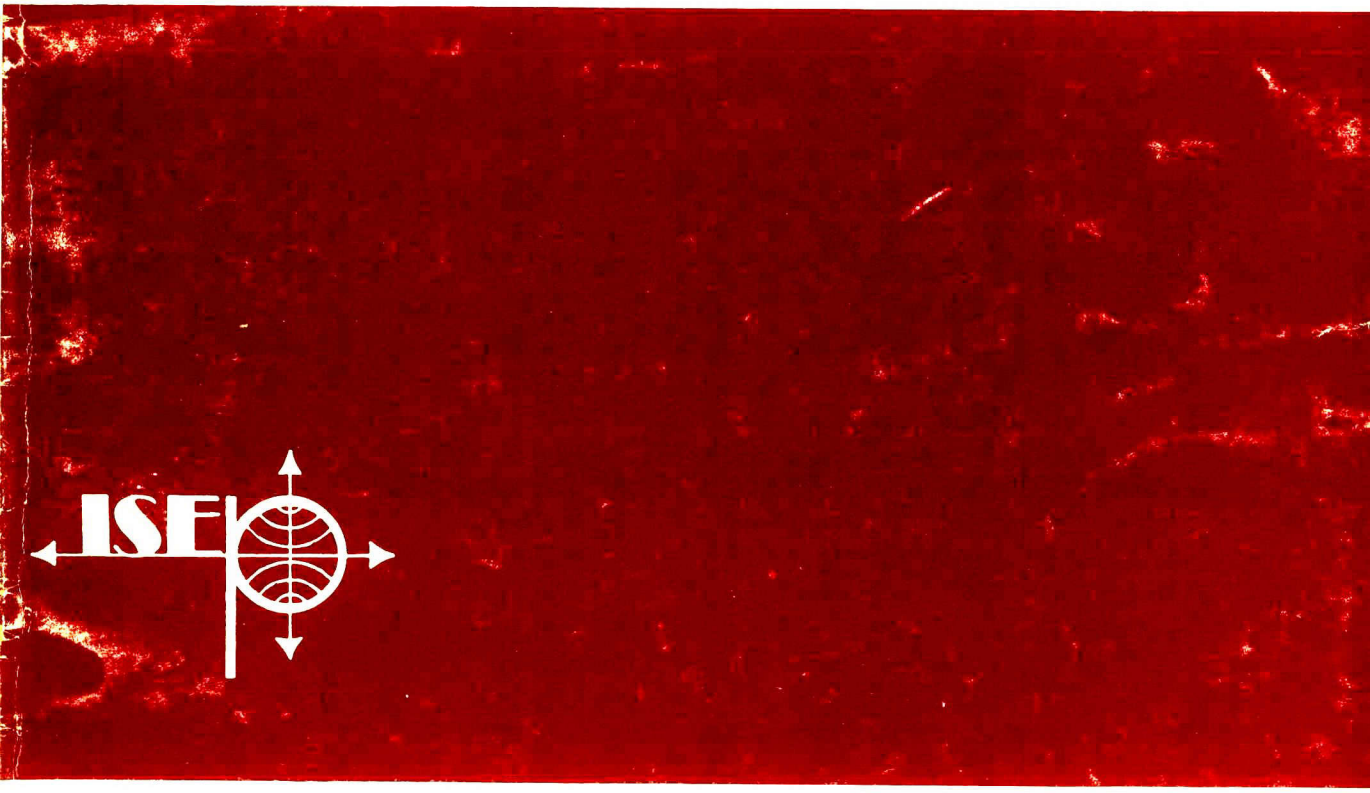
EDUCATIONAL PLANNING



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Cicely Watson, The Ontario Institute for Studies in Education

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John L. Hayman, Jr. and J. Jackson Barnette*

THE DESIGN OF A FUTURE-ORIENTED SENSING SYSTEM FOR THE IDENTIFICATION, PRODUCTION, AND DISSEMINATION OF NATIONAL EDUCATIONAL INFORMATION NEEDS

A great deal of effort at the federal, state, higher education, and local school district levels has been expended toward developing educational information systems. These efforts have been supported largely by the Office of Education and, to a limited extent, the National Institute of Education. A review of work to date suggests that much has been accomplished. Yet none of these systems has succeeded very well in supporting decision-making processes at different levels in the education network and in having an effective impact on educational practice and research. Reviewing the status of information systems we reached five conclusions:

- No really successful educational information system has been developed to date.
- The singular "information system" is misleading; there are a wide variety of information users with a variety of quite disparate decision responsibilities and, therefore, a wide variety of information needs. It is unrealistic to expect that a single information system will serve the entire educational community.
- Information system design involves formidable issues of synthesis because of the multiplicity of relevant variables which are interconnected in poorly understood and probabilistic manners.
- There have been far more failures in attempting to develop educational information systems than successes.
- The future poses a set of problems far more complex than have been faced to date.

This paper will not reiterate the needs or purposes of educational information systems, but instead will propose a mechanism for monitoring the operation of the information system so that information needs are met or are identified and communicated to information producers in a systematic manner. The paper presents the paradigm and discusses methods of forecasting information needs.

System Characteristics

In designing a sensing network there is need for monitoring the information requirements of the educational community, developing measures of information needs, and employing the measures on a constant or recurring basis to keep needs data up-to-date. This statement implies that the sensing network must continually be monitoring needs and insuring that they are communicated to information delivery system personnel and to potential information resource producers. It has been pointed out that the sensing network must

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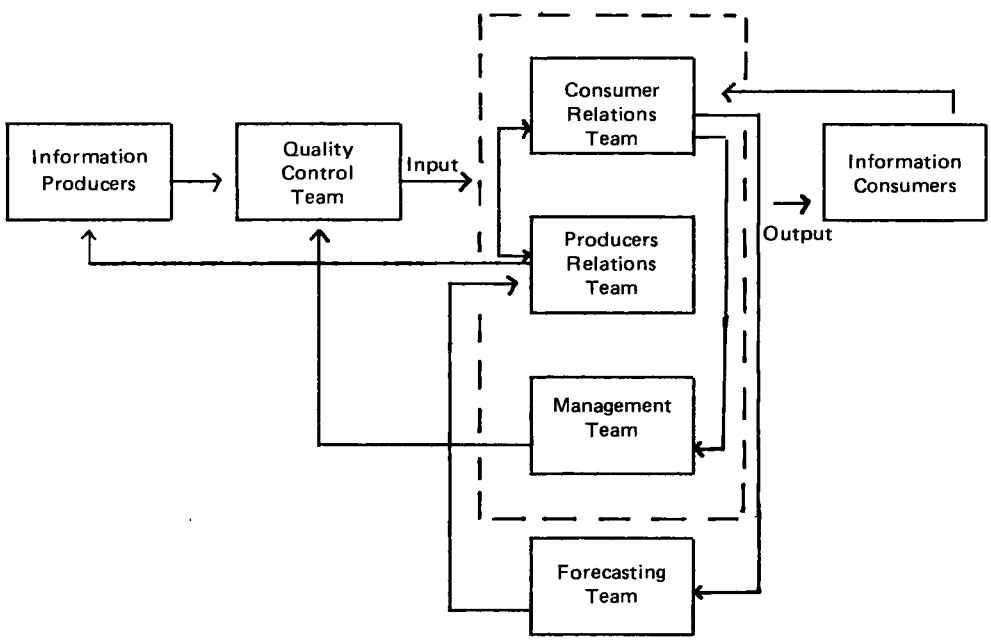
also be concerned with projecting future information needs and ensuring that these projected needs are communicated to potential information producers. The sensing network must have a future orientation as well as a present one.

Probably the greatest weakness of most information systems is their lack of a feedback mechanism which leads to changing the information dissemination system and insuring that future information needs are made known. Collecting information-needs data from users and potential users is important. But there must also be a major effort to collect information from producers and potential producers, so that there can be estimated the discrepancy between needs and the likelihood of the needs being addressed by information producers. The implementation of a sensing network serves as the basis for evaluating the information system in terms of. (1) monitoring the effectiveness of meeting current information needs, based on specific criteria of effectiveness; (2) determining information needs that are not being met; (3) determining information resources that are not incorporated in the information system; (4) assessing alternative strategies for reducing the discrepancy between needs and resources; (5) monitoring the process of making, up-dating and revising the system; (6) projecting information needs and potential sources. The sensing system which we propose (which is shown in Figure 1) provides the interface between the information user and the information producer.

Figure 1 SENSING SYSTEM STRUCTURE



Five staff teams are needed for the sensing network. *The quality control team* is responsible for evaluating potential information resources for inclusion into the system; it assumes the task of analysing information resources. *The consumer relations team* is responsible for assessment of educational community information needs; it assumes the task of determining resources. *The producer relations team* is responsible for working with information producers to facilitate the production of identified information resources to meet current and projected needs; it assists with the task of analysing information resources. *The forecasting team* consists of a group of educators and social science experts responsible for projecting future information needs and potential producers; it assists in both of the tasks mentioned above. *The system management team* is responsible for monitoring the use of the system in terms of costs of data collection, internal system design, system time responsiveness, and costs of internal system functions. The coordination of these team efforts is essential, so a coordinator is required who should be a high-level staff administrator.

At present the quantity of information available is massive and it is increasing at an almost exponential rate. Therefore it is essential that information units be evaluated prior to inclusion in the system and on a recurring basis as they are used in the system. The criteria which, we suggest, should be used to evaluate information input and output are based on those specified by the Phi Delta Kappa National Study Committee on Evaluation.[1] They include:

- Internal validity – the extent to which specific information corresponds to phenomena represented; the extent to which descriptors are accurate.
- External validity – the extent to which specific information is generalizable to situations where information is needed.
- Reliability – the extent to which information is stable, the extent to which the system provides consistent types of information in response to similar requests.
- Objectivity – the extent to which the information user is provided with information which is interpretable.
- Relevance – the extent to which the information user is provided with information relevant to his purpose, with minimal redundancy and minimal irrelevant information.
- Importance – the extent to which the most important information available is provided to the user.
- Scope – the extent to which the information is not too narrow or too broad for the intended purposes.
- Credibility – the extent to which the information comes from a credible source and is trustworthy.
- Timeliness – the extent to which the information is current and is provided to the user with minimal response time.
- Pervasiveness – the extent to which information users are aware of existing information resources; the capability of the system to provide useful information in a format and in time for use by educational decision makers.
- Efficiency – the extent to which the system is sensitive to the information needs of various user groups and is efficient in providing information resources.
- Cost-effectiveness – the extent to which the system provides the needed information at lowest cost in personnel time, processing time, output formats, etc.

Each team would be responsible for various evaluation efforts; and a cross tab of their tasks would look something like this:

Evaluation effort	Quality control team	Consumer relations team	Producer relations team	Forecasting team	System management team
Internal validity	1*	2*	2		
External validity	1	2	2		
Reliability	1	2	2		
Objectivity	1	2	2		
Relevance	2	1	1	1	2
Importance	2	1	1	1	
Scope	2	1	2		2
Credibility	1	2	1		
Timeliness	2	1	1	1	1
Pervasiveness	2	1	1		
Efficiency	2	2	2		1
Cost-effectiveness					1

*1 = Primary responsibility 2 = secondary responsibility.

Multiple indices would have to be identified for the evaluation. Each sensing network team would devise data collection mechanisms and analysis procedures congruent with their functions. Much information on resources and needs would be available through the procedures and results of pre-implementation planning. These methods and results would be assessed for incorporation into the sensing network. Information collected and used by persons involved in making educational policy decisions, and in educational practice, research and development would be described in terms of sampling methodologies, survey measurement techniques, and statistics regarding the frequency of use of specific types of information by specific audiences identified in an audience typology. Such a documentation would be the primary responsibility of the consumer relations team assisted by the management team. Current information elements would be costed in relation to the costs of input into system, data aggregation (if necessary), storage, retrieval. and dissemination. This activity would be the responsibility of the management team.

The consumer relations team and the forecasting team would evaluate market survey procedures to determine the discrepancy between information needs and current resources. Priority areas would be identified and discussed with the producer relations team in order to develop plans to reduce the discrepancies between needs and resources. It is not reasonable to assume that needs can be assessed on a global scale covering all user types and information utilization needs by using the same sampling and data gathering techniques. Once a user typology has been derived the data needs, sampling plans and data collection instruments and techniques should be specified for each type of user. Then assessment would be made of the duplication of data collection efforts and the feasibility of methods. And it would be the task of the consumer relations team and the producer relations team to devise mechanisms to insure that current priority information needs be determined and met, and that future needs be predicted through the work of the forecasting team.

The identification and description of alternative methods by which future needs are assessed would be the prime function of the forecasting team (with some assistance from the consumer relations team). Its education and social science experts would use the information provided by the consumer relations team to predict future needs and determine the ways by which alternative needs are studied. The group should include industrial philosophers as well as technical experts who are familiar with the standard techniques of extrapolation, scenario writing, Delphi methodology, and morphological growth analysis. An important aspect of their work would be evaluation of the guiding predictions to show how we can have more knowledge about the future; to relate predictions to action; to predict 'values'; and to identify errors of prediction. The management team would have to develop non-survey indices of the utilization of the system. Then predictions could be made regarding the areas of education which will increase in activity and those which will decrease. Such information would be used by the consumer relations and forecasting teams to determine the validity of trends of information usage. The producer relations team would have to maintain a file of information producers categorized by information topic areas. Then these data could be used to predict increases or decreases in the quantity of specific types of information production.

The consumer relations team would have to determine alternative methods of facilitating information users' interaction with the information system. One part of its personnel would be a public relations group whose task is to identify and interact with client groups which have potentially high impact on educational planning and practice (e.g., legislators, related governmental service agencies, major industrial associations, etc.). The personnel of this team must be selected with great care, since its activities are crucial to the success of the information dissemination and utilization system. The importance of the activities of the consumer relations team in the sensing network cannot be stressed too highly. No matter how well the information system is planned, it will fail unless the users feel that the system is responsive to their needs and can predict needs even more successfully than those operating the system – so that when problems and policy questions arise, appropriate, accurate information for their study and resolution is ready for use.

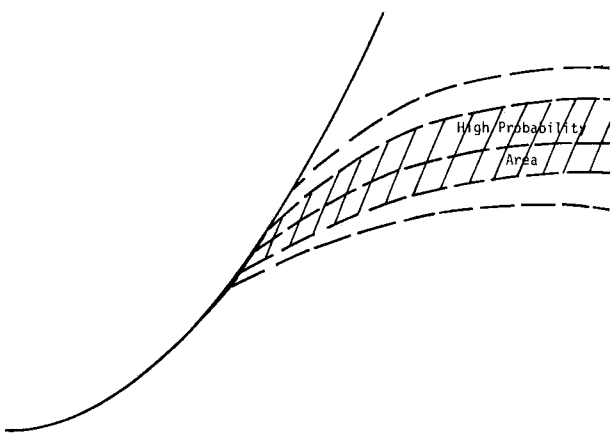
Forecasting Future Needs

We have already mentioned briefly that one requirement for the information system's sensing network is the ability to forecast future information needs. In practice this turns out to be an extremely difficult problem. Problem-solving efforts in education are generally focused on current situations. For curriculum revision, for example, we do a needs assessment in terms of the performance of learners in our school system at this time, or of the competencies displayed by their current teachers, we decide upon the priorities of remedial programs or changes of program emphasis in terms of the expected budget this year and (at most) one year forward. Operating on this basis we set goals, devise plans for meeting them, and develop related programs. But by the time the programs are ready to operate the situation is already changing. Our systems seem to be capable of operating upon a set of problems which existed one or two years ago, but the problem solutions are obsolete even before they begin to operate. This we have referred to as the out-of-kilter time problem.

People operating at the strategic planning level, those who are setting policy and determining what the relationships of the educational system will be with its environment at dates in the future, need to operate with some understanding of the conditions which will exist in the future. How can the forecasting team provide this understanding? Can it succeed (better than most educational planners have in the past) in describing the conditions which will exist two, five, or ten years hence? How can we know what kinds of educational information the teachers, principals, researchers, planners, and other professionals in the field will need at future dates? There is no way to be absolutely certain, of course. But there are better forecasting techniques available than have been commonly used by school systems in the United States. One example is given in the logical, straightforward system used by the Organization for Economic Cooperation and Development in the background work for its book *Information in 1985.*[2] The OECD system combines three approaches to forecasting: extrapolation, scenario writing and morphological analysis.

Extrapolation. This method consists of predicting the future as a continuation of trends which have been observed in the past. They are generally used to predict enrollment and *Educational Planning* frequently publishes articles assessing the statistical methods which can be reviewed by reference to a number of textbooks. Let us suppose that we devise some measure to determine for a number of years in the past the amount of information on new educational products used by the average classroom teacher to guide his instructional activities. The amount of information undoubtedly has increased (both because of the demands on teaching as society becomes more complex, and because the volume of available educational products has grown). But what is the nature of the increase? Can it be defined as a simple linear function? Is it an exponential curve? Is it a logistic curve? In order to extrapolate we need to decide which form of curve is appropriate. One can generate a range of expectation by altering the parameters of the curve. For example, the curve may currently appear to be exponential, but we may not be willing to assume that it will continue in this fashion, and so make various estimates of where inflection points will occur, where the curve will become logistic. This would generate the type of forecast shown in Figure 2 where we have different forecast areas within the extrapolated curve.

Figure 2 PROBABILITY SPACE RELATED TO DIFFERENT INFLECTION POINTS



Such extrapolations could be used for each type of educational information, or in combination for the total educational information needs. The method is valuable; its difficulty is its inability to take into account major environmental or historical changes which will affect the curves in ways not accounted for by the past trend. Its chief weakness, however, is a political not a technical one. Because the distant future cannot be predicted precisely, decision makers prefer to ignore it. The coordinated planning which requires that individual group, institution, system, state or regional interests be modified for the good of the 'whole' is never easy. It can only be achieved if it is evident that the trade-offs *must* be made – either because the policy need is very pressing or because some higher authority *requires* it. With the highly decentralized type of educational system of the United States there is no 'higher' authority.

An interesting example of this error-producing phenomenon is the current over-supply of trained teachers in the United States. In the decades following World War II, there was always a teacher shortage. As the population increased, larger numbers of pupils entered the schools each year and teacher training institutions simply could not keep up with the demand. Year by year they enlarged their capability, acting as though the increase in student population would continue indefinitely. However, in the 1960s, birthrates declined and the rates of population increase diminished. No great insight was needed to predict the eventual actual decrease in school enrollment. In fact at the national, and even at the state level in many parts of the country, there were demographers and planners producing population and enrollment forecasts which showed the emerging decline with quite reasonable accuracy. But they were ignored – ignored not only by the administrators of school systems but also by those who run teachers colleges and other institutions of higher education. As a result we have an over-extended higher education system churning out new young teachers who cannot find jobs. But, even had the warning been heeded, what policy mechanism was there to ensure that the teachers colleges would only expand *temporarily* so that contraction would then be easy? What controls are there which will not allow the ambitious institution to build its empire in a time of boom? What allocation system do we have to ensure that during the time of bust the marginal institutions do not go out of existence so that we end up with fewer but larger colleges of education in a limited number of large universities?

Scenario Writing. Another approach to forecasting future information needs would be to seek the opinions of, and develop consensus among, leading experts. One would gather views from a group of persons, across the country, respected for their understanding of how education operates, what information is used, how it is used and how it should be used; what changes in U.S. society are likely to occur in a stated future period, what changes in education are likely to result from these, and how all of these changes will affect the needs for information about education.

For example, in the years ahead it might be expected that computer technology will develop to the point that some type of computer-assisted instruction (or computer-managed instruction) will be central to all educational process. For example, it might be expected that such developments as holography will make instruction by computer much more effective in various ways that it can be today. For example, there may be important new developments in educational television; the current requirement that future cable systems have two-way channels dedicated to education could greatly affect the way educational experiences are delivered. For example, the tremendous growth in the so-called 'knowledge industry' will probably have radical effects upon the pre-

employment education before people begin their careers and their revision education as they proceed through career life. This type of insight by experts can help us define what information of the future will be needed, and they will not be mere extrapolation of what we now have.

Not only must the leading issues be identified and opinions expressed, there must be some method of setting up dialogue between groups of experts, of reconciling differences, and achieving consensus. The OECD used a set of Delphi surveys. In the Delphi process, first the major questions are identified, then the expectations of each participant with regard to the issues are determined; then the results are aggregated, central tendencies and variances computed, and outcomes reported back to participants. The process can be carried out in such a way as to permit participants, from time to time, to defend their views and choices. In this way the reasons for difference can be understood. At various points, a second round of voting occurs so that participants can shift their 'positions'; the results are processed, fed back to particpants and the cycles repeated. Usually consensus develops – there is a merging of opinion as the participants follow the reasoning and responses of their colleagues.

