be a tool of accountability and serve primarily the funding source's need for information. To minimize the evaluator's dilemma of attempting to serve two or more masters, this initial question needs to be explored and understood by all the parties involved in the evaluation study. One method for resolving this potential conflict of interests is the use of an external evaluator who provides information for ongoing decision-making needs which in turn is aggregated to provide documentation of the project's efforts over time and to serve the needs of the funding source.

This strategy was employed in the evaluation design of the Interactive Leadership Program. The project staff were viewed as the primary audience of the evaluation data and its gathering methods were designed to be used for ongoing program decisions. The funding source (U.S. Department of Education, Office of Special Education and Rehabilitative Services) was viewed as the secondary audience who was to receive a summary document demonstrating the project's effectiveness in attaining the grant's goals and objectives. The College of Education and Social Services (Dean's Office) was also viewed as a secondary audience. Therefore, the initial phase of designing the evaluation included the considerations of who the primary audience would be, resulting in the decision of favoring the project staff; what purposes would be served, either "to serve ongoing decision making" (formative needs) or "to serve accountability" (summative needs), with the decision being that both needs would be met by allowing the formative data to be used for summative purposes. A final consideration was whether the information-gathering methods would emphasize the goals and objectives of the project or take on more of a goal-free orientation (Griffin, 1978; Rist, 1977; Scriven, 1974) with the decision being made to operate the evaluation as goal based with some opportunity to determine other effects through the use of open-ended methods, e.g., process evaluation.

**Phase 2-Design Specification**

Many phenomenologists and sociologists speak of the notion that in any given situation there are multiple subjective realities that are perceived and understood by those involved either as active participants and/or as observers. The mind, according to their reasoning, is not a passive observer like a film in a camera waiting to be exposed to light but rather the mind is predisposed to certain patterns through which an

observation is filtered. These filters vary from individual to individual and situation to situation. Thus, to search for "truth" surrounding a dynamic social interchange needs to be viewed as an approximation of multiple realities. Although there may exist stable features in a given social milieu, these may change quickly, or at least our perception of them may change, based on new insights which were previously precluded due to our filtering system or due to some difficulty in acquiring the added information. (See Cook & Reichardt, 1979; Dobbert, 1982; Fetterman, 1984; and Patton, 1980 for an explication of this theory.)

Due to the complexities in understanding how well a program is operating, the need to view the project from several vantage points is well advised (Brookover, et al., 1982; Edmonds, 1979; Guba & Lincoln, 1981; Joyce, Hersh, & McKibbin, 1983; Mayer, 1982; Provus, 1971; Tuckman, 1979). With this in mind CEPR, in dialogue with program staff, explored several data-gathering approaches which in combination with each other would provide a comprehensive view and would ensure that the project was thoroughly examined. A notion of triangulation has been suggested by several writers (Patton, 1980; Stake, 1978) as a method of ensuring that the object under study has been seen from three distinct vantage points.

The application of triangulation to evaluation studies can involve varying the information-gathering methods and their respective sources. In the ILP evaluation, several methods and sources were pursued including; 1) questionnaires distributed annually to ILP participants, their supervisors, and core instructors; 2) one-page feedback forms distributed at the conclusions of each training session and at school district team meetings; and 3) ILP participant products (logs and case studies). More recently the ILP added a classroom process observer to provide ongoing monitoring of instructor, participant, and curriculum interactions. These evaluation methods may be summarized as follows:

#### *Formative Approaches*

Training Session Feedback Form

Interactive Leadership Team Member Feedback Form

Process Observations

Participant Logs

#### *Summative Approaches*

Annual Program Questionnaires to Participants, Supervisors, and Instructors

Participant Case Study Reports

Participant Follow-Up Evaluations

Annual Project Reports.

The above evaluation methods were blended and coordinated by the procedures suggested in the remaining phases of the CEPR evaluation model which included Phase 3-Design Implementation, Phase 4-Information Sharing, and Phase 5-Utilization and Feedback. The remaining portion of this article explores the nature of the evaluation instruments used, the data gathered from the alternative sources, and the role each played in providing valuable feedback to the project staff and its funding source.