Of course, there are many different audiences for educational information. Few will be 'expert' in many aspects of the field. There are groups of experts specialized in different sub-parts of the enterprize. It is likely, therefore, that several Delphi surveys will be needed. From the consensus of the experts a number of scenarios of different aspects of the future can be built. The underlying assumptions will have to reflect uncertainty. As with extrapolation, the end result will be to define areas of probable outcomes. But in our opinion, the generating of scenarios about the future (based on expert opinion) has some advantages over extrapolation. The experts have some notion of the kinds of influence likely to be brought into play in the future, but not currently existing. They can exercize their other human qualities of intuition, imagination, judgement and insight which are not included in mathematical equations. The weakness is that they will allow their convictions to upset their judgement. Mathematical rigour exercizes a control unmatched by the group of experts. Experts often are wrong. They, too, can be captives of their own knowledge of the past. And today's experts, unlike Renaissance man, are so specialized that their very knowledge is a handicap – they cannot see the woods for the trees.

Morphological Analysis. A third approach to forecasting uses what the OECD calls "morphological analysis". Information is regarded as a basic resource rather than as an input or output in the R&D sense. Information is defined formally as the essential link between activities (of which there is a large variety, both intellectual and material). Like other resources, for progress to occur it must be made available and used. The problem is to identify where the resource is needed, i.e., where the linkages will be. One, therefore, must look, systematically, at all the types of linkage, which can be identified, which may occur. This involves first identifying the classes of possibilities and constraints which may apply generally in education in the future and then looking at elements within the classes. By listing these and systematically considering their information linkages, a wide range of possible information needs can be generated. This set may be quite different from those which would be shown through extrapolation or the creation of scenarios.

Let us suppose, for example, that the generic categories of possibilities and constraints in education include objectives, tools, institutions, resources, values, and individuals. First we would subdivide the generic categories in some manner such as the following:

Objectives

- Quality of life
- Standard of living
- Availability of alternatives
- Liberation
- Participation
- Space

Tools

- Concepts
- Models
- Theories
- Explanation
- Utilization analysis
- Forecasting
- Control

Institutions

- Early childhood education
- K-12 educational institutions
- Higher education
- Community and continuing education
- State departments of education
- U.S. Office of Education

Resources

- Technology
- Programs
- Physical science
- Social Science
- Information
- Telecommunications

Values

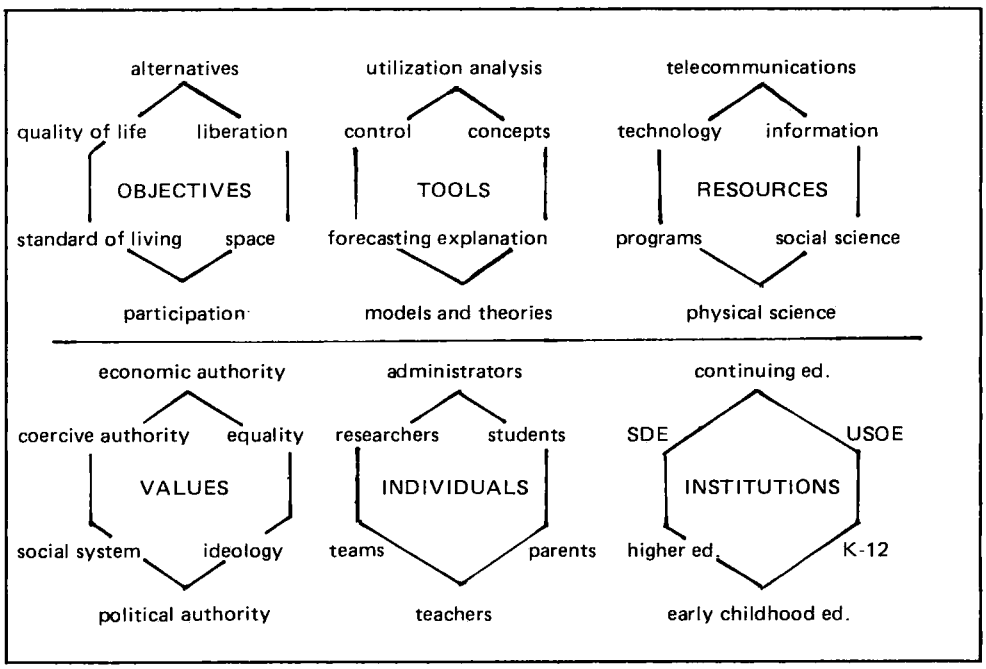
- Political authority
- Economic authority
- Coercive authority
- The social system
- Ideology
- Equality

Individuals

- Students
- Teachers
- Parents
- Researchers
- Administrators
- Multi-disciplinary teams

The question becomes: "What kind of linkages (information) are required between the elements of these generic categories?" There may be a link, for example, between quality of life and the work of the multi-disciplinary teams. This set could be shown graphically (as in Figure 3) as six hexagonals, each representing a generic category, with the points of each hexagonal representing a subcategory. Connecting all points within and between hexagonals generates the range of possible linkages. Even in this simple model there are 630 theoretically possible combinations. In reality the system is much more complex; there are literally thousands of links to be explored with a view to the likelihood of their being important in the future. Computer analysis is necessary because of the burden of work. However, following this method provides a very specific and comprehensive way of examining the large range of possibilities which, according to the best of our current logic, may occur in the future. When this has been done, probability areas can be constructed.

Figure 3 CATEGORIES AND SUBCATEGORIES OF POSSIBILITIES AND CONSTRAINTS



Conclusion

In spite of a great deal of interest in the design and implementation of information systems for education, and a great deal of investment in such systems by educational authorities in the United States, their impact has been disappointing. We think this arises primarily because they lack a sensing network which would make them more readily useful. Moreover, the sensing network must not only be capable of letting the system know how to provide appropriate information for current use but also to anticipate as yet undefined information needs. Crucial for this aspect of the information system's role is a precasting team. If they use all three types of technique reviewed in this paper they will generate three areas of probable outcomes for the future, and the question becomes the degree of overlap among them. The methods have strengths and weaknesses. However, it seems reasonable that their overlap, the probability space common to all three, represents the most likely future. Is such a forecasting system too clumsy and expensive to employ? We think it is not too expensive, not all forecasts would be done each year, but the yearly cycle would provide for periodic revisions. And the results could be plotted and compared with those of earlier years. To the best of our knowledge, in the United States, the attempts to define future educational information needs have never used such a forecasting system. Without it and a forecasting team such as we have envisaged, the building of large scale educational information systems will continue to have few successes.

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R.W.B. Jackson*

CANADIAN CHILDREN ON THE MOVE: INTERNATIONAL AND INTERPROVINCIAL MIGRATION IN CANADA

We are a restless people, and our children of course move with us. Many come to us from other lands (more than four and one-quarter million immigrants have come to Canada in the last 30 years), and after a short or long stay a substantial number move on to other countries or return to their homeland. And we move, ceaselessly like the tides, it would seem, from province to province: in August, 1976, alone, approximately 11,600 children under 18 years of age migrated from one province to another, and just about the same number had moved the month before, i.e. in July. For the educational planners in any province, or particular region of a province, the problem is more or less doubled in magnitude in any given month or year. We do not know in advance how many children of school age will enter Canada or leave it, nor how many children of school age from other provinces will transfer into or out of our province, so we find that we had provided for those who left but must then also provide for those who come. Not surprisingly the 'outs' and 'ins' never fully match, geographically or in number, and vacant desks and empty classrooms not being as mobile as the children, we have both under-utilization and over-utilization of physical facilities and human resources.

This paper will present some salient features of the migration picture, with special reference to the Atlantic provinces. Attention is focussed primarily on the children and some of the educational implications of the patterns which emerge.

International Migration

The picture of successive waves of immigrants to Canada during the 30 years since the end of World War II is shown in Table I. Note the evident absence of any consistent national immigration policy, as the numbers fluctuate wildly from year to year in a weird cyclical pattern of highs (1951, 1957, 1967, and 1974) and lows (1947, 1950, 1961). The only real consistency may be found in the age distributions of the immigrants: young men and women who move directly into the labour force, substantial numbers of their parents, and a steady flow of their children under 18 years of age.

As shown in Table 2, these New Canadians do not spread themselves evenly across our country, but cluster in Quebec, Ontario, Alberta, and British Columbia (this is as true now as it was in the year of the 'deluge', 1957). As two points of particular concern, note the small numbers heading for the Atlantic provinces, and the fact that in recent years *more* immigrants are going to British Columbia than to Quebec despite the great difference in the base populations of these two provinces (in 1976 there were about two and one-half persons in Quebec for every one in British Columbia). Small comfort as this may be to the provinces gaining so little or so much, at least the immigration pattern, in this respect, has been consistent over the years.

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Of considerably more concern, certainly from an educational point of view in light of the problems and influences of language and culture, is the very dramatic change over the years (more marked recently) in the country of origin of the immigrants. The figures must be interpreted with considerable care since (as may be seen from Table 3) only the "country of last permanent residence" is recorded. But the significance of the extraordinary move from primarily European (89 percent) in 1957 to primarily non-European (79 percent) in 1975 cannot be overlooked. Whether this has occurred as a result of deliberate government policy is not known, but we would indeed be surprised to learn that this had been the case.

The language spoken by immigrant children when they first enter our schools is a very significant educational factor. Statistics Canada has just released a report entitled *Interprovincial and International Migration of Children in Canada*[1] which gives some of the relevant figures for recent years and for the first time, certain international data. Table 4 is taken from that report. It gives a most revealing scenario of immigrant children under 18 years of age for the years 1968-69 to 1973-74. For the Atlantic provinces the vast majority of these children speak English, very few speak French or are bilingual, English and French, but quite a large minority speak neither of Canada's official languages. The situation for Quebec is amazing: French-speaking children constitute the smallest immigrant group, more than one-third (nearly 40 percent in some years) speak English and the largest group (nearly 50% in some years) speak neither French nor English. Ontario has received basically two groups: Over half speak English, the rest speak neither English nor French. The Manitoba picture is almost identical with that for Ontario. The other three western provinces show a very different pattern: up to two-thirds (sometimes more) speak English, practically none speaks French, from one-quarter to one-third speak neither English nor French.

It would be an understatement to conclude that our schools face a language problem, and that Quebec schools are in something of a crisis situation in view of their objective to maintain and strengthen French language and culture. We should pay considerably more attention to these language problems in the immediate future, and considerably less to the political hot-potato of bilingualism (i.e., the learning of English *and* French). If we accept as valid the pedagogical principle which (in our youth) we were solemnly taught as a universally accepted truth – that a child's school instruction should begin in his mother tongue – then we face an educational problem of staggering magnitude and complexity. And as we muddle along, without much planning, we should recognize another bitter, hard-to-answer question: what do we do about language learning in the education of the children of our own minorities, the American Indians and the Inuit?

Now, let us briefly consider the matter of *net* international migration, by provinces, of children under 18 years of age. We finally have some definite information provided by the publication referred to above. The relevant figures for the last seven years are reproduced in Table 5; a total for each province for the period has been calculated and added to the table, together with a column showing the percentage each year, and for the seven years, remaining in Ontario (generally 60% or higher of all the immigrant children). Newfoundland has been a steady loser throughout the period. The remaining three Atlantic provinces lost steadily for four years but have gained during the past three years. The situation in Quebec has been mixed: two years of losses, three years of small gains, then substantial gains in the final two. Ontario gained a steadily increasing propor-

tion till 1971-72 and substantially thereafter, for a seven-year total of 120,010 children. Manitoba has shown modest but steady gains throughout these years; Saskatchewan gained very few, even losing one year and barely breaking even in others. Alberta, like Manitoba, gained steadily over the period and at about twice Manitoba's rate every year. Next to Ontario, British Columbia has gained the most, averaging about 5,500 children per year as compared with 17,100 for Ontario. For Canada as a whole, the average net gain per year was close to 28,000 children – a substantial number to cope with each year.

In summary, international migration is not a major factor in population growth in the Atlantic provinces. Such a conclusion is supported by analysis of the census returns, over the years, which show the population by place of birth; e.g. in 1971 only 1.7 to 4.7 percent (see Table 6) of the population of these provinces were born outside Canada. The small number of immigrants poses only a minor problem in terms of language and culture; for the school system the impact is generally negligible although specific parts of each Atlantic province may be affected.

Interprovincial Migration

Of far more significance for the planning of our schools is the ceaseless flow of families across our provincial boundaries. Unfortunately, we can report only total flows although we are well aware that some individuals and families move frequently and consequently are counted more than once in our records. However, this flaw in the data, frustrating as it may be, will not affect the *net* flows, at least not in the long run. The census taker does, in fact, catch and fix them in time and place every decade. For the 1971 census birthplace was recorded and reported for each person counted, and for those 5 years of age and over a direct reference was recorded to place of residence at the previous census (i.e. in 1966). Summaries of these data, by province and relevant categories of birthplace, are shown on Table 6, and classified as Non-Migrant or Migrant in Table 7. Taken together these two tables give a rather complete picture of our origins and patterns of movement. Later tables will deal in some detail with the *interprovincial* migration factor, which appears in total form for the 1966 to 1971 period in the second-to-last column of Table 7.

Another, perhaps clearer, aspect of migration as of June 1, 1971, is revealed in the columns of Table 6 under the headings "Canada" and "Same Province". For the Atlantic provinces (and Quebec, too, for that matter) the population primarily has been born in Canada, and for the most part within the same province. Very few come from other countries, but for three Maritime provinces between 11 and 12 percent come from other Canadian provinces (the pattern for Quebec is reversed, more from other countries than from other provinces).

For Ontario the pattern abruptly changes, and then it largely holds for the whole of the West. Saskatchewan differs somewhat. The Yukon and North West Territories present a uniquely different pattern. Note, in particular, Ontario and British Columbia, where so many of the population were born outside of Canada. They are equivalent in terms of those born outside (and inside) Canada, but they reveal marked differences in the proportions born in the same province or other provinces. In some respects Alberta occupies an intermediate position: again we find a high proportion born in other provinces and outside of Canada. These patterns should be borne in mind, when, later, we consider detailed figures on the interprovincial migration of children revealed in the Family Allowance records.

A direct, and fairly exact, assessment of migration for the 5-year period 1966 to 1971 (the two census years) is given in Table 7, extracted from the 1971 Census reports. Before attempting to assess the figures, the reader should carefully study the definitions of "Migrant", "Non-Migrant", and "Non-Mover" given in the footnotes to the table and remember that these refer to two snapshots taken on June 1, 1966, and on June 1, 1971 without reference to moves in-between. The picture for the Atlantic provinces is clear enough: few had come from other countries and relatively few from other provinces; about 10 percent had moved from another municipality in the same province; but the striking feature is the tendency to remain in the same municipality and, for over 60 percent, in the same dwelling in the same municipality. In Quebec the situation is very similar, with somewhat fewer in the same dwelling and considerably fewer from other provinces. The population of Ontario, Alberta, and British Columbia move far more. Again the Yukon and the North West Territories have a pattern unlike that of any other part of Canada. As a pointed summary in the provision of a residence-related public service such as schooling, note that for Canada as a whole about one-half of us had not changed residence, about one-quarter had moved within the same municipality and, of the remaining one-quarter, more than one-half had moved from other parts of the same province, with the rest about evenly split between other provinces and other countries.

Now let us turn to the children and the flows within Canada as revealed by the statistics on Family Allowances. Table 8 gives a summary of the net interprovincial migration of children in receipt of Family Allowances for the 25-year period 1951-52 to 1975-76. *Net* figures are reported as positive or negative, being calculated as the difference between the number of children received from other provinces and the number going to other provinces from the particular province under consideration. While the same children may be counted several times, within a year or over several years even within the same province, this does not affect the validity of the net gains and losses as shown.

In terms of trends or patterns, the reader should note the very marked changes (in sign as well as in magnitude) which have occurred during the past two or three years. Apart from this the picture for the four Atlantic provinces is rather gloomy – steady, and on occasion substantial, losses year after year with but a few exceptions. For the quarter-century, Newfoundland lost in total 18,736 children (749 per year), Prince Edward Island 3,993 (160), Nova Scotia 30,879 (1,235), and New Brunswick 18,589 (744). Quebec also lost heavily and consistently (60,391; 2,416 per year). Ontario gained handsomely (91,397; 3,656 per year). Manitoba lost badly (49,008; 1,960 per year) but Saskatchewan lost worst of all (83,691; 3,348 per year). Alberta swung from gains and losses to gains again for a net gain (24,400; 976 per year), and British Columbia gained tremendously (143,077; 5,723 per year). The patterns have just recently been reversing themselves with the Atlantic provinces, Saskatchewan, and Alberta gaining, Quebec and Manitoba showing no change (still moderate losses), Ontario swinging violently from heavy gains to heavy losses, and even British Columbia suffering a loss in 1975-76 (the first since 1958-59, and only the second loss in 25 years).

This reversal of long-term trends was not anticipated by demographers and has been causing some concern to the educational planners in the provinces most heavily affected (e.g. Ontario and British Columbia). However, possibly we are at another turning point. Recent economic trends might well foreshadow an early return to the long-term patterns of interprovincial migration. The key provinces in the mystery are Ontario and British Columbia, with Alberta (and possibly Saskatchewan) beginning to play a major role as well.

In Table 9, we have focused attention entirely on recent developments in the four Atlantic provinces. The net interprovincial migration figures are shown by quarters; the months June to August or September seem to be the favourite ones for moving children, i.e. between school years. These figures give one reason to suspect that the net gains for the Atlantic provinces may have peaked and are now on the decline, possibly soon to move once more into the negative position. It is too soon to tell, but this possibility must certainly be kept in mind in long-term planning for educational programs and in the development of projections of school enrollment for these provinces. The writer has not studied the patterns for the other provinces in such detail, but the figures in the last column of Table 10, for June, July, and August of 1976, definitely indicate that the situation is pretty unstable.

The other, and indeed the major, purpose of preparing sets of figures like those in Table 10 is to warn educational planners of the magnitude of the flows back and forth across provincial boundaries which result in the *net* migration figures used so freely in earlier discussions. For each province for each month, we have shown, in order, the total number of children under 18 years of age entering, the total number of children leaving (who will be *different* children), the sum of these two (called the gross migration) which is in a sense a true measure of the total flow of children (educators please note), and finally the difference between the two, which is defined as net migration. The reader should note that there need be, and generally is, no relationship between the size (or sign) of the net migration and the gross migration. Educational planners must take both measures into account: gross migration in terms of immediate demand, and net migration in terms of the long-term trend in demand.

REFERENCES

1. *Interprovincial and International Migration of Children in Canada.* Statistics Canada. Catalogue 81 - 216, Annual.

Table 1 IMMIGRANT ARRIVALS IN CANADA, 1946 to 1975

Year	Arrivals	Year	Arrivals	Year	Arrivals
1946	71,719	1956	164,857	1966	194,743
1947	64,127	1957	282,164	1967	222,876
1948	125,414	1958	124,851	1968	183,974
1949	95,217	1959	106,928	1969	161,531
1950	73,912	1960	104,111	1970	147,713
1951	194,391	1961	71,689	1971	121,900
1952	164,498	1962	74,586	1972	122,006
1953	168,868	1963	93,151	1973	184,200
1954	154,227	1964	112,606	1974	218,465
1955	109,946	1965	146,758	1975	187,881

Total arrivals in 30 Years: 4,249,309)

Children under age of 18 years normally constitute 25% to 30% of total arrivals during this period

Table 2 IMMIGRANT ARRIVALS IN CANADA, 1957 AND 1971 TO 1975, BY PROVINCE OF INTENDED DESTINATION

	YEAR					Base Year (1)
Province	1971	1972	1973	1974	1975	1957
Newfoundland	819	686	984	1,036	1,106	495
P.E.I.	172	175	273	311	238	134
Nova Scotia	1,817	1,872	2,548	2,601	2,124	2,789
New Brunswick	1,038	1,301	1,729	2,207	2,093	1,674
Quebec	19,222	18,592	26,871	33,458	28,042	55,073
Ontario	64,357	63,805	103,187	120,115	98,471	147,097
Manitoba	5,301	5,262	6,621	7,423	7,134	11,614
Saskatchewan	1,426	1,511	1,866	2,244	2,837	4,427
Alberta	8,653	8,390	11,904	14,289	16,277	21,131
British Columbia	18,907	20,107	27,949	34,481	29,272	37,528
Yukon & N.W.T.	183	305	268	300	290	202
Canada	121,900	122,006	184,200	218,465	187,881	282,164

(1) Number of children under 18 years of age immigrating was 74,197.

Table 3 IMMIGRANT ARRIVALS IN CANADA, 1957 AND 1971 TO 1975, BY COUNTRY OF LAST PERMANENT RESIDENCE

Country	1971	1972	1973	1974	1975	Base Year 1957
United Kingdon and Ireland	16,281	18,317	28,102	39,748	36,076	114,347
France	2.966	2,742	3,586	4,232	3,891	N/A
Germany	2,275	2,025	2,564	3,621	3,469	28,430
Netherlands	1,301	1,471	1,898	2,103	1,448	11,934
Greece	4,769	4,016	5,833	5,632	4,062	N/A
Italy	5,790	4,608	5,468	5,226	5,078	27,740
Portugal	9,157	8,737	13,483	16,333	8,547	N/A
Other Europe	9,294	8,871	10,949	11,799	10,327	67,773
Total Europe	35,552	32,470	43,781	48,946	36,822	135,877
Total Europe & UK and Ireland	51,853	50,787	71,883	88,694	72,898	250,224
Asia	22,369	23,831	43,193	50,566	47,382	N/A
Australia	2,906	2,148	2,671	2,594	2,174	N/A
West Indies	10,843	8,214	19,180	23,670	17,800	N/A
United States	24,366	22,618	25,242	26,541	20,155	11,008
Other Commonwealth	—	—	—	—	—	7,383
Other Countries	9,583	14,408	22,031	26,400	27,472	13,549
TOTAL	121,900	122,006	184,200	218,465	187,881	282,164

Table 4 PERCENTAGE OF INTERNATIONAL IMMIGRANTS UNDER 18 YEARS OF AGE, BY OFFICIAL LANGUAGE(S) SPOKEN AND BY PROVINCE OF DESTINATION, 1968-1974

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Total
						per cent						
1968-69:												
English	82.0	78.3	73.2	63.6	28.2	48.8	50.1	61.3	61.9	57.8	50.0	48.5
French	1.3	–	0.2	1.3	23.9	1.7	1.9	0.9	1.7	0.9		5.4
English and French	–	–	–	3.0	1.5	0.1	0.1	0.1	0.2	0.1	–	0.4
Neither English nor French	16.7	21.7	26.6	32.1	46.4	49.4	47.9	37.7	36.2	41.2	50.0	45.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1969-70:												
English	76.4	74.0	73.6	77.0	33.1	53.5	55.7	68.0	63.5	61.9	75.0	53.4
French	11.0	–	2.2	1.5	18.5	0.8	1.4	0.7	2.1	0.5	–	3.5
English and French	–	–	0.7	3.3	2.0	0.2	0.1	0.2	–	0.1	–	0.5
Neither English nor French	22.6	26.0	23.5	18.2	46.4	45.5	42.8	31.1	34.4	37.5	25.0	42.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1970-71:												
English	78.3	93.3	76.6	76.2	34.0	55.0	51.8	70.8	66.9	62.8	75.6	55.0
French	0.4	–	1.1	2.6	16.3	1.2	1.4	1.2	1.8	0.6	–	3.3
English and French	–	–	0.2	2.3	1.3	0.2	–	–	0.1	0.3	–	0.3
Neither English nor French	21.3	6.7	22.1	18.9	48.4	43.6	46.8	28.0	31.2	36.3	24.4	41.4
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1971-72:												
English	85.9	95.2	82.1	80.9	37.3	55.1	51.0	69.0	67.4	64.5	80.0	56.0
French	1.1	–	0.8	2.5	12.1	0.8	1.1	–	1.6	0.6	–	2.4
English and French	–	–	0.5	4.3	2.4	0.2	0.1	0.2	0.1	0.1	–	0.5
Neither English nor French	13.0	4.8	16.6	12.3	48.2	43.9	47.8	30.8	30.9	34.8	20.0	41.1
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1972-73:												
English	87.1	79.0	83.0	73.4	39.5	57.7	47.3	73.1	64.4	62.3	79.8	57.4
French	–	–	0.9	2.5	15.2	1.0	0.9	–	0.9	0.3	1.1	2.6
English and French	–	–	–	10.5	2.8	0.2	0.1	–	0.2	0.2	–	0.6
Neither English nor French	12.9	21.0	16.1	13.6	42.5	41.1	51.7	26.9	34.5	37.2	19.1	39.4
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1973-74:												
English	81.9	97.6	84.2	65.7	38.5	57.0	53.1	75.0	64.1	63.1	80.4	56.7
French	0.9	–	1.0	2.2	18.9	0.8	0.6	–	0.8	0.6	1.6	3.2
English and French	–	–	0.6	24.0	4.1	0.2	0.1	–	0.1	0.4	–	1.1
Neither English nor French	17.2	2.4	14.2	8.1	38.5	42.0	46.2	25.0	35.0	35.9	18.0	39.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Data for 1974-75 were not available. –

Source: Data obtained from Department of Manpower and Immigration, Canada.

Table 5 NET INTERNATIONAL MIGRATION OF CHILDREN UNDER 18 YEARS OF AGE, 1968-1975

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Ont. %
Total (7 years)	- 3,147	- 11	1,085	327	12,185	120,010	60.7
1968-69	- 201	- 54	- 167	- 698	1,722	13,501	60.5
1969-70	- 101	- 50	149	- 431	309	13,995	64.2
1970-71	- 279	- 55	- 26	- 235	- 925	11,070	69.6
1971-72	- 316	- 58	- 109	- 123	- 999	9,845	68.9
1972-73	- 67	38	247	215	933	15,696	60.3
1973-74	- 1,274	85	381	757	4,842	25,703	58.9
1974-75	- 909	83	610	842	6,303	30,200	56.1

	Man.	Sask.	Alta.	B.C.	N.W.T.	Total
Total (7 years)	9,527	1,831	17,400	38,193	427	197,827
1968-69	1,312	287	2,355	4,228	28	22,313
1969-70	1,206	110	2,104	4,448	48	21,787
1970-71	1,064	- 86	1,795	3,535	41	15,899
1971-72	899	45	1,654	3,404	45	14,287
1972-73	1,162	175	2,155	5,401	89	26,044
1973-74	1,690	563	3,251	7,572	61	43,631
1974 75	2,194	737	4,086	9,605	115	53,866

Sources described on previous table.

Table 6 BIRTHPLACE OF TOTAL POPULATION, BY PROVINCES, CENSUS 1971

Province		Total Population	Birthplace			
			Canada	Same Province	Other Provinces	Other Countries
Newfoundland	No.	522,105	513,160	496,390	16,770	8,945
	%	100.0	98.3	95.1	3.2	1.7
Prince Edward Island		111,640	107,935	94,855	13,080	3,705
		100.0	96.7	85.0	11.7	3.3
Nova Scotia		788,960	751,770	661,480	90,290	37,190
		100.0	95.3	83.8	11.5	4.7
New Brunswick		634,555	610,825	538,875	71,950	23,735
		100.0	96.3	84.9	11.3	3.7
Quebec		6,027,765	5,558,835	5,302,580	256,260	468,925
		100.0	92.2	88.0	4.2	7.8
Ontario		7,703,105	5,995,710	5,209,870	785,835	1,707,400
		100.0	77.8	67.6	10.2	22.2
Manitoba		988,250	837,000	702,035	134,965	151,250
		100.0	84.7	71.0	13.7	15.3
Saskatchewan		926,245	815,555	709,845	105,710	110,690
		100.0	88.0	76.6	11.4	12.0
Alberta		1,627,875	1,345,615	1,003,095	342,520	282,260
		100.0	82.7	61.6	21.0	17.3
British Columbia		2,184,620	1,687,965	1,056,165	631,795	496,660
		100.0	77.3	48.4	28.9	22.7
Yukon		18,390	15,845	5,720	10,130	2,545
		100.0	86.2	31.1	55.1	13.8
North West Territories		34,805	32,560	21,565	10,995	2,245
		100.0	93.5	62.0	31.6	6.5
Canada	No.	21,568,310	18,272,789	15,802,480	2,470,300	3,295,530
	%	100.0	84.7	73.3	11.4	15.3

Table 7 MIGRATION OF POPULATION 5 YEARS OF AGE AND OVER, FOR THE PERIOD 1966 TO 1971, BY PROVINCES

Province		Total Population	NON-MIGRANT[1]		MIGRANT			
			Non-mover	Move within same municipality	Total[2]	From same province	From different province	From outside Canada
Newfoundland	No.	459,425	302,610	77,440	79,380	55,590	13,585	4,040
	%	100.0	65.9	16.9	17.2	12.1	3.0	0.9
P.E.I.		101,250	67,300	14,375	19,575	8,315	8,470	1,505
		100.0	66.5	14.2	19.4	8.2	8.4	1.5
Nova Scotia		713,225	435,020	139,710	138,485	69,010	46,165	13,145
		100.0	61.0	19.6	19.4	9.7	6.5	1.8
New Brunswick		573,920	355,135	112,560	106,230	53,100	36,890	9,015
		100.0	61.9	19.6	18.6	9.3	6.4	1.6
Quebec		5,541,620	3,062,875	1,354,300	1,124,430	835,750	77,985	137,620
		100.0	55.3	24.4	20.3	15.1	1.4	2.5
Ontario		7,055,450	3,578,860	1,711,670	1,764,915	994,890	241,175	438,610
		100.0	50.7	24.3	25.0	14.1	3.4	6.2
Manitoba		900,375	487,945	213,995	198,440	97,895	56,900	31,515
		100.0	54.2	23.8	22.0	10.9	6.3	3.5
Saskatchewan		846,365	498,630	171,010	176,725	118,830	36,355	11,730
		100.0	58.9	20.2	20.9	14.0	4.3	1.4
Alberta		1,474,130	715,200	358,025	400,900	190,470	127,555	59,880
		100.0	48.5	24.3	27.2	12.9	8.7	4.1
British Columbia		2,005,860	856,655	456,480	692,720	340,065	194,195	114,690
		100.0	42.7	22.8	34.6	17.0	9.7	5.7
Yukon & N.W.T.		45,595	11,050	15,765	18,780	2,270	12,215	1,830
		100.0	24.2	34.6	41.2	5.0	26.8	4.0
Canada	No.	19,717,210	10,371,285	4,625,340	4,720,590	2,766,185	851,500	823,580
	%	100.0	52.6	23.5	23.9	14.0	4.3	4.2

1. If, in 1971, the person had resided in the same municipality in 1966, he was classified as a non-migrant, and if in same dwelling as a non-mover.

2. Includes migrants for whom residence in 1966 not stated.

Table 8 NET INTERPROVINCIAL MIGRATION OF CHILDREN UNDER 16 YEARS OF AGE (BASED ON FAMILY ALLOWANCES RETURNS)

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
1951-52	– 490	– 400	–1,382	–1,730	– 389	5,863	–1,658	–3,949	101	3,744
1952-53	– 9	– 343	–1,053	–1,139	–1,803	2,884	–1,481	–2,010	1,888	3,236
1953-54	– 99	– 430	–1,607	–1,431	–1,224	5,154	–1,205	– 108	897	2,392
1954-55	54	– 495	– 769	– 676	– 705	1,414	– 771	–3,142	– 370	3,471
1955-56	– 99	– 371	–1,860	–1,091	–1,836	5,334	–2,370	–5,345	–1,119	6,801
1956-57	– 385	– 489	–3,001	– 860	–1,959	5,331	–3,627	–6,266	–1,270	9,082
1957-58	– 548	– 14	–2,172	– 18	– 184	1,986	–1,589	–2,239	349	2,921
1958-59	– 374	84	–1,058	771	–1,057	1,359	– 376	–1,419	2,065	– 606
1959-60	– 415	70	–1,526	– 472	– 550	2,457	– 627	–3,378	2,344	1,539
1960-61	– 77	99	– 925	429	1,757	–1,103	– 253	–2,441	1,736	314
1961-62	– 18	418	–1,230	– 893	2,855	– 893	– 563	–3,490	2,032	1,293
1962-63	– 256	– 232	217	–1,426	242	593	744	–3,870	815	3,719
1963-64	– 965	– 229	–2,273	–1,655	– 208	4,445	–1,541	–1,685	–1,707	6,151
1964-65	–1,346	– 521	–3,307	–1,128	– 589	6,241	–2,889	–1,913	–2,576	8,419
1965-66	–2,465	– 517	–3,030	–2,760	–3,412	11,004	–4,746	–3,232	–4,386	14,012
1966-67	–2,052	– 387	–2,616	–2,497	–3,898	8,526	–4,360	–3,763	– 507	12,148
1967-68	–1,435	– 163	–1,185	– 925	5,391	5,035	–2,696	–2,753	1,516	8,177
1968-69	– 949	– 351	– 764	–1,791	–5,290	5,805	–2,409	–4,983	1,860	8,852
1969 70	–3,445	687	–1,783	–2,950	–10,322	18,335	–3,505	–9,334	1,932	11,614
1970-71	–1,795	– 43	–1,571	– 433	–10,500	15,323	–2,423	–7,884	1,201	7,511
1971-72	– 257	– 13	– 636	– 114	–5,612	4,693	–3,228	–6,307	484	10,817
1972-73	– 886	147	1,239	425	–4,737	167	–2,145	–5,231	733	10 407
1973-74	– 871	278	– 167	62	– 293	–1,335	–1,110	–2 176	1 897	4,250
1974-75	236	411	667	1,914	–2,316	–10,012	–2,253	1,044	6,506	3,838
1975-76	210	185	913	1,799	–2,970	–7,209	–1,927	2,183	7,979	– 1,025
Total (25 years)	–18,736	–3,993	–30,879	–18,589	–60,391	91,397	–49,008	–83,691	24,400	143,077
Average	– 749	– 160	–1,235	– 744	–2,416	3,656	–1,960	–3,348	976	5,723

Since January 1, 1974 includes 16 and 17 year olds with no taxable income; census year (June to May) used up to 1958-59, and July to June thereafter; up to 1964 the figures were partially incomplete.

Table 9 RECENT NET INTERPROVINCIAL MIGRATION OF CHILDREN UNDER 18 YEARS OF AGE, IN THE ATLANTIC PROVINCES

Year	Three Months Period	Nfld.	P.E.I.	N.S.	N.B.
1974	June to August	300	172	531	674
	September to Nov.	36	150	-238	500
1975	December/74 to Feb.	-108	79	312	375
	March to May	12	32	7	398
	June to August	233	71	566	802
	September to Nov.	144	98	293	648
1976	December/75 to Feb.	-103	- 12	102	425
	March to May	16	84	16	29
	June to August	26	73	228	365

Table 10 GROSS AND NET INTERPROVINCIAL MIGRATION OF CHILDREN UNDER 18 YEARS OF AGE: JUNE, JULY, AUGUST, 1976

Province	Month	In-migration	Out-migration	Gross migration	Net migration
Newfoundland	June	256	228	484	28
	July	383	344	727	39
	August	317	358	675	-41
Prince Edward Island	June	84	75	159	9
	July	157	107	264	50
	August	177	163	340	14
Nova Scotia	June	445	417	862	28
	July	739	771	1,510	-32
	August	849	617	1,466	232
New Brunswick	June	445	438	883	7
	July	647	442	1,089	205
	August	653	500	1,153	153
Quebec	June	620	926	1,546	-306
	July	1,025	1,262	2,287	-237
	August	942	1,571	2,513	-629
Ontario	June	1,858	1,962	3,820	-104
	July	2,476	2,996	5,472	-520
	August	2,726	3,206	5,932	-480
Manitoba	June	554	808	1,362	-254
	July	864	1,169	2,033	-305
	August	762	955	1,717	-193
Saskatchewan	June	731	613	1,344	118
	July	916	717	1,633	199
	August	938	509	1,447	429
Alberta	June	1,880	1,220	3,100	660
	July	2,583	1,557	4,140	1,026
	August	2,213	1,790	4,003	423
British Columbia	June	1,362	1,553	2,915	-191
	July	1,664	2,060	3,724	-396
	August	1,828	1,724	3,552	104

Ron Brandt and Betty Dillon*

PLANNING FOR STAFF DEVELOPMENT

Each day brings new evidence that schools are not accomplishing what someone expects of them. And each day someone expects something more. In the last few years in the United States we have been told that schools are archaic prisons in need of radical change and that schools are faddish, neglecting the basics. We have been convinced of a need for drug education, co-equal education, consumer education, environmental education, death education, aesthetic education, sex education, values education, and career education. We have been told we should teach more about technology, toothbrushing, television, and transcendental meditation.

Put that way, the situation may sound amusing. But there are sound reasons for schools teaching all those things – and lots of others. The problem is that schools have limited capabilities. If they try to do everything, they may not do anything well. Rather than rushing about like a juggler trying to keep plates spinning on too many sticks, school systems need to establish priorities and stick with them. Of course there must be periodic review, because circumstances change, and there must be widespread involvement, because people tend to ignore priorities set by somebody else. In this article we shall describe the planning cycle being used in the Lincoln, Nebraska, Public Schools, and explain the role of staff development in the total model.

Planning Cycle

Certain familiar events and activities mark the progress of the school year. Soon after school opens in the Fall, the football season begins and schools hold open house for parents. In mid-winter there is usually a brief vacation. In spring schools order supplies for the coming year. In June there are final examinations and graduation ceremonies. Another set of events could become just as familiar to citizens and staff members. They are stages in what we refer to as the planning cycle. The sequence (which is shown graphically in Figures 1 and 2) is approximately as follows:

Time	Phase	Who Does What
October-January	Assess needs	Schools and school district: – get views of people about what they think needs are, – study available assessment and evaluation data, – review existing emphases, goals and objectives, – revise goals and objectives as necessary.

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Figure 1

The sequence of events is easiest to follow the first year of the planning cycle.

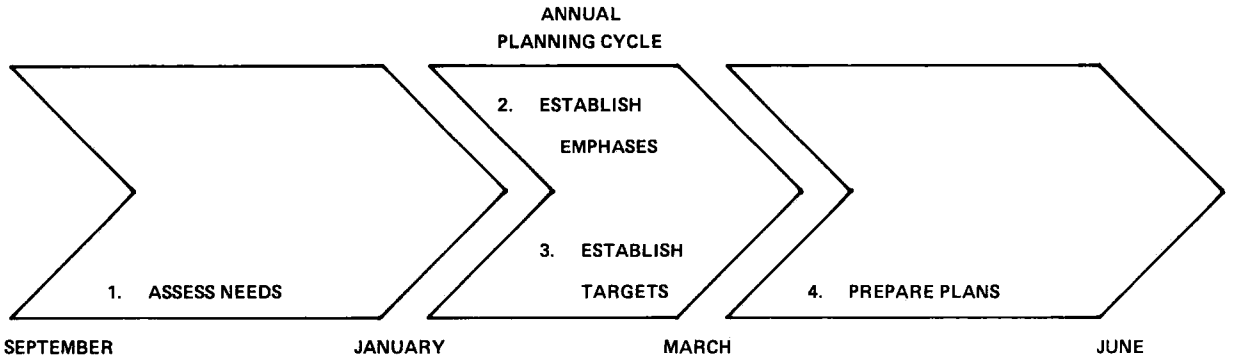
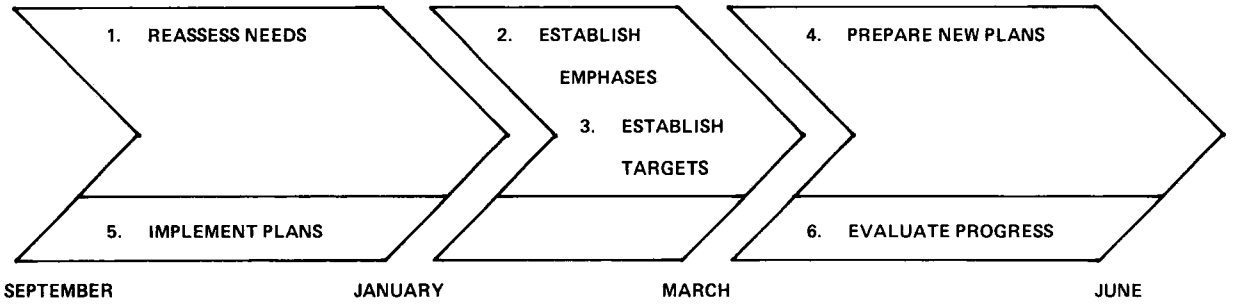


Figure 2

In succeeding years, a new cycle begins while plans made the year before are implemented.