#### **Impact of Evaluation Results on ILP Goals, Processes and Content**

The line that separates formative and summative evaluations is often unclear and is adapted to the particular stage of a project's development. That is to say, the year-end evaluation data are usually viewed as summative evaluations and yet, if the project is continued the following year, these evaluations are used in a formative manner. These

results help shape the subsequent year of the program and may be viewed in the long term as formative evaluations. In any regard, for purposes of this analysis, the year-end evaluations focused primarily on the outcomes of the previous year's program activities and were considered summative in nature.

Using the above listing of instruments as a guide, each of the formative and summative evaluations are explained briefly and the results garnered over the past three years (1981-1984) of the ILP are presented.

### Formative Evaluation Approaches

A Training Session Feedback Form was distributed to the participants following each session. The participants were asked to evaluate the quality of instruction on 10-point scales along the dimensions of effectiveness (Was the purpose of session achieved?), efficiency (Was there an appropriate amount of time provided?), and affectiveness (Did the participants enjoy the session?). Table 1 provides a summary of the responses received over a three-year period.

Table 1  
Range and Mean Scores for the Training Session Feedback for  
Academic Years 1981-1984

	Academic Year		
	1981-82	1982-83	1983-84
Range	5.3-9.7	5.4-9.9	7.0-9.9
Mean	8.6	8.0	8.4

Each participant was required to form a school district team with whom he or she would develop an applied project that addressed a local district educational improvement need for all learners but specifically the handicapped. Each team member was requested monthly to complete an Interactive Leadership Team Member Feedback Form for evaluating how district members viewed the program participant in facilitating local planning efforts aimed at identified local need(s).

During the 1984-85 academic year, a process observer provided session-by-session feedback to the instructors and participants concerning the nature of intraclass and interinstructor communications. Observation feedback has been provided in both oral and written form.

### Summative Evaluation Approaches

The principal instrument for evaluating the impact of related ILP activities and instruction at the end of each year of training was the Student Participation Evaluation Form. This form was administered at the close of the final session by a research assistant from CEPR. The research assistant administered the evaluation form to ensure anonymity of the respondents and third-party objectivity in summarizing and interpreting the responses. The questionnaire was designed to ascertain from the participants their perceptions of the past year's program impact on the four objectives of resource acquisition, interactive processes, leadership training, and dissemination strategies. In addition, each participant was queried in regard to the overall quality of ILP as compared to other courses, unanticipated outcomes, major strengths and weaknesses, areas in need of change, process factors of scheduling, location, quality of



faculty and participant interaction, appropriateness of assignments, and the grading system.

For each of the program objectives mentioned above, the participants were asked to evaluate on a 10-point scale the degree to which the ILP training helped them acquire a related subset of skills and knowledge and the degree to which they had utilized those skills and knowledge over the past year. Independently, each of the two core instructors completed a comparable form for cross-checking student responses.

Table 2 provides a summary of the participants' ratings of the skills and knowledge acquired and utilized for the years 1981 through 1984.

Table 2  
Range and Median Scores for the Aquisition and Utilization  
of ILP Objectives for Academic Years 1981-84

ILP Objectives	Dimension	Academic Year					
		1981-82		1982-83		1983-84	
		Range	Median	Range	Median	Range	Median
A: Resources	Aquisition	1-10	7	2-10	8	5-10	9
	Utilization	1-10	6	2-10	8	1-10	8
B: Interaction	Aquisition	1-10	7	3-10	8	2-10	9
	Utilization	1-10	7	3-10	8	1-10	7
C: Leadership	Aquisition	1-10	8	2-10	8	4-10	8
	Utilization	nd	nd	1-10	7	1-10	8
D: Dissemination	Aquisition	1-10	7	1-10	8	2-10	8
	Utilization	1-10	6	1-10	7	3-10	7

nd= no data

In addition to the ratings on the four learning objectives, the participants evaluated the above-mentioned process factors. Table 3 summarizes the ratings for the years 1981-1984.