February	Establish emphases	School district: – selects several broad program areas to be emphasized in the coming year (usually including some existing ones), – establishes district goals and objectives related to the emphases, – completes development of recommended programs (if not already completed).
March	Establish targets	Schools: – select program areas (related to the needs determined earlier), – establish school-level objectives. All administrators: – establish tentative individual job targets for the next school year. School district: – produces planning guides for use by schools.
April-June	Prepare plans	Schools: – prepare written plans for areas they have selected. Administrative Cabinet: – reviews existing evaluation and assessment plans and makes necessary revisions and assignments.

The process summarized above might well prove useful in any school district, but it would have to be modified to fit local circumstances. For example, the Lincoln district curriculum policy provides that schools may use instructional programs or materials other than those recommended, but they must have approval to do so. Systems in which materials adopted by the district are used in all schools – or in which such decisions are made independently by each school – would operate somewhat differently. Now we shall describe each step in the cycle in more detail.

Needs Assessment

A phrase frequently heard in connection with educational planning these days is "needs assessment". Federal programs often require that a needs assessment be undertaken in the course of preparing proposals. There are several ways one can do an assessment of needs and a recent issue of *Educational Planning* reviewed a number of them. One common approach involves use of card-sorts or surveys to calculate relative importance and presumed achievement of district goals. Goal-related assessments have the advantage of directly associating the desired activities with declared goals. However, they have some disadvantages. Programs and goals are often not as closely related as one might expect. Few educational programs have been developed to meet explicit goals; the goals more generally have been written to justify existing programs. Sometimes broad district goals

are developed without direct reference to programs. They all seem desirable, but the curriculum is not organized in such a way as to affect achievement of a particular goal by changing a given program. Which program, for example, is most closely related to the goal 'locate, analyze, and apply information"?

Therefore people who are asked to participate in a card-sort or survey comparing one goal with another may be offended because they consider it a gimmick rather than a serious attempt to define needs. Nevertheless, such an approach *can* help develop public interest and support, especially if used in conjunction with small group discussions and explanations of the current programs of the school district. Another problem is that people who are asked to rank goals and their achievement may have little information about what students are actually able to do. The process will yield information about what they *think* students are learning, but it may not be an accurate reflection of what the needs really are or what people would think the needs were if they were well informed.

Having in the past used the card-sort approach with varying results, we decided last year to involve as many people as possible in a simpler procedure. Each school was asked to form a temporary committee composed of the principal and such others as were appropriate to that school's organization and circumstances. With some advice, they were to identify some current instructional needs of students at their school and report them. We refer to this approach as "the think system"; it is obviously not sophisticated. It may or may not produce an accurate assessment of district needs. Its primary purpose is to develop widespread awareness that 1) a needs assessment is conducted during the Fall months as part of the annual planning cycle, and 2) the result will produce district-wide programs and school-level plans related to needs identified at each school.

When one undertakes a needs assessment one makes assumptions about schools and school systems. Some of these are:

- At a given time, some programs are more in need of attention than others.
- Needs may or may not be readily apparent. Some needs not readily apparent can be identified by a systematic process of data anlysis.
- Programs in a given area can be improved if necessary – e.g., by changing the curriculum, using new methods or materials.
- Because time and other resources are limited, decisions must be made about priorities.
- Even though some programs are singled out for special attention, others will continue to be supported.

The areas of high need which are identified one year may be no different from those identified the year before. In fact, very little would be accomplished if each year's list were totally different. But the process gives an opportunity for widespread involvement in the annual review of current program priorities and then confirming or changing them. We think this mode of needs assessment has some of the same disadvantages as other procedures. For example, it is just as likely to be inaccurate because it is based upon bias and judgement rather than effective data. The best way to correct this would be for the district to have a comprehensive assessment program which yields information about actual student performance useful to both the district and each school. Development of such a census-like assessment program is another of our current district goals, but it would not replace the "think system", merely complement it.

Assessment

For many years the Lincoln schools have used standardized tests to measure pupil performance – as have most other school systems in the United States. Conventional "normed" tests can be used for certain purposes (for example, comparing the achievement of individual students with that of others, and comparing groups of students with students in other school districts) but they are not designed to measure the specific outcomes of instruction. Some of the performance contracting experiments conducted in the late 1960s and early 1970s suffered because the standardized tests used in the evaluation proved insensitive to program differences. That experience, and the work of the National Assessment of Educational Progress, convinced test developers that there was need for instruments which would measure specific objectives. Many such "criterion referenced" tests are now available and school districts across the country have begun to use them.

As an experiment with this new kind of assessment, during 1972-73 the Lincoln schools administered exercises in citizenship and writing which had been developed by National Assessment. They were selected because they had been designed to measure goals which were shared by the Lincoln Public Schools. More recently, we conducted a large-scale assessment of writing using locally-developed procedures more in tune with our recommended practice for teaching composition. The process included time for motivational pre-writing experiences and for proof-reading and revision, as well as for writing the first draft. The papers were scored using a rigorous system to ensure consistency. Because local teachers were involved at every step, from preparation of the exercises through scoring there is reason to believe that the results will be used to improve instruction. In the current year's needs assessment, schools had plenty of data as to whether or not writing ability is a high need of their students.

Other Steps in the Planning Cycle

When results of the school-by-school needs assessment have been compiled, administrators recommend to the board of education which areas should be emphasized in the coming year. The superintendent then sends a bulletin to all schools announcing the areas of district-wide emphasis. When they place their supply orders and make staffing requests, principals are expected to have selected the areas of emphasis for their schools that year and have formulated a preliminary set of goals (but not plans to achieve them).

Job targets

The district uses a form of management-by-objectives for staff appraisal. Job targets are developed each year by the principals and central office administrators. In most schools, teachers also establish written targets for themselves. All this can be done at the beginning of the school year, but administrators are now encouraged to prepare preliminary targets (for the following year) in the spring.

Planning guides

As an aid to schools, the central office provides printed guides with suggestions for plans in each area of emphasis. Each guide includes a brief background statement, suggested goals and objectives, suggested program activities, and a list of resources is available on request. Schools may use or not use the guides, as they wish, but they must submit one or more written plans for the coming year by the end of the current one.

Improving the process

Once the planning cycle has been institutionalized, there are lots of ways in which it can be improved. One obvious step is to help schools develop more sophisticated procedures for identifying the needs of their students; another is to encourage supplementary activities. For example, interested groups or individuals may prepare position papers in which they assemble data in support of a proposed need. In our district, the members of the board of education have decided to participate directly by sponsoring meetings with representatives of parent groups. Such meetings provide an opportunity for district staff members to inform parents about the needs identified and the programs planned to meet them.

Staff development

It would be possible for all these activities to go on with little relationship to the office of staff development. But staff orientation and retraining are essential to the success of most school improvement programs. For that reason, provisions for staff development are included in the planning cycle. Staff development efforts in the Lincoln Public Schools probably parallel those of many medium-sized or large school districts in the United States. For many years, in-service was primarily related to district-wide selection, writing, or introduction of new curricula. Representative teacher committees assisted with the selection or writing of curricula, but in-service was planned and conducted almost entirely by the subject supervisors.

In the late 60s, gradual decentralization to the level of the individual school was begun. This process has resulted in considerable autonomy both in terms of budget allocation and curriculum selection. Central office subject matter specialists work with groups of teachers, parents, and (sometimes) students to determine the goals for students in each subject. A curriculum designed to meet these goals is outlined by the central office (with input from teachers and principals). Budget allocations to schools are made on the basis of the recommended curriculum. Principals and their staffs may opt for the recommended curriculum (and district level staff development support which accompanies the selection), purchasing materials from their budget allocations. Or they may choose to outline a different program which they believe will meet the needs of their student population more effectively. If they outline an alternative approach it is understood that they remain accountable for district-defined student outcomes. Further, they must be aware that first priority of district staff development and consultant resources will be given to the schools which decide to follow the recommended curriculum. Concurrent with the move toward decentralization, several significant organizational changes occurred in the Lincoln school district. For example, its public schools are heavily involved in individually guided education – a program designed to promote individualized instruction in the elementary school. This program is delivered through an organizational structure which involves teaching teams and shared decision-making, both of which demand new personal relations and group process skills, not related to curriculum as such.

School Level Planning

The opportunity for individual schools to make curriculum choices and changes in organizational pattern placed pressure on the district for staff development funding at the level of the school. Some enterprising principals began to make requests based on their percep-

tions of the needs of their school communities. So, in order to make the distribution of staff development funding more equitable and more applicable to district and building needs, the staff development office asked principals to (1) state some evidence of needs identified, (2) give rationale for the staff development objectives outlined, and (3) request funds for meeting those objectives. In the absence of a district-wide needs assessment, this was a reasonable first step to develop a high degree of acceptance for individual school-based staff development.

When the district-wide needs assessment was introduced, the staff development office asked that individual school budget requests relate directly to the emphases announced by the district. Then staff members are asked to state one or more staff development objective(s) related to the district emphases, but are permitted to add additional objectives germane to the particular school (provided the additional objectives are not in conflict with district emphases). Central office personnel also submit budget requests based on the emphases. The following is the calendar of the school-level planning process:

October-January	Assess current staff development plan	Director of Staff Development meets with school and central office staff to review current staff development plans, assess strengths and weaknesses in relation to objectives stated.
February	Assess needs related to emphases selected for ensuing year	School and central office personnel assess staff development needs related to emphases selected.
March	Establish staff development targets	1) Administrators and other central office personnel outline staff development activities needed to support current district-level emphases (and program improvement efforts not included in the district emphases). 2) Schools establish building-based staff development objectives to support emphases selected. 3) Both identify a preliminary evaluation process.
April-May	Prepare plans	1) Schools outline written plans for staff development activities, indicating priorities and costs. 2) Central office personnel outline staff development activities, indicating priorities and costs. 3) Both groups request funding. 4) Staff Development Office reviews requests and makes recommendations to the Superintendent's Cabinet for approval and budget allocation.

Future Possibilities

Historically, educators have not made clear their expectations of students, and society did not demand specificity; it seemed to accept the claim that the students, on leaving schools, were properly prepared for their adult roles. Now the climate is changing. Students seem to be poorly prepared upon graduation, and questions as to whether some should be graduating are even raised. Educators are responding to criticism by coming to grips with questions about what it is feasible to expect schools to accomplish. The identification of specific student outcomes should focus this effort of educators and make it more effective. As the expectations for schools are made clearer, more data should become available about how well they are meeting their obligations. Staff development is an important part of the plans for program improvement.

David K. Wiles*

THE PROCESS OF CHANGE: REVISITING GENERAL PREMISES OF POLITICIZED ADAPTATION

Introduction

The sustained interest in change dynamics has focussed both upon the conceptual properties of general systems and, more specifically, the capacities of planned intervention efforts to induce a particular alteration. There seems to be general agreement that change is the result of the adaptation of a system to relieve stress. Tensions occurring between forces demanding maintenance and stability and those demanding alteration create the need for adaptation. The applicability of the adaptation premise to social organization seems universal, from the individual through complex society.[1] In education there has been conscious effort, at all levels of organization, to understand change dynamics and to filter the "natural" dynamics of adaptation to control for a particular type of alteration. The issue of what is assumed to be the natural dynamics of change is the concern of this paper. Some of the most overt examples of intervention built upon "natural" change assumptions are the desegregation strategies for urban areas, organizational development techniques to influence small group behaviour and systematic attempts to provide compensatory learning opportunities to disadvantaged students. In each case, the general change adaptation is defined according to assumptions about the source of stress between maintenance of the present system and the need/demand for change, policy options to effect specified changes and the allocation of resources to promote a controlled change process toward the desired goal.

After a decade of massive efforts to apply abstract premises about change to achieve particular *operational* interventions in educational systems we have achieved something less than success. The limited extent of our accomplishment in demonstrating stress and adaptation in the direction of influencing policy is hinted in such terms as "partisan mutual adjustment".[2] It has been documented that certain federally sponsored intervention projects (which created sustained change) contained a dynamic of politicized adjustment between the change agents and those administering the school system. However, at present there are only preliminary sketches to show how the operational adjustment occurred.[3] Our knowledge of the concrete options and/or resource allocations which will achieve a specified changed system is even less sure. A recent evaluation of fourteen major U.S. compensatory programs, conducted through the Head Start (HSPV) and Follow Through Programs, assessed planned intervention as "trial by the sword".[4] Our current knowledge of how to influence and control adaptation can be summed up by the following:

> For program evaluators and policy analysts the programs also provided an invaluable education. They learned about the difficulties of doing social action research in the face of complex political and bureaucratic pressures. They

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found out, late and the hard way, about the costs that design flaws and compromises (for example, lack of random selection procedures) exact in the form of weak or uninterpretable results.[5]

The frustration underlying the "invaluable education" will probably trigger furious attempts to find the correct formula for planned intervention. Such efforts may be fruitful, but a revisiting of the basic premises of systematic adaptation also seems to be called for. This paper begins the task. Its purposes are to: discuss the particular context of policy system and adaptation when perceived as politicized phenomena; describe a macro policy system – those responsible for the university and college preparation of educational administrators – under stress conditions; and speculate upon the "natural" processes of adaptation which occur within this policy context. Our hope is that this will establish grounds for reconsidering specific strategies of planned intervention.

A political perspective of stress and adaptation provides a heuristic framework for this discussion. From this viewpoint, the political system represents the stability of current programs (in this case, concerned with preparing educational administrators) while the environment generates demand and support inputs and, thus, stress is exerted upon existing maintenance patterns by forces representing change interests. One important aspect of such a political perspective is the assumption that the "authoritative allocation of scarce resources" (Easton's[6] phrase) provides a viable definition of adaptation processes between and within the political system and its environment. It is assumed that ultimate survival of the institutional policy system for the graduate preparation of educational administrators depends upon protection of (a) the job structure and (b) the ability to be perceived as legitimate. Consequently, analysis of the adaptation to stress will focus upon those infuences which create overt change demands upon the employment and credentialling of the graduates of college and university preparation programs.

A second assumption is that the policy system which provides the preparation of educational administrators in colleges and universities operates in the focus of a market structure as described by Pincus[7] in his discussion of incentives for innovation in the public schools. After arguing the unique characteristics of the schooling industry, Pincus declares that, in situations of unclear goals and objectives, the study of innovation by standard economic criteria is less realistic taking the view that this type of influence is "a lubricant for bureaucratic and social pressures".[8] He argues that, "If goals are in some sense undefinable, it is inappropriate to adopt the standard rationalist approach of first defining goals, then seeking means to achieve. . . it may be wiser to try out systematic innovation and assess their consequences. . .".[9] In this paper, stress demands and adaptive processes will be viewed as lubricants of social and bureaucratic pressures because specific understanding of administrator preparation as innovation is unclear or unspecified.

The policy system

In most conventional interpretations it is assumed that the "political system" has clear boundaries. The authoritative nature of the system is, usually, an *a priori* stipulation of a formal or legal position in relation to the policymaking context. However, this interpretation is inappropriate for discussing certain political contexts (for example, the socialization of disadvantaged, alienated students) so a broader meaning is called for. In order to speculate upon generalized adaptation processes, the political system is interpreted as a "field" of colleges and universities as they are involved in the preparation of educational

administrators. At this macro level, the concept of authoritativeness is defined by the general trends and patterns of adaptation as they address the legitimacy issue inherent in preparation training.

The peculiar nature of the political system, as it applies to the arena of administrator preparation, can be inferred from four interrelated educational trends. The 1960s began as a decade of expanding investment designed to rectify the loss of faith caused by such shock waves as Sputnik and the failure to implement the desegregation mandate of the decision in the case of Brown *v.* Topeka Board of Education*. If the 1950s might be said to have been a period of ignoring growing educational demands, the 60s represent the educational system's resistance to charges of failure – resistance which took the form of the provision of massive compensatory resources. The hard, basic issues of legitimacy for continued survival were buried under a variety of shoring-up rationalizations. The schooling system could beat the Russians and, later, save the cities – provided that new resources were made available. The assumed limitlessness of new resources for schooling was analogous to the mentality which saw resources as solving the Vietnam War. Optimism in the educator's ability to "deliver the goods" was an article of faith. Graduate preparation in educational administration reflected this generalized faith through massive growth in program options. Specialization and differentiation in preparation took on new proportions as graduate schools jockeyed for foundation and governmental "soft" money. The narcotic effect of growth ensured that the trends pointing to a decline in future job opportunities would be ignored[10] as well as the need to scrutinize for "relevancy" many conventional practices.[11] The assumption that greater resources will automatically signal improvement and a diminution of external stress is the first legitimacy that has been proved questionable; it ignored the crucial issue of reallocating available resources. Inherent in the expansionist attempt to ignore stress by demanding more resources was the "inflation-depression" effect which has caused the basic survival issues to be raised again this decade. In graduate training, this effect is now most apparent in questions about the meaning (value) of doctorate credentialling and about programs which are designed to produce people for limited job opportunities.

The significant change in the 70s has been the recognition that is imperative to question conventional assumptions of legitimacy, especially ones which were created in the euphoria of the 60s. In university preparation, the startling success of external degree programs speaks to the benefits to be gained by openly questioning conventional training mystiques and facing political reality under conditions of scarcity and public scepticism.

Another (interrelated) assumption of the 60s which is becoming increasingly questionable is the validity of macro-planning models[12] and traditional approaches to problem solving. Questions are raised about the assumptions inherent in goal setting, the "logical" delineation of appropriate indicators, available alternative options and the critical or optimum path to stated objectives. In retrospect, neither the technocrats nor the mystics (from Herman Kahn to Ivan Illich) have a favourable track record in predicting the educational future.[13] Without accurate prediction, the program design of administrators' preparation resembles less the anticipatory stance and more the *ex post facto* muddling.[14] This may well be because classic forms of decision-making assume (erroneously) that man is rational and rationality is most overtly represented through the scientific or empirical

*349 U.S. 294 (1955).

stipulations of choice. In the 60s the accountability language of planning, program budgeting and social research logic dominated policy statements in the educational sector. An example of the allocative legitimizing of such rationality might be seen in the flowering of the National Institute of Education to supplement the subjective "good of the kids" image held by the U.S. Office of Education. In university preparation programs, input-output modelling became the dominant training rationale for many conventional subjects. Much subject content and program purpose was explained in terms of "weighted student hours" and "optimum" production rates.

Today, there is a growing recognition that the *conversion* of educational inputs into outputs often determines the operational meaning of "rationality". Under scarcity conditions, it cannot be denied that political realities affect the allocation of resources within large complex organizations (especially in such large public systems as schools and universities).[15] These new considerations are currently being incorporated into present thinking about planning issues.

The third clue of how adaptation is being expressed in education is the extent to which "soft" money is perceived as either marginal or core for a policy system. Cronin notes the dramatic shift in expectation of (and effect on) the federal government of public schools.[16] In 1965, the Commissioner of Education, Keppel, described the federal role as being a junior partner to state and local school systems. In 1976 Cronin states "very clearly, the junior partner has built up a number of new accounts for the firm and has begun to serve an impressive assortment of clients". When one thinks of the clients who have "invested" in ESEA titles and other resource allocations (counting the employment structure of regional laboratories and centres, university faculty positions, consulting firms and the educational personnel of large city school systems – to mention only the most overt), there is a growing sense that the marginal versus the core allocation distinction is being reversed or disappearing. When this power of money and regulations over its use are coupled with the effect of judicial regulatory powers the decade of federal involvement may be seen as the search for a centralized guide to adaptation strategies.

Finally, the issue of the pervasive federal involvement reveals another clue as to how educational adaptation is occurring in the U.S. Bailey and others have carefully documented the politics of the distribution of specific allocations, for example the funds of Title I[17]. One conclusion to be drawn from these studies is that distribution processes *in and of themselves* provide valuable resources for whose control there is competition at the federal, state, regional and local levels. Parkinson's law of bureaucratic growth prevails. Individuals, agencies, departments develop survival arrangements by means of the vehicles which were designed to distribute resources for planned change. By the late 1960s a major portion of education establishment (federal, state, local agencies, universities and school systems) had a large investment in promoting the avenues of distribution regardless of the particular market, change package or process. To remain "authoritative" was to protect the legitimacy of distribution.

In summary, the meaning of system adaptation in education has changed as the policy field undergoes increasing scarcity. Conventional problem solving rationality and rationalization are being replaced by overt political calculation, and dependency upon centralized strategies is becoming a core value.