Table 3  
Range and Median Scores for the Process Factors for Academic Years 1981-84

Process Factors	Academic Year					
	1981-82		1982-83		1983-84	
	Range	Median	Range	Median	Range	Median
Scheduling	4-10	8	2-10	8	7-10	9
Location	6-10	9	3-10	8	6-10	9
Fac/Student Interaction	3-10	7	5-10	8	6-10	9
Assignments	3-9	7	4-8	7	4-10	8
Grading System	2-8	6	6-10	9	5-10	9

A final piece of information derived from the participant questionnaire was how the participants thought the ILP compared with other courses and programs. Table 4 provides a summary of these ratings.

Table 4  
Range and Median Scores for Comparing ILP and Other Courses or Programs  
for Academic Years 1981-84

ILP Performance	Academic Year					
	1981-82		1982-83		1983-84	
	Range	Median	Range	Median	Range	Median
	nd	nd	4-10	8	7-10	9

nd = no data

At the conclusion of the 1983-84 academic year, a follow-up evaluation was initiated for those participants who completed or nearly completed their ILP requirements. The participants who were admitted in 1981-82 and 1982-83 were surveyed. Response rates of 50 percent (10) for 1981-82 and 80 percent (16) for 1982-83 classes were achieved. Table 5 summarizes the responses from each group for each factor queried. The questions included whether (a) the major purpose of the ILP was achieved, (b) the time for completing the program was appropriate, (c) the participant enjoyed the program, and (d) the quality of ILP compared well with other training programs. As stated earlier, the overall purpose of the ILP was to impact educational improvements for all students but especially the handicapped student.

Table 5  
Range and Median Scores for Each Program Factor for ILP Classes, 1981-82 and 1982-83

Program Factors	Academic Year			
	1981-82		1982-83	
	Range	Median	Range	Median
Achievement of Major Purposes	8-10	9	5-10	9
Appropriate Time	5-10	10	6-10	9
Enjoyed Experience	7-10	10	7-10	9
Comparison w/Other Programs	6-10	9	3-10	8

To verify the self-reported perceptions of the follow-up evaluations, participants' supervisors were queried on the same set of factors. Table 6 reports the responses for years 1981-1984. The supervisors were asked to evaluate the effectiveness of their supervisees in facilitating local educational improvements, if they had sufficient time to complete their training, if they enjoyed the program, and how ILP compared with other training programs. Response rates of 85 percent (17), 65 percent (13), and 60 percent (11) were obtained respectively for the academic years surveyed.

Table 6  
 Supervisor Range and Median Scores for Program Factors  
 for ILP Classes, 1981-82, 1982-83, and 1983-84

ILP Class Program Factors	Academic Year					
	1981-82		1982-83		1983-84	
	Range	Median	Range	Median	Range	Median
Facilitating Improvement	4-10	8	7-10	9	5-10	8
Appropriate Time	3-10	9	6-10	10	4-10	8
Enjoyed Experience	5-10	9	7-10	9	3-10	8
Comparison w/Other Programs	5-10	8	7-10	8	6-9	8

**Summary**

It is difficult to encapsulate three years of data, participants' comments, and observations into few words and do justice to the diversity and complexities contained in the feedback. As can be observed in the tables, the responses were consistently high and very favorable with improvements being evident in the more recent years in the project. The core faculty members were able to verify their perceptions of the success of the ILP from the multiple sources and perspectives surveyed. The written comments received on these instruments did allow for fine tuning and a better grasp of the elements which seem to be contributing to the positive responses. The major strengths for which there were significant consensus among the various respondents included the networking that occurred among the participants, their instructors, and the various personnel in their respective school districts; and the relevance of the ILP skills and knowledge to the participants' job situations. Weaknesses seemed to be few and limited to a small percentage of participants but nonetheless some comments did surface that reflected a concern that the instructors of the program needed to adapt the industrial content of Quality Circles for educational administrators and that they needed to decrease the amount of content presented in each instructional session. Supervisors spoke very favorably to the impact of the program upon their perspective supervisees, particularly in developing skills to work with students and staff members, their willingness to share information, and their enthusiasm for the program and their job responsibilities. The evaluation results provided documentation of the program's activities, achievement of its objectives, and the impact of the ILP goals, processes, and content upon the participants and their respective school systems. These evaluations provided reinforcement for effective practices and at the same time permitted the fine tuning that was needed to make a good program better.

**Implications**

Important federal- and state -level policy changes continue to place a greater burden upon taxpayers at the local level to support funding for general and special education programs. The recent net effect of this tax burden shift is the decline in constant support for special education (Hull, 1985). The decentralization in the delivery of special services in Vermont has intensified, as predicted at the ILP's inception (Paolucci-Whitcomb & Meyers, 1981-83). Thus, an added burden has been transferred to the local level in having to provide programs that meet the needs of all students, especially the

handicapped. In addition, on the national level, recent attempts at school reform have largely bypassed children "at risk" (e.g., the poor, non-white, handicapped, or female) (Hull, 1985).

When the Interactive Leadership Program was designed in 1980, the problem identified by its authors as the most important social-educational problem to be solved was the increasing risk to poor, non-white, handicapped, or female children which, they reasoned, was caused by dislocation (decreasing) resources and commitment to these children at all levels of education. Other dimensions of the problem included: perceived isolation for special educators from "regular educators"; an increasing sense of competition for declining resources between regular and special educators; and the application of educational strategies designed for a different set of social and economic conditions from the problems of the 1970s to the problems of the 1980s.

A major strategy built into the program and pursued during its implementation was the notion that these problems might be reduced by providing a leadership training program where regular and special educators would operate in a parity arrangement (matched in teams) and would be engaged in mutual problem solving (Paolucci-Whitcomb, 1980; Tikunoff & Ward, 1975). Thus, an integrated, interactive model was conceived.

This training model was built on the premise that the transfer of skills and knowledge would be enhanced if the program modeled desired leadership strategies and tactics. In addition, the authors perceived the need to match training strategies with desired outcomes. For example, if the problem of isolation was to be addressed in the local school system then consistent approaches needed to be modeled and be an integral part of the training design and content. Below are illustrated the problem dimensions and the related training strategies:

<i>Problem Dimension</i>	<i>Training Strategy</i>
Isolation	-Interdisciplinary teams (faculty, student, and faculty-student) -Parity in team composition (regular and special education) -Communications and human relations training
Competition for Resources	-Training in collaboration (theory, demonstration, practice, feedback, and coaching) (Joyce & Showers, 1980)
Outmoded Service Delivery	-Training in creative, group problem solving -Training in decision-oriented evaluation, utilization, and feedback (Carlson, 1980).

It is the last of these strategies, training in decision-oriented evaluation, that is most relevant. So often, it seems, program evaluation serves the primary purpose of external review without informing how the operation of the program might be improved (Cronbach & Associates, 1980). In this case, however, program evaluation was modeled as part of the training design. Decisions to change the training process or content were relatively apparent to the trainees, based on evaluation data, and mutually agreed upon between staff and students.

The implication of this strategy to train for evaluation was well documented in the collaborative projects which emerged from students during each of the training cycles, as well as an increase in sharing resources in and between districts where trainees were located.

For the University of Vermont, the Interactive Leadership Program remains an encouraging experiment in school-university and interdepartmental collaboration. While many of the tensions identified by Ladd (1969) concerning institutional values, purposes, and modes of operation were present in the ILP, these forces did not enervate the program. Rather, solving problems generated by competing social systems provided a laboratory for learning. Within the University, parity arrangements concerning budget, program governance, and faculty rewards helped clarify the areas in which collaboration could emerge.

To answer questions of program effectiveness as related to impact on students, further study will be necessary. A vital first step has been taken, however, in documenting the influence of collaborative relationships identified, team decision-making processes, and individual role changes in facilitating system change within the intent of the PL 94-142, Education for All Handicapped Children Act of 1975.