Patterns of adaptation

To ensure recognizable patterns of adaptation in a macro policy system requires a major vehicle for change. In educational administration such a challenge was found in the external doctorate program initiated at NOVA University in 1972. It is not clear whether the NOVA program in administration was a consciously planned intervention to challenge the conventional programs. It has been argued that select agencies (at the regional and national levels of government) provided protected status for NOVA during its initial years.[18] However, those intimately involved with the National Ed.D. Program deny that there was any anticipatory planning of impact and any protection to help survival.[19] Whatever its purpose and origin, the NOVA Ed.D. program has had major stress impact upon the field of educational administration as a preparation for administrators. The nature of its success has challenged the conventional system's legitimacy and triggered fundamental patterns of adaptation.[20]

According to the general systems concept, when a policy body is faced with growing stress it must react in one of three ways: ignore, resist or adapt. The reaction to NOVA by those responsible for administrator preparation reveals all three adjustments. Moreover, there is a rough sequential ordering of the field's adjustment although final acceptance or rejection still is in doubt. Certainly, the public face of the conventional field has emphasized the "ignoring" or "resisting" adaptations. This was particularly true in the South where NOVA had most impact (accreditation and number of clusters). However, the negative reaction spread with the NOVA efforts to expand the cluster concept to fulfill its nationwide mandate. As the NOVA stress increased, the public resistance took two overt forms. Foremost was to challenge its authoritative nature. Despite the regional accreditation, many institutions and individuals in the conventional field took pot shots at the "mail order degree" program. This reaction is typified by the editorial position of the *Phi Delta Kappan* (November, 1973) upon joining the fray. Perhaps speaking to the success of Indirect political influence (to initiate change 'behind the scenes") was the field's predominant reaction to the ongoing NOVA program. Throughout the sustained field reaction to NOVA there has been little public interest in the reasons for NOVA's development in the first place. This may be due, in part, to the fact that many of the persons capable of raising this more sophisticated type of question work for NOVA in a "dual membership" to their conventional university base.

The second overt reaction was to try and stop the NOVA client supply. In effect, three agencies in the field can act as "gatekeepers" to a new program's clients: other universities, state boards of regents or state departments of public instruction.* The primary tool of universities (besides legitimacy challenges) is to attract new clients in open, free enterprise-type competition. Boards of regents often control the potential of subsidy and the charter to exist. Departments of public instruction control the certification tool. Attempts to curtail NOVA client supply have taken several forms. The most dramatic case probably is the Ohio situation where the state superintendent issued a memorandum that no school employee could utilize NOVA course credits for pay raises nor would the NOVA Ph.D. be recognized as a legitimate advanced degree. It is likely that a direct confrontation of authority and influence is in the offing and the resolution of NOVA credi-

*Assuming accrediting agencies have made a favourable judgement. If no decision has been made they may act, indirectly as a fourth actor.

bility may well determine the stress-adaptation controversy. For example, seven Cincinnati administrators were blocked from pay raises based upon the lack of "credibility" in NOVA degrees and credits. Although the case did not go to court, the legitimacy of Ohio Board of Regents policy to deny NOVA credit has been challenged.

In the non-public domain, the conventional field seems to be reacting by adaptation. Some conversions have assumed wholesale proportions. In states with NOVA "clusters", some universities have attempted to imitate them under such labels as "floating residency centres" and "joint dissertations". It is emphasized that higher education today is a buyer's market, and the NOVA strategy of going to the established source of students is the only hope for survival (usually to "guarantee the placement" of graduates). Many educators admit that NOVA provided the initiative and rationale for program changes which were critical but had been bogged down by the inertia of precedent and routine.

In summary, to date NOVA has triggered a public and non-public reaction by the conventional field. The public reaction has been to ignore or resist, while there has been extensive private effort to adapt and imitate. However, the major impact on the field itself is the long term policy implications of these reactions. The public resistance posture reinforces the traditional quasi-sacred nature of the university. Such a posture limits the options for graceful, face-saving adjustments in such crucial areas as admission standards, residency requirements, course equivalents and definitions of full time student status. The university tends to find itself stonewalling; it is in a zero-sum policy position where change means considerable trauma.

The private effort to emulate NOVA-type modifications, but without coordination, pits the field against itself. The competitive and expansionist assumptions underlying the NOVA model range universities and programs against one another. In this "free" market the big and the elite enjoy a large advantage. Instead of a careful analysis and planned division of preparation task by differentiated specialty (e.g. certain universities with a doctoral emphasis, others with masters and certification emphasis) the politics competition promotes a grab-all mentality.

Compounding this natural selection process is the direct intervention of new policy actors into the non-public manoeuvres. Foremost are the state legislators (e.g. Florida, Mississippi) who read the shifts in conventional allocation and legitimacy pattern as a "watering down" of the field. In the name of citizen accountability, efficiency (avoid duplication) and common sense ("Those ivory tower people can't agree among themselves"), legislators are deciding key issues of resource allocation.

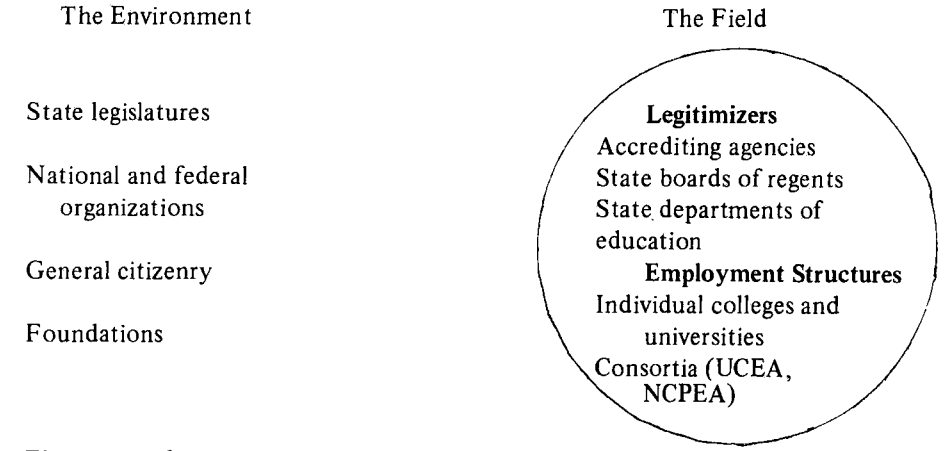
Hypotheses of Politicized Adaptation

Speculation upon the policy effects of stress and adaptation suggests several hypotheses about the natural adaptation patterns in a macro system. Considering the data presented above in the form of an "if . . . then" rationale, there seem to be four phases of evolution; phase 1 occurred prior to 1972, phases 2 and 3 seem to be occurring at present and phase 4 may occur before the 1980s.

Phase 1, the pre-stress phase, occurred before 1972, before NOVA's impact upon the conventional field's understanding (convictions?) about administrator preparation. At this time the conventional field was a closed policy body consisting of three major legitimizers and two types of employment structure (mechanisms responsible for actual preparation). The environment external to the process of defining what the field of

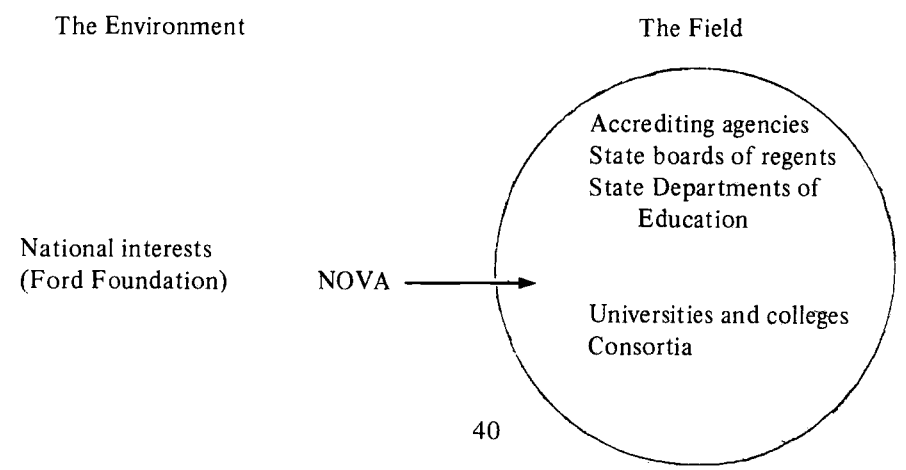
administrator preparation "meant" contained major state and national interests and the general citizenry. To be sure, elements of the external environment were interested in the preparation but their policy efforts were supplementary and supportive (e.g. EPDA activities). Figure 1 illustrates phase 1.

Figure 1 PRE-STRESS



There was, of course, stress in phase 1, but it was what Easton would define as "with-input", generated between and among the accepted actors (see for example, Campbell and Newell's suggestion for the elimination of meagre programs). The external stress demands from the environment were generally sporadic. Phase 2 typifies the present condition of administrator preparation and is illustrated in Figure 2. National interests (select federal agency and foundation organizations) created a protected status for NOVA's existence. NOVA, in turn, established enough clusters of practicing educators that it became a concrete stress demand from the external environment. Figure 2 depicts the redefinition of the field, particularly in the South (1972-76) where the Southern Association of Schools and Colleges accredited NOVA's experimental efforts (Standard IX).

Figure 2 INITIAL STRESS



NOVA's entrance upon the preparation scene triggered overt and covert adaptation among colleges and universities; it also raised the issue of program credibility among the conventional legitimizing bodies. In Florida, the Board of Education has not approved NOVA, but the Southern Association and a two year evaluation involving representatives from all regional accreditation associations gave the program a positive assessment. Thus, two bodies which supposedly are able to define "quality" and "credibility" of graduate offerings in educational administration have reached different conclusions; there is no general agreement about preparation legitimacy. In Easton's terms there is no universally accepted interpretation of what authoritative means. Phase 3 might be labelled as the stage when an "adapted" field emerges and NOVA is accepted as a fact of life in thinking about what is "conventional" in educational administrator preparation. A good argument could be made that this is the present state of affairs.

Since the initial Southern Association accreditation, the NOVA program has been scrutinized and accepted by a panel of other regional association members (two year evaluation), a ten year extension granted by SACS in 1975, and formal reviews by the states of Illinois, Pennsylvania, Oregon and Georgia. In terms of carving for itself a stable place in the field's employment structure, NOVA has eighteen clusters in operation (each cluster being 25-35 students who are also employed, practicing administrators). The accepted status of NOVA in phase 3 heightens the policy implications of scarcity and scepticism with traditional practice (particularly the on-campus residency requirement). The field is now an arena of competition for legitimacy and available resources, with big *v* little programs and new *v* established ones. It is also an arena with new actors, particularly state legislatures and private interests (e.g. consultant agencies).

Phase 4 represents the hypothesized outcome if the phase 3 competition is sustained. Issues of legitimacy will involve the regional and national accrediting agencies against some combination of regents, state departments of education and state legislatures. It might be predicted that preparation legitimacy will become a state consortium function carried out by some new mechanism of legitimization, possibly a board, directly accountable to the state legislature.

The sustained impact of competition on the employment structure of the field may well have two results: (1) There would be a proliferation of state models of efficiency by legislatures or regents boards which control allocation, (2) if we assume there will be less state control, then NOVA and the conventional colleges and universities will re-divide the available pie. Such a division might be planned (negotiated) or the result of competition but the result would be to promote elite consortia of "haves" and differentiation by program function.

Implications of Planned Intervention Efforts

The broad patterns of adaptation described above lead to certain conclusions about specific intervention efforts:

- Change under conditions of perceived scarcity and threat to core legitimacies is not a problem solving, consensus building effort. The rationale for "partisan adjustment" is close to the adversary bargaining mentality of collective negotiating. It can be destructive.
- The creation of vested interests (as in the NOVA program) is a change strategy using allocation selection and "created" legitimacy. If NOVA indeed was a *planned*

intervention effort it merely imitated the field's original formation. According to Callahan,[21] the original elite graduate programs in educational administration of Harvard, Columbia, etc. were based upon direct, exclusive ties with the practitioners of certain lighthouse school systems. These practitioner/students simultaneously promoted personal prestige with a degree from a select program and (more important) they became *the* source of program legitimacy upon returning to their employment. Consequently, the judgment of a good preparation program often became a function of the type and number of graduates. This rationale seems to have guided the NOVA strategy of implementation.

- The NOVA experience seems to suggest that, in order to heighten the probability of acceptance, innovation should be initiated quickly or clothed in conventional trappings (e.g. phase four).

Although the concept of a change process remains nebulous the demand for systematic intervention to produce change probably will remain with us for some time. The patterns which we have identified and the hypotheses which we have discussed add emphasis to certain aspects of change efforts. Presumably by observing and analysing the "natural" tendencies of macro adaptation we can eventually recognize and define guidelines for policy makers whose responsibility it is to ensure that systems seek innovations and new directions.

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FORECASTING NOTE III – ESTIMATING THE NUMBER OF SECONDARY SCHOOL DROPOUTS FROM A LOCAL SCHOOL SYSTEM

Introduction

Planners concerned with evaluating the performance of large complex systems or processes, are generally forced to carry out their task by analysing only a few more important components or subsystems. Economists frequently assess the performance of an economy in terms of subsystems which can be termed 'leading sectors'. With the help of some indices of economic activity, called leading indicators, they forecast the future state of the economy. An educational planner who has been given the task of assessing the performance of an educational subsystem, such as the secondary school sector of a local school board, might well adapt this technique from the field of economics. This paper treats the proportion of dropouts from programs of secondary schools as a leading indicator and reviews the use of certain variables for the prediction of dropout flows.

Notwithstanding certain conceptual problems involved in precisely defining a secondary school dropout, it might well be argued that an increase in the proportion of students dropping out from school is a signal of the general inappropriateness of services being provided by the school. Such an argument holds that in spite of the large role played by a student's subjective reasons for leaving school before completion of his school program, the decision to leave means that the school has, in effect, lost a contest. Beyond the legally-required age, a student's participation in secondary school studies represents an equilibrium in favour of school, between attractions and detractions in school and attractions and detractions in the world of work (or study) outside. From this point of view, when a student drops out of school it may be said that the attractions outside have won over the attractions of school and the detractions of school have proved stronger than the detractions of the world outside. This paper presents a preliminary econometric analysis of factors underlying the number of dropouts in an Ontario secondary school system. Using some of the statistical data and findings of the large survey of dropouts by Watson and McElroy, this study attempts to relate the number of dropouts to certain socio-economic and school-related factors which they identified as being important variables lying behind students' decisions to terminate their studies before completion. The underlying relationships are studied in the form of a two-equation econometric model.

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The work herein reported forms part of a current research project, a simulation study of secondary school dropouts. Much of the data used are taken from the "Ontario Secondary School Dropout Study, 1974-75", a research project which was funded by the Ontario Ministry of Education and conducted for the Ministry's Task Force on Dropouts, by Cicely Watson and Sharon McElroy. Copies of this report are available for reference in the libraries of the Ministry's regional offices and microfiche copies may be purchased from the Ontario Government bookstore. A printed abridged version of the report, under the title *Focus on Dropouts*, may be purchased from the Publication Sales Department, OISE.

The model is complete in that, given the values of the exogenous variables, it is capable of generating enrollments and the number of dropouts from the schools of a local board of education, by grade and sex. The purpose of the entire study is to develop an econometric model which could simulate the number of annual dropouts (of certain characteristics) for the board, and at the same time identify policies which the board might employ to reduce the rate of dropout if it is judged to be excessively high.

The remainder of this paper has three sections: a description of the model, explaining the reasons for including the various variables and assigning algebraic signs to the various coefficients measuring the relative contributions of different variables; discussion of the data; and a concluding portion in which the estimated model is presented and the various results discussed in the light of the findings of the Watson/McElroy study. Part of this section also discusses alternative experiments which were carried out to circumvent the statistical problems faced during estimation.

The Model

The model employed for this exercise consists of the two equations given below. Equation 1 is, for all practical purposes, a definitional one. It describes the relationship which the current year enrollment represents to last year's enrollment in the previous grade. Equation 2 is a causal one which relates the number of dropouts from a particular grade to the enrollment of that grade and certain socio-economic and school-related factors as mentioned above.*

$$(1) \quad N_{gt} = N_{g-1,t-1} - F_{g-1,t} - d_{g-1,t-1} + F_{g\,t} + R_{gt} + T_{gt}$$

$$(2) \quad d_{gt} = \alpha_0 + \alpha_1 N_{gt} + \alpha_2 (FS)_t + \alpha_3 (PRP)_t + \alpha_4 (TFI)_t + \alpha_5 (UE)_t + \alpha_6 (PHES)_t + \alpha_7 (SR)_t + \alpha_8 (PTR)_t + \alpha_9 (EXPS)_t$$

where

N_{gt} = Enrollment in grade g at time t.
F_{gt} = Number of failures in grade g at time t-1 (between t-1 and t).
$d_{g,t}$ = Number of dropouts from grade g at time t (between t-1 and t).
R_{gt} = Number of students (from among former dropouts) re-entering grade g at time t.
T_{gt} = Net transfers to grade g at time t.
FS = Family size.
PRP = Proportion of population which is rural.
TFI = Taxable average family income.
UE = Rate of unemployment.
PHES = Proportion of high enrollment schools (i.e., the number of schools with enrollment greater than 600, divided by total number of schools in the system).

*Or those mentioned in earlier studies of similar nature.

PTR = Pupil teacher ratio (crude).

EXPS= Expenditure per student.

Equation 1 represents an accounting relationship. It states that enrollment in any particular grade is composed of the students of the previous year of the previous grade who had not failed or dropped out before the end of the term or session, plus the students who had failed that particular grade at the end of the previous year, plus the re-entries to that grade who had formerly dropped out of it, plus the net transfers (i.e., the excess of transfers-in over transfers-out of that system).

Equation 2 represents a functional relationship whose basis lies in the attempt to test certain behavioural hypotheses of a social, economic and educational nature regarding the phenomenon which we call dropping out of school. The theory underlying the equation claims that students drop out before completing their school programs not because of social or economic or educational reasons alone, but of combinations thereof. The variables which are used are either closely related to ones identified by Watson and McElroy as being of statistical significance, or ones which would help us confirm or deny the validity of the various reasons which were cited by dropouts interviewed by Watson and McElroy. The inclusion of such social variables as family size and proportion of population which is rural help provide evidence to answer the questions: "Do dropouts generally come from large families? Is dropping out more an urban than a rural phenomenon?" Taxable average family income and the rate of unemployment are two economic variables which might help explain the role played in the dropout decision by the economic situation at home and the general economic situation in the community. The other variables represent certain characteristics of the educational system. They are admittedly gross, but they represent the most suitable statistical data readily available in Ontario systems. The proportion of high enrollment schools allows us to examine whether size of school is as important as many studies seem to suggest. The pupil teacher ratio and the expenditure per pupil allow us to look at major input variables which are often believed to have some direct relationship to a student's success at the school, although at present we do not seem to be able to specify precisely what the relationship is and how it operates through intervening variables. The findings of dropout studies which accuse large secondary schools of having a de-humanizing effect and complain of the remoteness of teachers and administrators seem to suggest that size and access to teachers are important contributing factors. Do large schools with high numbers of students per class "turn the students off"?

The survival rate has been included to try to approach the question of attenuation. A five-year secondary school process, such as that of Ontario's, presupposes that students will remain in full-time study till age 18-20. Since acceleration is not a common experience and the student proceeds generally by one grade per year, it is not possible for most students to complete before their 18th or 19th birthday (depending upon where it falls in the academic year). Even some slight interruption due to travel, transferring from one system to another, or illness can retard a competent student one year. If the general completion time is longer than the minimum number of years of school, how is the dropout rate affected?

Before discussing the data, we must explain that we have not actually estimated the model presented in equation 1 because reliable data regarding school transfers, failures, etc. are not readily available from the local systems of Ontario. Therefore equation (1) has been modified to read

(1a) $N_{gt} = N_{g-1,t-1} - d_{g-1,t-1} + R_{gt} + U_{gt}$

where U_{gt} is an error term accounting for whatever is missing. Since U_{gt} may include components that have systematic variation, it was considered that a behavioural relation of the following type would be the most appropriate.