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## WHY PLANNING AND VOCATIONAL EDUCATION?<sup>1</sup>

Since 1917, with the passage of the Smith-Hughes Act, each state has been required to submit an annual "plan" of vocational education as a condition for receiving federal funds for vocational education. Although states complied every year, it has only been since about 1963 that state plans even included program and resource allocation decisions and the data that justified the decisions. As late as 1975 most observers thought that state plans were still mainly compliance documents. Planning was recognized as desirable, but difficult to accomplish realistically. Yet there was no general alarm sounded by the profession over the inadequacies of the planning process. Vocational education had been undergoing rapid expansion during the 1960s and 1970s and everyone was sharing in its growth.

After 1975, however, there were signs that the growth rate in vocational education might slow down—in fact, might even be reversed—during the forthcoming decade. Taxpayers were becoming agitated about the large proportion of their income that was being taken; demographers were calling attention to the drastic reductions that could be expected in the numbers of school-age youth; and the effectiveness of education, including vocational education, began everywhere to come under close scrutiny. In this socially conservative context, Congress re-examined vocational educational legislation and passed the Education Amendments of 1976.

As an expression of Congressional concern for improving the efficiency of vocational education and for coordinating it with other federal manpower programs, the Amendments put the spurs to planning in vocational education. The legislation stipulated certain indices as criteria for vocational program success (even though the profession had not previously agreed upon them); mandated that certain groups be included in the formulation, instead of the review, of state plans; and recognized the need and provided for the development of a better database for planning.

Thus, with stimulation both from within their own states as well as the federal government, vocational educators rather suddenly became aware of the need to establish rational and efficient planning processes.

Perhaps because of the considerable influence of state-level administration in vocational education, or perhaps because of prevalent behavioristic tendencies among vocational educators, or perhaps because of the federal government's advocacy of such techniques as zero-based budgeting, management by objectives, and program planning and budgeting, the immediate and almost universal reaction to the need for planning was a headlong rush to the development of synopic-rational (comprehensive) planning systems at the state level. The 1978 yearbook of the American Vocational Association, for example, carried the title of and argued for *Comprehensive Planning for Vocational Education*.

Both of us had been conducting research for several years prior to 1976 on planning for vocational education and were aware of some of the limitations of the synopic-rational model. Our concern was that vocational educators had not only failed to

examine carefully and critically that particular model, but had not even considered the alternative planning models that were available. We saw the need to investigate the larger issues in planning and to take advantage of the wealth of experience accrued by planners in other fields. The book, therefore, was an attempt to bring to vocational education an exploration of some of those planning options and issues.

The strategy employed in the book was, first, to set the stage by presenting a brief history of planning in vocational education and by providing an overview of planning definitions and approaches—an introduction to the theory and practice of planning. Second, the book then examined how the planning process might be adapted to meet the different demands of various contexts. Our assumption was that situational factors, such as short-run versus long-run considerations, centralized versus decentralized organizational structures, and growing versus declining resource levels affect the choice of planning perspectives and techniques. Third, the book concluded by focusing on the professional preparation of educational planners.

To implement the strategy, chapter authors were selected from academia, business and industry, and from a state department of higher education. They represented a wide variety of disciplines, including business administration, economics, education, industrial relations, public affairs, and urban planning.

The authors prepared their chapters for presentation at a seminar attended by a small, select group of leaders in vocational education. The function of the vocational educators was to help translate the presentations into terms and situations familiar to their field and to draw implications particularly useful to planners in vocational education. The seminar discussions were taped and later summarized. The summaries appear in the book at the end of each chapter.

Since 1976 few states have succeeded in establishing what might be called “comprehensive” planning systems. Further, in 1984 Congress enacted new legislation for vocational education that reduces the federal mandate for planning the total vocational education effort in each state. On the other hand, what were concerns of vocational educators in 1976 have, by 1985, been realized; fewer full-time students are (and will be) available, and competition for resources has intensified—the need for efficiency and the demand for accountability have grown. States are responding with more explicit and publicly debated planning processes for vocational education.

#### FOOTNOTE

<sup>1</sup> Editor’s note. This piece was intended to accompany a review of *Planning and Vocational Education* (McGraw-Hill, 1983), but for technical reasons was not included in that issue (Spring, 1985) with the review. We are printing it now in the hopes of bringing the book to the attention of additional readers; we believe the book to be important and useful to all who are interested in planning.



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