(1b) $N_{gt} = \beta_0 + \beta_1 N_{g-1,t-1} + \beta_2 d_{g-1,t-1} + R_{gt}$

Inclusion of the explanatory variables, $N_{g-1,t-1}$ and $d_{g-1,t-1}$, R_{gt} needs no justification other than that these are the three most important components that determine current enrollment, and on which historical data were also available. Other things being equal, the higher the enrollment in the previous grade the preceding year, the higher will be current enrollment. Therefore $\beta_1 > 0$. In a similar manner $\beta_2 < 0$, since the higher the number of dropouts in any grade, in any year, the lower would be the enrollment in the next grade in the following year. R_{gt}'s coefficient has been restricted to equal unity since one re-entry would always increase the enrollment by one student.*

Data

It is obvious that the most appropriate data for our estimating equations are historical. However such data are not available for all our variables. In particular there is no time series of the number of dropouts each year in the province. The annual collection of these data has only recently begun – as a result of the work of the Task Force. Since our final unit of analysis was to be the local board, it was assumed that equation (2) would truly represent the relationship for all county boards which were included in the Watson/McElroy study which had employed a sample of 26 boards representing over 42 percent of the 1974/75 secondary school population of the province. Then equation (2) could be estimated with the help of their cross-sectional data which provide male and female enrollment by grade and the number of dropouts by a number of characteristics. Such variables as SR, PHES, TPR and EXPS were directly available and presented no problem. The other variables were obtained from a variety of sources. Equation (1b), on the other hand, could only be estimated by using the historical data of an actual system. For the experimental runs, therefore, one large county board has provided access to its management records. Appendix Table 1 gives a detailed account of the various data sources, and its notes describe the manipulations which were necessary before the data could be used.

The Estimated Model

Using multiple regression, equations (1b) and (2) were estimated for each of the five secondary school grades (g=9, 10, . . ., 13), for males and females. Tables 1 and 2 present the estimates of the various coefficients along with other relevant statistics such as the standard error of the coefficients R^{-2} and the standard error of the estimate.

At first glance the estimated coefficients do not appear encouraging. Very few are significant and some of the algebraic signs of the coefficients are not in the right direction.

*Specification of equation (1b) should be viewed by keeping in mind that its formulation in the present form has been dictated, to a considerable extent, by the non-availability of historical data on the other components of identity (1).

Table 1 REGRESSION COEFFICIENTS FOR EQUATION $N_{gt} = \alpha_0 + \alpha_1 N_{g-1,t-1} + \alpha_2 d_{g-1,t-1} + R_{gt}$ USING THE DATA OF A SAMPLE COUNTY (1966-75)

	Year	Dependent variable	Coefficients† $N_{g-1,t-1}$ $\hat{\alpha}_1$	Coefficients† $d_{g-1,t-1}$ $\hat{\alpha}_2$	Constant $\hat{\alpha}_0$	$\bar{R}^2$	S.E. (St. error of estimate)
Male	g=1	$N_{1,t}$	0.05696 (1.90650)	-0.73241* (0.05647)	1845.9629	0.9498	634.4093
	g=2	N_{2t}	-0.3004 (0.4895)	-0.3776* (0.02922)	2222.4601	0.9564	493.0191
	g=3	N_{3t}	-0.1467 (0.3962)	-0.3856* (0.0275)	1702.2787	0.9582	411.4514
	g=4	N_{4t}	0.0662 (0.5696)	-0.41189* (0.0355)	1133.6559	0.9380	438.7063
	g=5	N_{5t}	0.1719 (0.4083)	-0.2391* (0.02128)	369.9310	0.9368	225.0657
Female	g=1	N_{1t}	0.15122 (1.2923)	-0.6540 (0.05158)	1475.8768	0.9470	551.8645
	g=2	N_{2t}	-0.01507 (0.61268)	-0.4157* (0.0329)	1694.6468	0.9508	473.3280
	g=3	N_{3t}	-0.0804 (0.4837)	-0.4107* (0.0304)	1494.7622	0.9546	405.2760
	g=4	N_{4t}	0.1793 (0.4963)	-0.4028* (0.0364)	869.3166	0.9314	432.0541
	g=5	N_{5t}	0.0833 (0.2812)	-0.2152* (0.0180)	403.6600	0.9447	177.3797

†Figures in parentheses are standard errors of coefficient estimates.

*Significant at 5% level.

Note: The five grades (Grades 9 to 13) are represented by the five years (g=1, 2, . . , 5).

Table 2 ESTIMATED REGRESSION COEFFICIENTS: DROPOUT SIMULATION 1974-75

Year		Dependent Variable	INDEPENDENT EXPLANATORY VARIABLES											
			ENR	FS	PRP	TFI	UE	PHES	SR	TPR	EXPS	CONST	$\bar{R}^2$	S.E.
Female	1	DRPF1†	0.0302*	66.0975*	0.0607	-1.7592	- 1.4878	11.6626	- 0.1636	- 0.5647*	0.0264**	- 261.2860	0.7040	17.0902
			(0.0078)	(29.8834)	(0.2397)	(2.0348)	(5.0230)	(23.3640)	(0.6078)	(0.4543)	(0.0204)			
	2	DRPF2	0.0582*	68.2101**	- 0.0114	- 3.4783	- 0.5248	10.8289	- 0.0002	- 0.5954	0.0456**	273.4670	0.7345	28.638
			(0.0153)	(50.4133)	(0.4136)	(3.4093)	(8.4429)	(39.3356)	(1.02361)	(0.7585)	(0.0344)			
	3	DRPF3	0.0811*	89.1532*	0.0022	- 2.4720	2.4586	34.8526	- 1.1675**	0.5740	0.0285	- 335.7256	0.8596	21.8476
			(0.0137)	(38.9046)	(0.3270)	(2.6060)	(6.5009)	(30.1334)	(0.8108)	(0.5820)	(0.0263)			
	4	DRPF4	- 0.0077	- 1.7867	- 0.3230	- 0.6416	- 3.0363	34.6611	2.4312*	0.2434	0.0193	- 31.7994	0.5284	28.3402
			(0.0113)	(54.8892)	(0.4309)	(3.4286)	(8.4478)	(38.9738)	(0.9048)	(0.7571)	(0.0456)			
	5	DRPF5	0.0664*	25.7829	0.0481	-0.6005	- 0.4573	3.6231	- 0.2023	- 0.2306	- 0.0035	- 81.6232	0.6379	13.55
			(0.0221)	(24.7011)	(0.2035)	(1.6210)	(4.0460)	(18.3927)	(0.5317)	(0.3604)	(0.0162)			
Male	6	DRPM1	0.0430*	136.4540	0.0144	- 3.6375	- 3.9647	25.4578	- 0.0467	- 1.2346**	0.0035	- 488.1444	0.6393	32.0603
			(0.0137)	(62.1612)	(0.4510)	(3.7605)	(9.3668)	(43.9718)	(1.1193)	(0.8624)	(0.0058)			
	7	DRPM2	0.0811*	143.0955**	0.2270	- 1.8159	- 2.0280	11.0560	0.1279	- 1.5673**	0.0070	- 552.0366	0.7130	43.2531
			(0.0227)	(85.6252)	(0.6252)	(5.0720)	(12.6902)	(59.8609)	(1.5620)	(1.1640)	(0.0080)			
	8	DRPM3	0.0828*	90.7538**	0.1432	- 0.7272	4.3029	26.5564	0.2120	- 0.6149	0.0035	- 392.4616	0.8347	30.0037
			(0.0131)	(56.7061)	(0.4199)	(3.5278)	(8.8382)	(40.5819)	(0.9410)	(0.7926)	(0.0052)			
	9	DRPM4	0.0054	16.1670	- 0.6487**	1.8101	0.3344	48.3831	2.0469*	0.3230	- 0.0008	- 73.8325	0.4995	39.5438
			(0.0089)	(76.8500)	(0.5330)	(4.6579)	(11.6860)	(53.2382)	(1.1757)	(1.0541)	(0.0070)			
	10	DRPM5	0.1927*	76.3041**	0.6028*	1.6148	4.0085	9.1604	- 2.4400*	- 0.0409	0.0004	- 331.3841	0.9830	23.5422
			(0.0076)	(41.445)	(0.3237)	(2.9389)	(6.86298)	(32.0119)	(0.6853)	(0.6259)	(0.0055)			

*Significant at 5%
**Significant at 10%

†DRPF1 Number of female dropouts from year 1 (grade 9)
DRPM1 Number of Male dropouts from year 1 (grade 9)

However, if the results are viewed as various alternative estimation experiments made necessary by such statistical estimation problems as multicollinearity and errors in measurement, then they look more promising. Very high R^{-2} such as those obtained here (a minimum of 0.94 for equation (1) and 0.50 for equation (2)) are not common when one is using microdata. The data used here can, at best, be regarded as sketchy. These results suggest that this exercise is a step in the right direction toward specifying a workable model for the annual prediction of the number of dropouts.

The R^{-2} obtained by equation (1) is extremely high in all cases, indicating that the variability in the distribution of dropouts by grade and sex can be explained by the variability in enrollment and the number of dropouts from the next lower grade in the previous year. Unfortunately, the coefficient $N_{g-1,t-1}$ (which could have been interpreted as the grade survival rate) contrary to our expectations is not significant. But in most cases, it has a positive sign, indicating that high enrollment in a particular grade does result in high enrollment in the next higher grade the following year. The coefficient of $d_{g-1,t-1}$ is always highly significant and of the right sign, as was expected. The negative sign confirms an inverse relationship between the number of dropouts and enrollment in the next higher grade the following year. Alternative experiments were conducted to see if the inclusion of $N_{g-1,t-1}$ in the equation was justified even though its coefficients were not highly significant. The experiments consisted of including a time trend and/or reentries, and they indicated that $N_{g-1,t-1}$ does in fact have a significant relationship with $N_{g,t}$. However, the presence of multicollinearity between $N_{g-1,t-1}$ and $d_{g-1,t-1}$ (as indicated from equation (2)) and the exclusion of possible non-linearities because of the use of linear regression, invariably made one of the two coefficients emerge as statistically insignificant. Since equation (1b) is conceptually more sound, we decided to retain it in this form for the present.

The estimation results obtained by equation (2) are statistically more satisfying even though the R^{-2}s were not as high as in the case of equation (1). Although there is no preponderance of highly significant factors, our experiments with alternative specifications of the equation indicated almost every time that the present set of variables was nearly an optimal set of explanatory variables. The use of taxable average family income and rate of unemployment provides the best illustrations. Even though the coefficients of TFI and UE are never significant, the exclusion of one or both from the equations resulted not only in a larger drop in R^{-2} than would generally be expected from the exclusion of explanatory variables which are not statistically significant, but also reduced to insignificance coefficients which had been significant.

In summary: had the extreme multicollinearity observed between the various explanatory variables been avoided by the use of a larger simultaneous equation model, and had the data suffered less from errors of measurement, we are confident that most of the variables included would have been found to be significant. The proper signs of the coefficients provide additional support for this conjecture and they justify further work on the model.

The phenomenon which we call dropping out of school has an important impact on secondary school enrollment in a jurisdiction such as Ontario. It is a source of much of the forecasting error related to specific estimates, particularly of the upper grades. Until recently, dropping out has not been the subject of much analysis in this province. The incidence of dropping out was not previously systematically recorded. Attention was

drawn to the rise in the incidence of dropouts when Cicely Watson and Saeed Quazi were trying to account for their abnormal grade 11 to 12 forecasting error in 1972. Since that time, since the condition of dropping out was continuing to increase each year, they have been monitoring the dropouts' characteristics, motivation and destinations. In 1974/75 a large survey of dropouts was financed by the Ontario Ministry of Education and since that year the number has been reported, together with all the other statistics regularly gathered from the principals of schools. These data will provide the basis for continuing work such as the exercise reported here.

What do these findings suggest? The type of socio-economic and school-related factors we have considered here *do* explain a significant part of the observed variance in the number of dropouts across the school systems of the province. Since our main concern is with predicting absolute numbers, the size of the enrollment from which dropping out is taking place is probably the most important variable. However, it is interesting to note that this does not hold true for Grade 12. The findings for that grade (males as well as females) do not follow the general pattern as described here, and prediction of the losses for that grade were the least reliable. On the other hand, if our main concern has been to explain the variability in dropout rates, these results suggest that the most important variable would have been family size. The positive sign of the coefficients indicates that the geographical area is likely to experience higher dropout rates if its average family size is relatively large. Next in line of importance are such school-related factors as length of completion time for programs (survival rates), pupil teacher ratios and expenditures per pupil. The former is significant in at least four of the grades reviewed and its coefficient generally has a negative sign, implying that where the SR is high there will be a higher number of dropouts. This seems to indicate a generalized dissatisfaction with a type of schooling which forces the average student to spend a relatively longer period completing a program (e.g., a 5-year program taking generally six or seven years to complete, a four-year one taking five or six years). The PTR is similar, its significance and the negative sign suggest that a relatively large ratio leads to smaller classes and an educational system where dropping out is diminished. The positive sign of EXPS is harder to explain. It seems to imply that the system which spends the larger sum per student is the one most likely to have a higher number of dropouts. This flies in the face of common sense and is quite contrary to what we expected. At this stage, without further experiments, we have no concrete explanation of the findings. One possibility could be some dis-economy of scale in very large systems.

We have already mentioned the coefficients of the two economic variables – income and the rate of unemployment. Though not significant, their signs appear to be in the right direction. A negative coefficient for TFI suggests that the decision to dropout is partly an economic one, and this substantiates the survey data. Students from homes having meagre family incomes drop out, particularly if there is an opportunity to earn money. The survey data on family income, particularly when considered with the data on family size, show that the need to *supplement* family income encourages dropping out. However, the dropout's ability to find a stable job depends upon the general employment situation. High levels of unemployment must deter dropping out since youth employment is generally in excess of the general unemployment rates. But this hypothesis was not confirmed as strongly as that regarding family income. It would also be argued that, where high unemployment persists, there will be a general lowering of family income. If this occurred one would expect a generally higher dropout rate. No

doubt there is an interrelationship between these two economic variables but the direction of its combined effect is not clear. It may force the relationship between unemployment and the number of secondary school dropouts to appear as direct rather than inverse. Such a line of argument would explain the positive signs of the coefficient in some cases. We should also stress that, at this stage, we are only trying out certain obvious variables using data which are ready at hand. TFI and UE are only proxies for disposable family income and youth unemployment. Our initial findings regarding these coefficients might well be upset when more appropriate data become available and are incorporated into the model.

The positive sign for the PHES variable indicates that larger schools generally have higher dropout rates, but the coefficient is never significant. Therefore, it is likely that no great loss will result if we delete school size from consideration. The case for the inclusion of PRP is stronger, but simply on empirical grounds. The coefficient is significant for two grades (12 and 13) for female dropouts, but it has opposite signs. As a result, at this stage, we cannot say anything definite about the role played by the proportion of rural/urban population in predicting the rate of dropouts for a board.

There is one final comment which should be made on the findings of this exercise. The estimated coefficients do not suggest great differences between the dropping out propensities of males and females as related to any of these variables. In other words, there are no variables which have been reviewed thus far in our study which are likely to prove more reliable indicators for predicting the dropouts of one sex rather than the other. This is an unexpected finding. Dropout rates vary significantly between the sexes. In Ontario the ratio is generally about 58 males to 42 females. When surveyed by questionnaire and interview the dropouts report different 'reasons' for leaving school. To be more precise, the proportionate weight of different reasons significantly varies by sex. The males more frequently offer economic related reasons ("left to take a job offer", "left to find a job", "needed money"); the females, non-economic ones.

Conclusion

Those planners whose work involves enrollment forecasting for local school systems have long been aware that, even where they can each year produce with reasonable accuracy estimates of future numbers, the numbers mask a number of relationships which are not well understood. When a change occurrs in one of these components, baffling and embarrassing errors emerge. One of the components which has been the subject of much recent research at OISE is the phenomenon commonly called dropping out of school. The unexpected flow of dropouts from the upper grades of the secondary school (Grades 11, 12 and 13) seemed to be reversing the grade transition trends of recent decades. A series of surveys studying this phenomenon have provided a large base of statistical data. We are now using these to try to predict dropout flows and simulate the effects on dropout rates of manipulating policy variables which are within the control of a local board of education. This paper reports some of the first findings which resulted from the use of the first prediction equations.

Appendix Table 1: THE DESCRIPTION AND SOURCES OF DATA

Equation	Variable/s	Description and Source
1(b)	N_{gt}	Historical figures on enrollment were directly obtained from the Ministry of Education annual publication: *Secondary School Enrollment*.
		For the years prior to 1965, the publication does not give a breakdown according to sex. Therefore, previous years' proportions were used to obtain the necessary series.
	$d_{g,t}$ $R_{g,t}$	Historical data on dropout and re-entry rates were obtained from the file of one of the large county boards in the sample. The data were in percentage terms and had to be converted into absolute numbers with the help of the enrollment series described above. Moreover these data were only available for a limited number of years, so figures had to be interpolated and extrapolated to complete the series for the whole of the sample period.
2	N_g	Equation (2) was estimated on the basis of cross-sectional data for 1974-75. Enrollment figures for 1974-75 were obtained directly from the publication: *Secondary School Enrollment*. See above.
	d_{gt}	Number of dropouts by grade and board were calculated by multiplying the enrollment figures by the drop-out rates by grade and board as estimated in the Watson/McElroy Study.
	FS	Family size is the average number of persons per family as defined by the Canadian Census and was computed by dividing the total population by the average number of families in the region. Statistics on county population and average number of families for the census years 1966 and 1971 (as reported in Tables 2.13 and 4.3 *Ontario Statistics*, 1975, Volume 1) were used to extrapolate (linearly) the required data for 1974.
	PRP	The method for obtaining PRP for 1974 was exactly the same as that used for FS. The original data for rural population was obtained from Table 2.13 cited above.
	PHES, TPR, SR	These rates were computed by use of the regular statistics in the Ministry of Education publication: *Secondary School Enrollment*.
	EXPS	Expenditure per student was obtained by dividing the net expenditure figures reported in the Financial Statements of the Boards (compiled by the Ministry of Education and available on request) by the Board's total student enrollment.
	TFI	Taxable family income was used as a proxy for family disposable income. Data on taxable income by county for 1969 and 1972 (reported in Table 11.17 *Ontario Statistics*, 1975, Volume 2) and data on the average number of families were used to compute average taxable family income for the two years. These figures were then extrapolated to generate the data for 1974.

UE	Unemployment rate was taken as a proxy for the unemployment rate among youth. Data on the experienced labour force by occupation, collected regularly by Statistics Canada, provides county estimates of unemployment in the province. Figures for 1972 were updated (with the help of the province-wide index of unemployment reported regularly in the *Ontario Economic Review*) to obtain workable estimates for 1974.

Appendix Table 2: NUMBERS OF DROPOUTS BY BOARD, SEX AND YEAR OF SCHOOL

Board Code	MALE					FEMALE					TOTAL				
	Year 1	2	3	4	5	Year 1	2	3	4	5	Year 1	2	3	4	5
01	15	27	16	6	4	12	18	11	11	6	27	45	27	17	10
02	81	108	102	87	35	57	80	79	72	20	138	188	181	159	55
03*	0	13	41	41	36	1	11	34	28	10	1	24	75	69	46
04	29	29	30	18	6	14	21	40	19	9	43	50	70	37	25
05	53	75	80	78	50	33	67	74	50	19	86	142	154	128	69
06	18	13	49	37	15	11	21	29	21	12	29	51	78	58	27
07	36	28	34	21	7	17	24	36	27	9	53	52	70	48	16
08	148	200	173	143	105	83	160	154	115	52	231	360	327	258	157
09	36	63	50	26	18	22	28	20	20	16	58	91	70	46	34
10	5	13	123	82	69	4	16	77	53	30	9	29	200	135	99
11	26	45	43	28	17	20	41	37	23	11	45	86	80	51	28
12	94	165	182	97	102	61	102	131	72	56	155	267	313	72	56
13	55	92	77	85	43	48	56	63	52	42	103	148	140	137	85
14	112	172	166	158	79	60	119	140	103	44	172	291	306	261	123
15	72	146	154	107	74	46	104	132	83	34	118	250	286	190	108
16	12	26	41	30	19	8	15	19	23	8	20	41	60	53	27
17	95	190	196	162	108	41	134	175	115	82	136	324	371	277	190
18	28	76	111	74	61	16	65	81	56	35	44	141	192	130	96
19	88	127	112	69	45	54	94	86	73	29	142	221	198	142	74
20	508	575	526	361	260	422	462	481	311	168	930	1037	1007	672	428
21	86	173	180	109	63	57	102	111	105	46	143	275	291	214	109
22	24	63	57	43	37	21	34	36	31	33	45	97	93	74	70
23	4	2	4	4	4	5	3	2	8	1	9	5	6	12	5
24	9	30	36	38	15	4	21	29	29	15	13	51	64	67	30
25	33	63	55	41	36	19	53	43	42	24	19	53	43	42	24
26	107	140	132	105	69	56	93	101	72	57	163	233	233	177	126

Source: the 1974/75 Dropout Study.

Appendix Table 3: ENROLLMENT OF BOARDS BY BOARD, SEX AND YEAR OF SCHOOL

Board Code	ENROLLMENT														
	MALE					FEMALE					TOTAL				
	Year 1	2	3	4	5	Year 1	2	3	4	5	Year 1	2	3	4	5
01	258	190	206	153	77	260	212	168	144	55	518	402	374	297	132
02	1289	1195	1091	859	37	1250	1177	1008	901	311	2539	2372	2099	1760	683
03	418	376	393	294	135	378	391	402	343	151	896	767	795	637	286
04	235	208	189	142	71	218	226	168	151	67	453	434	357	293	138
05	1088	956	830	724	309	998	870	849	657	264	2086	1826	1679	1381	573
06	374	326	285	244	108	358	311	279	228	100	732	637	564	472	208
07	476	584	451	435	156	600	595	507	435	164	1276	1179	958	870	320
08	2669	2189	1983	1608	1050	2259	1946	1813	1416	871	4928	4135	3796	3024	1921
09	574	574	456	379	173	542	562	445	428	173	1116	1136	901	807	351
10	1854	1613	1521	1108	532	1584	1435	1216	1119	458	3438	3048	2737	2227	990
11	863	910	751	556	331	816	755	695	589	283	1679	1665	1446	1145	614
12	2382	2240	1892	1697	808	2201	1958	1878	1497	616	4583	4198	3770	3194	1424
13	1181	1058	909	823	401	1128	1011	921	684	375	2309	2069	1830	1507	776
14	1623	1630	1366	1226	696	1569	1480	1509	1105	522	3192	3110	2875	2331	1218
15	2025	1848	1604	1424	560	1751	1797	1526	1359	439	3776	3645	3130	2783	999
16	928	943	867	728	358	864	911	740	753	283	1792	1854	1607	1481	643
17	2989	2635	2415	2056	1259	2675	2620	2314	1883	1050	5664	5255	4729	3939	2309
18	2353	2282	2190	1772	1065	2131	2111	2060	1717	899	4484	4393	4250	3489	1964
19	2245	1896	1551	1151	613	2106	1828	1507	1249	575	4351	3724	3058	2400	1188
20	5007	4324	3838	3219	1913	4504	3976	3566	2660	1575	9513	8300	7404	5879	3488
21	2231	2090	1709	1455	634	2111	1894	1692	1453	564	4342	3984	3401	2908	1198
22	536	529	511	461	319	604	613	506	424	248	1140	1142	1017	885	567
23	101	78	82	57	16	92	75	55	62	19	193	154	137	119	35
24	396	378	323	250	102	415	325	377	276	99	811	703	700	526	201
25	854	797	630	545	286	777	752	620	520	227	1631	1549	1250	1065	513
26	1226	1152	1005	794	362	1205	1114	994	836	350	2431	2266	1999	1630	712

Appendix Table 4: EXPLANATORY VARIABLES (1974)

Board code	Family size	Proportion of rural population	Taxable average family income	Rate of unemployment	Proportion of high enrollment schools	Survival ratio	Pupil/teacher ratio	Expenditure per student (in dollars)
01	4.214	32.906	14.6980	3.74	0.333	20.030	16.761	1020
02	4.294	13.640	13.0143	4.72	1.000	38.917	26.326	1001
03	4.194	22.148	16.9780	3.52	0.824	27.261	18.430	1034
04	4.198	31.888	10.6638	5.29	1.000	27.219	17.646	981
05	4.264	18.696	11.6380	5.01	.714	26.864	58.439	944
06	4.198	31.888	10.6638	5.29	.400	26.978	14.601	1010
07	4.004	65.448	8.9038	2.01	.800	24.409	17.281	874
08	4.004	14.000	14.1870	3.93	.867	43.798	16.773	1508
09	4.004	14.000	14.1870	3.93	.600	32.113	17.630	1547
10	4.084	16.482	13.7196	5.34	.857	27.086	36.901	969
11	4.030	22.846	11.1394	5.12	.667	30.441	17.434	848
12	3.962	11.430	13.8898	3.60	1.000	30.943	17.970	926
13	4.024	28.688	13.1004	3.15	.536	30.352	17.694	841
14	3.918	3.580	12.8662	4.56	.923	37.512	17.230	888
15	3.918	3.580	12.8662	4.56	.882	24,648	16.506	910
16	3.976	8.736	18.0582	4.78	.875	30.692	17.817	899
17*						41.997	16.940	
18	3.710	5.210	9.3224	3.32	.929	49.608	18.201	848
19	4.008	39.234	11.9762	4.16	.779	30.175	17.706	898
20*	4.020			4.46		34.628	16.366	
21	4.020	58.690	11.5804	4.12	.824	53.150	18.135	821
22*						26.380	17.413	
23	3.738	100.00	6.5402	4.90	1.000	17.327	16.790	1075
24	3.696	54.438	8,8380	4.21	1.000	25.638	18.381	778
25	3.898	52.468	14.3308	3.41	.714	30.106	17.363	924
26	4.132	41.516	9.4080	4.56	.818	30.350	17.346	964

*Because of missing information for some of the explanatory variables, these boards had to be excluded from the sample used for estimation.

Appendix Table 5: ENROLLMENT OF THE SAMPLE COUNTY, BOARD OF EDUCATION, BY GRADE AND SEX, 1964-75

Year	MALE						FEMALE					
	Grade 8	Grade 9 = Year 1	2	3	4	5	Grade 8	Grade 9 = Year 1	2	3	4	5
1964												
1965	1355	1596	1388	1264	1044	584	1275	1442	1236	1077	868	477
1966	1410	1709	1469	1314	1266	518	1320	1572	1424	1136	950	439
1967	1493	1890	1613	1404	1196	629	1407	1652	1576	1316	1055	521
1968	1465	1935	1791	1486	1287	632	1428	1709	1574	1497	1201	530
1969	1550	1952	1755	1649	1391	681	1450	1811	1658	1582	1316	644
1970	1590	2510	2127	1747	1540	787	1500	2092	1894	1672	1438	653
1971	1574	2508	2288	1714	1529	780	1586	2065	1980	1701	1410	618
1972	1637	2412	2306	1885	1449	778	1547	2104	1977	1851	1343	661
1973	1680	2517	2193	2020	1490	719	1702	2099	2082	1849	1423	641
1974	1688	2382	2240	1892	1697	808	1685	2201	1958	1878	1497	616
1975	1720	2470	2191	1986	1669	832	1768	2165	2121	1816	1663	670

Appendix Table 6: PERCENTAGE OF FAILURES, DROPOUTS AND RE-ENTRIES OF THE SAMPLE COUNTY BOARD OF EDUCATION, BY GRADE, 1964-76

Year	Year					Dropouts	Reentries*1	Reentries 2	Reentries 3
	1	2	3	4	5				
1964	9.75	5.70	10.15	12.0	11.35	6.45	1.290	0.322	0.806
1965	7.85	4.75	9.10	9.50	10.10	6.58	1.316	0.329	0.820
1966	7.40	3.19	6.32	6.77	9.15	6.70	1.340	0.335	0.838
1967	4.85	2.87	8.33	7.70	6.96	6.80	1.360	0.340	0.850
1968	3.59	2.51	2.49	2.07	7.58	6.90	1.380	0.345	0.862
1969	4.94	3.89	5.99	16.78	17.43	5.14	1.028	0.257	0.642
1970	3.70	2.40	5.65	5.40	5.9	6.18	1.236	0.309	0.772
1971	3.40	2.20	5.20	5.20	7.1	8.03	1.606	0.402	1.004
1972	3.15	2.10	4.75	5.00	5.5	8.15	1.630	.408	1.019
1973	3.00	1.95	4.30	4.90	5.9	7.89	1.578	0.394	0.986
1974	2.80	1.90	3.95	4.85	7.4	6.94	1.388	0.347	0.868
1975	2.70	1.85	3.60	4.80	7.7	7.22	1.444	0.361	0.902
1976	2.65	1.80	3.40	4.80	8.3	6.90	1.380	0.345	0.862

*Used for estimating the equation: $N_{gt} = \alpha_0 + \alpha_1 N_{g-1,t-1} + \alpha_2 d_{g-1,t-1} + R_{gt}$

Robert M. Alworth and Judith Freed*

THE USE OF PARTICIPATION RATES IN EDUCATIONAL PLANNING

Educational planners are regularly called upon to answer vital questions: What should be the focus of recruitment efforts? How many students will enroll in future yars? What will they be like? Will they require special programs? One of the common calculation techniques which can be used to make estimates in order to attempt to answer such questions is the participation rate. A participation rate is simply the proportion of a group which engages in some activity. This paper will review the procedures used to compute participation rates, analyze some problems arising during these computations, and discuss their application to two educational planning products – recruitment and enrollment projections, particularly as they are used in the planning of higher education.

The computation of participation rates

An overall participation rate (i.e., the ratio of total enrollment to total population) is of relatively limited use. More frequently the educational planner computes separate participation rates for specific subgroups. Consequently, his first step in computing participation rates is to decide upon one or more specific variables of interest, keeping in mind that data on these variables must be available both for enrollment and for population. The specific variable(s) selected will depend on the questions to be answered. For example, a planner interested in projecting the number of male and female students at some future date will select sex as the variable of interest. A planner investigating the educational participation of, say, young Black males will select age, race, and sex as the variables of interest.

Once variables have been selected, the planner proceeds to gather the enrollment and population data required. The numerator of the participation rate (enrollment) generally is available from the educational records; the denominator (population) may be more difficult to obtain. In the United States if the educational planner's service area is coterminous with an existing geographical unit, such as a city or county, population figures are available from census bureau publications or from their computer tapes. However, it is far more frequently the case that the planner cannot relate his service area to any existing geographical unit. In such cases he has to use a "building block" approach, aggregating small-area population data before computing participation rates.

Selection of the geographical units to be aggregated depends on the size of the service area involved. The planner in an institution which serves an entire region of the nation will probably aggregate state-level data, whereas the one working on a school which serves only a portion of an urban area will probably use census tracts as the unit of aggregation. However, the planner whose service area is small enough to be defined in terms of census tracts faces special problems if the tracts to be included in the service area are not readily identifiable from maps or other sources, or if the school has no definable service area.

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Problems also arise in a multi-campus district where students are free to attend any institution within the district. This is frequently the case in community colleges.

In aggregating census tract data, the planner might decide to include all tracts within a certain distance of the school. However, there is evidence, at least for urban community colleges,[1] that student residency patterns are neither symmetrical nor similar from one institution to another. A preferable approach, therefore, is to identify the specific census tracts which contribute students to the school before proceeding with the population aggregations. A computerized tool known as ADMATCH[2] has been developed by the U.S. Census Bureau to expedite this process; its function is to determine the census tract corresponding to each student's address and append that census tract number to the student's record. The records may then be sorted by census tract to determine the area residence distribution of the students attending the college. In a multi-campus district, this process would have to be performed separately for each institution.

When the planner has collected the required enrollment and population information, classified according to the variable(s) of interest, he must ensure that the two sets of figures are comparable (i.e., related to the same period of time). Population figures obtained from the decennial census become, of course, increasingly obsolete over the ten years between censuses. Consequently, the planner must "age" the population figures so that they correspond with the latest available enrollment data. For example, consider a planner who is interested in computing participation rates for the years 1970-1976. Enrollment figures will normally be available for all these years; population figures will be available only for 1970. Therefore, he must estimate the population figures for the years 1971-1976. Techniques for estimating population figures involve the application of estimated fertility, mortality, and migration rates to the base (census) population. Most educational planners have no training in demography and details of the estimation process are beyond the scope of this paper, although many reference books are readily available.[3] In the U.S. estimates of such rates, on the national level, are available from the census bureau and, on the local level, from state and local planning agencies.

Once the population has been "aged" from the base year to the present, the participation rates for the intervening years can be easily computed. The educational planner can then study the trends in educational participation for each of his interest groups.

The application of participation rates

It is at this point that the educational planner encounters one of the main uses of participation rates – as an aid to recruitment. In recruitment the institutional planner, in particular, wishes to discern "holes" in the educational landscape, those groups whose educational activity is lower than some accepted norm. If, for example, the planner finds that the enrollment of minority women is significantly lower than would be expected from their number in the community, recruitment efforts can be directed accordingly. He has two goals: to demonstrate that a population is being poorly served and to concentrate scarce recruitment resources on the group(s) with the most recruitment potential as new clients. An additional advantage of computing historical participation rates is that they allow the planner to determine whether previous changes in the institution's curriculum, admission policies, or recruitment brought about any change in the educational participation of the groups under study.

The use of participation rates to calculate enrollment projections may be found at both the local[4] and national[5] levels. Projection merely is an extension of the concept discussed thus far. The planner projects the historical participation rates into the future, projects the historical population figures into the future, and then multiplies projected population by projected rates to yield projected enrollment. Extrapolation of the historical population figures into the future is computed by continuing the "aging" process described earlier. Naturally the further one proceeds into the future the greater the error in the estimates of births, deaths, and (especially) migration. Extrapolation of participation rates is usually accomplished with standard regression techniques.[6] This assumes that past trends in the rates will serve to predict the future rates. But, if historical participation rates show unusual fluctuations, it may not be appropriate to use regression techniques. Depending on the situation, the planner can compute a typical (average) participation rate for a period of time or select the latest figure and hold this rate constant over future years. These are the two most common solutions used to project the rates. However, although participation rates may be projected in a fairly straight-forward manner (more easily than the population projection, for example), they are nevertheless volatile. Their volatility may be simply explained. Education participation is a function not merely of the size of the potential "pool" of enrollees but also of a variety of factors such as admissions policies, the availability of student financial support, transportation, grading practices, curricular offerings, family and job situations, and (in some countries) the presence or absence of military or public service obligations. In projecting the participation rates the planner must make a variety of explicit or implicit assumptions about each factor, and sometimes he builds an elaborate but very shaky edifice.

Once the population and participation rates have been projected into the future, the planner merely multiplies them together to yield projected enrollment figures. Such projections have two advantages over those produced by other methods. First, while all projection methods will yield the *number* of future students, the use of participation rates will also predict the *structure* of future enrollment. The planner's prediction of future enrollment structure is limited only by the number of variables he selects for study. The obvious advantage of estimating the structure of future enrollment is that it provides the opportunity for planning programs appropriate for a variety of subgroups of students. The planner who is able to anticipate increased future educational activity by senior citizens, women, or minorities is better able to serve his college than one who merely waits to see which clients arrive at the door each semester.

The second advantage of using participation rates to estimate future enrollment is that they permit the planner independent control of two factors underlying enrollment – the size of the potential pool of students and the readiness of members of this pool to enroll in the programs of the institution. The planner then can develop alternative projection scenarios under population and participation assumptions which can be clearly delineated.

Conclusion

Preparing a number of enrollment projections each year is a recurring task for the educational planner. We are, therefore, always looking for a practical technique which can be easily applied, theoretically sound and methodologically simple. Participation rates offer several advantages, particularly for the institutional planner working in higher

education where attendance is voluntary. The study of historical participation rates for a series of sub populations enables him to demonstrate unmet educational demand – a group of clients whose needs might well be served if they can be specifically catered for. Such study also enables the planner to assess the effects on participation of earlier policies which were designed to attract various groups of clients. By projecting the rates into the future not only can the anticipated enrollment numbers be readily obtained, but also the structure of the enrollment.

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CONFLICT MANAGEMENT AS AN INTEGRAL PART OF UNIVERSITY PLANNING

Introduction

Universities and other institutions of higher education are being pressured to change – pressured by internal constituencies, the faculty and students, and by their external publics, alumni, parents, employers, and governments. It seems inevitable that most institutions will have to respond if they wish to retain their credibility and autonomy. In order to anticipate and benefit from these pressures institutional planning must become more future-oriented. In recent years, many institutions of higher education have moved away from their traditional closed system toward a more open mode of operation. The maintenance of an open system in a viable state requires extraordinary administrative skill and leadership. The dynamism and change inherent in such a system results in a substantial re-distribution of power within it; this increases the level of conflict. The challenge for university administrators is to provide effective management of the conflict, to contain it so that the overall institutional power base is not diminished.

Coser[1] defines social conflict as the "struggle over values and claims to scarce status, power and resources in which the aims of the opponents are to neutralize, injure or eliminate their rivals". Thus conflict arises when people or groups differ with respect to objectives, approach, attitudes, interest, etc. In the years prior to World War II American sociologists seemed to consider conflict as a fundamental and constructive part of social organization, negative or dysfunctional aspects of conflict being merely indicative of the need for social change and structural reform. Maslow[2], on the other hand, noted that our society in general is afraid of conflict, disagreement, hostility, antagonism, and enmity so that conflict has been viewed as something which must be avoided by all civilized persons.

More recently, the behavioural scientists, while recognizing that conflict is an inherent part of all interpersonal and organizational relationships, directed their attention to research into methods for the effective resolution of conflict. But it is only in the last five years that the underlying negative philosophy of the behaviouralists has been questioned. Robbins[3], in particular, advocates a positive approach to conflict. His interactionist philosophy states that conflict is a necessary component of the effective operation of any organization, and if it is absent (or only present at a very low level) it should be stimulated. Conflict is valued for its positive effects – although it is recognized that it must be controlled lest it become dysfunctional and disrupt the effective functioning of the system.

It is the thesis of this paper that conflict within a university can produce beneficial results, if it is managed properly. Often changes stimulate conflict, but the conflict may in turn stimulate further changes which will improve the situation and cause a spontaneous decrease in the conflict level. The reorganization of a school will stimulate conflict as the

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new organizational patterns evolve. The struggle to achieve a sense of order could lead to the establishment of new management systems, the development of sets of rules and procedures, etc., which then will confer a measure of stability on the new structure. Conflict, therefore, may stimulate creativity as the members of a unit struggle to adjust to the new situation and survive. As members of a unit struggle together against an external threat, the spirit of collegiality can increase and the group as a whole becomes more cohesive and more able to handle its power. This does not always happen, of course, some units fragment when confronted by a threat and individuals and subgroups survive but not the unit itself.

Interactionists believe that the absence of conflict in an organization almost inevitably indicates stagnation. Therefore, at times, it is necessary to stimulate conflict to revitalize the system. Thus the management of conflict becomes essential in dealing with the problems anticipated in the future. The process of dealing with such problems and attempting to reach some future desired state of affairs is, according to Ackoff,[4] planning. So conflict management is an important part of comprehensive planning.

The Management of Conflict

To plan effectively, therefore, one must be aware of potential sources of conflict. With such knowledge an administrator can perceptively scan his organization and its environment and gauge the various conflict sources and levels. He may then stimulate and resolve conflicts so as to maximize desired outcomes for the organization. Robbins identifies three main sources of conflict: inadequate communication within the organization, poor organizational structure, and diversity of personal and behavioural characteristics of organization members. These are interrelated and conflict situations usually involve elements of all three. For example, as a general rule the larger the organization, the greater the likelihood of the existence of conflict at any given time; size is thus the structural source of conflict, but size in turn affects the adequacy of the communication network and the probability of divergence of value systems in the members of the organization.

Administrators must also know about effective methods of resolving conflict so that it does not escalate to a dysfunctional level. How can conflict be resolved? Blake and his colleagues[5] and Burke[6] and Robbins all provide advice on the subject:

- Avoidance and smoothing – differences are not confronted; they are ignored. This may be a reasonable approach in highly emotional situations, but only on a short term basis.
- Compromise and bargaining – results in a decision which is suboptimal for all involved. There is a risk that conflicting parties will deadlock and conflict will increase further.
- Authoritarianism – the use of formal authority reduces the level of overt conflict but it may simply drive the conflict underground.
- Inducing behavioural changes – a slow and costly process which attempts to alter the behaviour of persons through an educational, organizational development process.
- Changing organizational structure – a buffer may be placed between conflicting units; or a small unit may be coopted into a larger unit.
- Problem solving – a confrontation approach, an attempt to induce open exchanges between conflicting parties, often in the presence of a mediator, with the "rational" building of a consensus.

- Superordinate goals – the imposition of shared goals whose success requires the mutual cooperation of conflicting units.

The first three methods really fail to address the underlying sources of conflict and their effect tends to be temporary. The last four are more direct and usually have a more long-lasting effect. Burke's research indicates that problem-solving (confrontation) is probably generally the most effective means of conflict resolution, whatever the cause of the conflict. Currently in the United States more than 200 institutions of higher education use collective bargain agreements to handle disputes over such faculty work and welfare issues as tenure, salary, work load, etc. In the face of increasing public criticisms and demands and shifting value systems in academe, faculty have turned to collective bargaining to try to establish norms and definitions of working conditions. Then formal grievance procedures and due process are available to handle conflicts. However, the only items which can be handled in this way are those specifically included in the contracts. Therefore less formal methods of handling conflict, such as those listed above, must still serve to deal with most problems.

In recent papers Glenny[7], Kerr[8], and Bennis[9] reviewed and discussed the internal and external pressures which are generating conflict in educational institutions today. They include changing patterns of funding at the local, state and federal levels; changing public attitudes toward higher education; generally declining student enrollments; fluctuating job markets; calls for increased institutional accountability to funding agents, students and the general public; staffing rigidity caused by a high percentage of tenured faculty. All three authors believe that the key to institutional survival during the next two decades will be the emergence of new administrative styles to deal effectively with conflict.

Those who occupy leadership positions will have to focus their attention on the institution-environment interface to plan and develop new, creative, entrepreneurial ways in which their institutions might respond to their environment. In other words, the institutions must change to function as open loop systems while maintaining sufficient internal stability for faculty to continue their teaching, research and scholarly activities. Community colleges have always had to be responsive to the needs of the public they serve. Large research universities have traditionally been able to remain somewhat aloof, to insulate themselves from public demands. So the changes and conflict which will occur in institutions of higher education during the next decades will be felt most keenly in that group of the large research universities which are less well endowed.

In this century there has been a general increase in the power of the faculty, and corresponding decrease in central administrative control. Trustees have delegated most of their authority to the senior administration, but much of this is actually exercized by faculty, and to a lesser extent, students. In general, central administration has, to a large degree, actually espoused a collegial model of university governance not merely tolerating but actually favouring widespread faculty (and lesser student) participation in decision-making. Faculty exercize this power because it is presumed that their technical and professional expertise is vital to making policy for the institution. Arendt's[10] view of the faculty stands in sharp contrast. She believes that the intellectual and scientific communities "cling with greater tenacity to categories of the past that prevent them from understanding the present and their own role in it". They also "lack experience in all matters pertaining to power". The diffuseness and ambiguity of power which result from this wholesale delegation of authority leads Cohen and March[11] to describe the university

as organized anarchy in which decision-making can best be described by the "garbage-can" theory. This type of participatory management by committee often seems to lead to "the rule of nobody"; everyone is involved in decisions and, therefore, no one person can be held to be responsible for them. Persons who wish to complain cannot localize responsibility; at best, conflict is resolved by avoidance; at worst, it festers and leads to the frustration of faculty, students and general public. It has, in part, been responsible for the increased faculty interest in collective bargaining. Hobbs[12] has noted that the participatory mode of management in universities is often punctuated by unpredictable eruptions.

The collegial model of university governance seems to function well only when the university is a relatively closed system with abundant financial resources. Baldridge's[13] political model of governance and Cohen and March's organized anarchy model are essentially descriptive; they are of limited use to an administrator who is seeking to manage his institution effectively. As Richman and Farmer[14] point out, the problems faced by a university today are not unlike those faced by the industrial sector. For several years corporate management has been struggling to find solutions to the pressures created by a turbulent and demanding environment, university administrators are just beginning to address themselves to the problem.

A Planning Model

There has been very little research on conflict management in higher education. This paper will use Weisbord's[15] management model to critically examine conflict management relative to the planning process in the university. He divides managerial work into five sub-divisions: (1) statement of the mission and goals of the unit; (2) design of an appropriate organizational structure; (3) design of a reward system based on the goal system; (4) use of available technology to help the unit meet its goals; and (5) building of good interpersonal relationships with subordinates, peers and superiors.

All these are interrelated and interdependent; they are affected by, and interact with, the external environment both individually and collectively. The manager occupies a central position in the model and must monitor and evaluate the information he receives about each interaction. On the basis of these inputs he can act to modify the situation in any subdivision. Thus overall the unit remains flexible and responsive to changing conditions in the internal and external environments.

Such an approach stresses the role of the manager as the change agent; the person who is responsible for creating and maintaining an organizational climate which encourages faculty development and ensures the continued effectiveness of unit in the face of changing conditions. The notion of the manager as a change agent is relatively new in the industrial sector. There the more usual approach has been to bring organization development specialists into the organization, temporarily, to initiate and facilitate change. In academic institutions, it is expected that senior faculty (whether administrators or not) will assist junior faculty in their professional development. However this development has been expected to follow traditional pathways. Considerable conflict has arisen where older faculty, concerned with maintaining the intellectual rigour of their disciplines, have attempted to pressure younger faculty to abandon their interdisciplinary interests. So, in many academic departments, change has been most actively resisted by those who are most senior.

The key to conflict management in Weisbord's model is the sub-division dealing with interpersonal relationships. Therefore, this paper will consider the initial goal-setting process (and its interactions with the other sub-divisions and the external environment) primarily in terms of the role of the manager.

Statement of mission and goals. It is of prime importance that universities have a clear sense of their mission and a set of well defined goals which are consistent with their resources and environmental conditions. Many academics feel that it is impossible to state explicit operational goals for a university[16] and, since goals cannot be set in any meaningful way, it is impossible to monitor and evaluate the progress of a university toward achieving its goals. This lack of clearcut goals and reliance upon a collegial mode of governance has led senior administrators to make what Barnard[17] terms negative decisions, i.e., decisions not to decide. When a set of goals has been agreed administrators are forced to make positive decisions, i.e., decisions to do something or refrain from doing something. However, such positive decision-making will stimulate conflict, so administrators must be prepared to control and manipulate it. In the past few years there have been studies of the goal systems of universities by Cohen and March, Baldridge and Grambsch[18] and Richmond and Farmer have reviewed and summarized their results. They believe that the goal pursued with the greatest vigour in all types of higher education, as evidenced by budgetary expenditure, is that of protecting the faculty (i.e., gaining and preserving tenure, rewarding prestige, providing job security and academic freedom). Other goals which are highly ranked at state multiversities and high prestige private colleges are research and graduate education; at these institutions undergraduate education ranks eighth and tenth (respectively) in priority.

The goals established internally by faculty and administrators of large research universities often are at odds with the wishes of the institutions' major supporters – state governments, federal government, professional accrediting agencies, parents, alumni and employers. Each of these groups has its own set of preferred goals for the university. For example, parents, alumni and the state government rate jobs for graduates, cultural assimilation and undergraduate education as the universities' three highest priority goals. None is among the top three actually pursued by the university. As long as money was plentiful, goal diversity and incongruence could be accommodated within the university; the slack was high and provided an adequate buffer between conflicting units and the external public. For a number of years, the tactic adopted by university personnel to deal with conflict generated by goal incompatibilities, has been that of smoothing. It seems unlikely that this will suffice for much longer. A clear set of goals, showing responsiveness to external pressure, must be defined by the university community. The chief task for administrators then is to initiate internal change.

Initiation of change. How can a large university go about the task of setting goals which are responsive to both internal and external needs? Faculty have their own sets of professional norms and values; these are difficult to change, and in a large university the interests of faculty are almost as varied as those of the students they serve. When such a heterogeneous group engages in "a struggle over values and claims to scarce status, power and resources" the conflict generated can easily become dysfunctional. Since few jobs are available in academia today, it is unlikely that faculty will respond by leaving the university. They are locked in, unable or afraid to exit. Therefore those who are tenured will begin to exercise their options and voice their opinions, intensifying the conflict even further.

If the conflict is ignored or avoided, there will be little faculty loyalty or commitment to the goals and, therefore, little chance of realizing them.

It is commonly accepted that planning cannot be successful or serious unless top administration is strongly supportive and committed to it. At the same time there must be participatory decision-making about goals and this must involve even the lowest levels in the hierarchy. The typical academic has little knowledge about how to set realistic goals for a unit, and even less knowledge about how to mesh these goals within the framework of overall university goals. Goal setting should be preceded by training sessions for departmental chairmen and deans, and even by top administrators. The sessions should cover not only the techniques of formulating goals but also aspects of organization theory as it relates to ways by which administrators can influence the climate of work units and the attitudes of unit members. That is, there should be stress on how the human variable may be altered to resolve or relieve the conflict that the goal-setting process will generate.

Ultimately, it is department chairmen who must persuade faculty that departmental goal-setting is desirable and necessary. Higher level administrators (deans or coordinators) must use their formal authority and reinforce the chairmen's stance. Conflict stimulated by the initiation of a goal-setting process can be maintained by a mild use of authority by senior administration and, at the same time, contained and controlled by a combination of resolution techniques, problem solving and the establishment of superordinate goals by the members within the group itself. Problem solving requires frank discussion of areas of disagreement by the faculty and the administration. If problem solving proves to be an effective means of controlling and resolving conflict, then the conflicting parties will establish superordinate goals and thus develop a degree of mutual interdependency. Both problem solving and superordinate goal setting are effective means of reducing conflict which has been caused by ineffective communications; they are less effective in situations where conflict arises from basic differences in values or from personality factors

The value of faculty and administrative commitment to superordinate goals has already been demonstrated in a number of private institutions which were struggling for survival. In these cases change occurred rapidly and new goal systems were instituted as traditional liberal arts colleges revamped their curriculum to provide career-oriented programs. The primary superordinate goal of the institution's employees was to survive. In the face of perceived external threats the academic community draws closer together, and groups tolerate (even welcome) increased centralization of power. If the goals are clearly stated and priorities agreed upon, then faculty are prepared to allow the top administrators to lead the institution through difficult times.

Practical applications. How can this type of planning be carried out utilizing Weisbord's conceptual model? Let us consider a large university which establishes as its three top priority goals for the next decade: The improvement of undergraduate education programs; maintenance of funding level for research; increased attention to financial development activities. The details of strategic planning for the realization of these goals will vary widely depending upon the current status of the institution with respect to each goal, and the general environmental situation. Each goal should be studied in terms of the changes that will be needed with respect to organizational structure, technologies, the reward system and the interpersonal conflicts which such changes will generate. Procedures for dealing with the expected conflict can then be built into the planning process. For

example, the university may have decided to work toward improving undergraduate education by increasing the amount of money devoted to faculty development in some teaching area. This may require a new organizational unit to handle this work or may need an existing one to be reorganized. Since the resources, status and power involved in faculty development will be increasing, conflict among those directly involved in the reorganization will be low. But resistance may well occur from other faculty. If the new goals have been widely accepted this resistance should not become dysfunctional. However, new technologies will likely be used to improve the teaching (videotapes, television, computer-aided instruction) and the unfamiliar will generate its own anxiety, even among those who are anxious to see the innovation succeed. The way in which the reward system is set up will probably be a key factor determining the extent to which the goal is realized. Traditionally the teaching of undergraduates has been a low status activity in universities. Unless the reward system is reoriented few faculty will see much point in redirecting their energies from high status research toward activities intended to improve undergraduate studies. A perceived conflict between the goal and reward systems, such as this, would prove to be dysfunctional.

This type of analysis must be carried out for each goal. If, for example, an institution wishes to maintain its present level of federally funded research, it must remain in step with the rapidly shifting research funding patterns. Structural and procedural mechanisms must be provided so that potential principal investigators can respond to RFP's on short notice; intra-university procedures must be streamlined so that the preparation of multi-disciplinary grant proposals can be facilitated. Technology must be developed to rapidly disseminate information throughout the university community, and human resources must also undergo development in the area of grantsmanship. The reward system must also reflect the value that the university places on this type of activity; rewards can be tangible (i.e. merit salary increases) or intangible (the facilitation of grant preparation and submission so that the faculty member increases his own professional stature). Increased activity in financial development may require new, formal organizational units or simply the creation of an informal network of faculty and administrators to get the work done. This would be a relatively new area of involvement for many university faculty and as such it will generate anxiety. So these new expectations must be clearly tied in with the reward system to legitimize the activities.

After analysis of each individual goal, the goal system in its entirety should be examined for potential conflict sources among the goals. This simple approach to planning should occur at the level of the departmental faculty meeting and on up through the hierarchical structure of the institution. It is evident that some administrators have always instinctively used an approach similar to that described here; they have deliberately stimulated conflict and then channelled it into productive changes for their units. More often, however, grandiose goals are formulated and strategies plotted, but the important peripheral effects are ignored. A recent article by Fincher[19] discussed the four "grand strategies of reform" being pursued by U.S. universities today in an effort to re-establish comity and regain consensus within the higher education community. In his opinion, the four (the accountability theme, the alternative learning movement, planned change or organization development, and the interdisciplinary policy sciences approach) are all failing to reunify and stabilize the sector. The planning model suggested in this paper draws on portions of each of the four strategies. It would seem to lend itself to the development of a better integrated institutional planning process for higher education.

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SCHOOLS FOR DEVELOPING COUNTRIES: THE TURKISH VILLAGE INSTITUTES

Background

The terms "underdeveloped", or "developing" are used nowadays to describe countries which are culturally and economically backward and deprived. And for the past twenty years social philosophers and economists, of many persuasions, have been preaching that education is one of the most effective means by which these countries can be helped. Recently a number of *caveats* have been entered in this thesis, but there is still considerable belief that the growth of education and the growth of the economy are linked.

Those "developing countries" which seem to have made most rapid progress toward entering the circle of the "have" nations (India, Mexico, Japan – which has clearly "arrived") are ones which have made educational development a prime national target. As John Dewey suggested in a report on education in Turkey,[1] schools must form proper political habits and ideas, foster the various forms of economic and commercial skill, and develop the character traits, intellectual and moral, which fit men and women for self-government, economic self-support and industrial progress. Specifically Dewey suggested that:

- the mass of citizens, not simply certain leaders, be educated for participation in the political, cultural and economic growth of the country;
- a teacher training program be implemented suited both to the needs of the country and the pocketbook of its citizens; and
- every community be provided with a school which would be required to become (especially in rural districts) the centre for community life.

However, realizing these goals is not as easy as prescribing them. Most of the so-called developing countries not only lack schools of the quality described above; they lack schools period. In 1964 an international study looking into the basic obstacles to development in Third World countries concluded:

> Over half the people in the world are illiterate.
>
> Over half the people in the world are ill.
>
> Most of the people in the world are hungry most of the time.
>
> Most of the people in the world cannot afford adequate clothing and recreation.
>
> A large proportion of humanity is still affected by injustice in one or more form.[2]

Since 1964 there has been some improvement; the fractions quoted above have been reduced; but not by as much as the optimists would have us believe. The importance of education as one of the important contributing factors to development seems to have been accepted by the policy-makers of developing countries. Most of these countries give high priority to raising the educational level of their people and providing a great deal more

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formal schooling than was available in the past. They also by now have become cautious about emphasizing the importance of education alone, and increasingly they try to link education and training to employment. Much more than the industrialized societies, they have brought the so-called "manpower" approach to educational planning. So they have tried to link skill training to some notion of the total number of persons required in the various economic sectors.

Moreover, the experts in community development now are suggesting that, through education, changed sets of values and life style can be introduced, ones which are more suitable for "modern" life. Certain individual and group attitudes and behaviour patterns can be taught (or demonstrated) which will help the society achieve its goals of development; certain attitudes and habits inimical to a "modernization" can be modified or a altered. Much of the community and educational planning in these countries is designed to transform them into modern industrial states. This paper describes an experiment in Turkey which had a quite different objective. Its goal was to develop and maintain the village, to help transform it into a modern village so that the pattern of development would *not* follow the European model – villagers would not "get on" only by flocking from the villages into new industrial towns. The experiment aborted, but it is important that it be recorded and studied because it gave promise of a type of educational development less disruptive than that which has been generally followed in the 1960s and 1970s. The Turkish Village Institute was in the tradition of the Danish folk school or the American community school in that it was geared to helping rural people enlarge their horizons and develop their skills, while still remaining village people.

To provide some framework to the description of the village institutes, first we shall give some basic facts about modern Turkey and its educational system. Turkey is a country of 40 million population and roughly 300,000 square miles; a Middle Eastern country bridging the continents of Europe and Asia. It is rural; farming peasants comprise approximately 80 percent of the population. It was established in 1923 from the ashes of the Ottoman Empire which had lasted over six hundred years and had occupied a vast territory stretching from Vienna to Saudi Arabia. At the end of the First World War the Ottoman Empire, being on the losing side, was shared out among the victorious states. There emerged from the *debacle*, only seven independent cities in Central Anatolia. From this base there was waged a war of independence. Under the command of Ataturk, some of the invaded territories were recaptured and by October 1923 there was proclaimed a Turkish Republic with roughly the present boundaries of the country. The land was devastated and its people hungry and miserable, but Ataturk pledged: "We shall raise our country up to the level of advanced nations".[3] It is apparent that Ataturk considered education indispensable for the achievement of this objective. But the kind of education he sought would subordinate the nation's economic objectives to its political goals. It would be the means of forging a politically independent, secular, modern and westernized nation out of one which was predominantly agrarian and Islamic.

In his presidential address on the first anniversary of the republic, he proclaimed:

> The real owner of the country is the villager. We have been sending, for many centuries, villagers to the four corners of the world for fighting. We have shed their blood and even left their bones in the foreign lands. For all this time, we have used up what was achieved by their sacrifices and hard labour, and in return we paid them back with hatred and humiliation. ... So much so

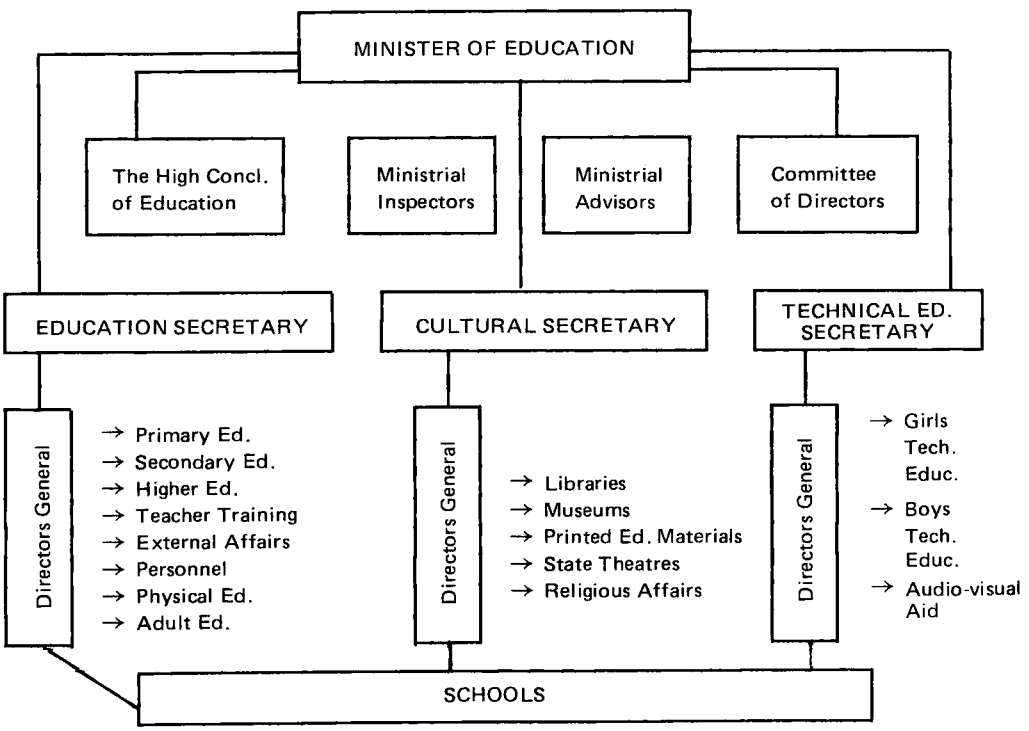
> that we degraded them to servants' level by flourishing impudence and ingratitude against them. It is time, gentlemen, to understand and to take our real position before the true owner of the country, the villager.[4]

It was Ataturk's belief that the village was not to be modernized by being urbanized but rather by being equipped to live as a modern village. This theme underlies the Koy Kanunu (The Village Law of March 8, 1924).[5]

Turkey has a cabinet system of government. The Education Department is headed by the Minister of Education selected by the Prime Minister from amongst the leaders of his party in parliament. The Minister of Education, therefore, is personally responsible to the Prime Minister and, with the other members of Cabinet, collectively responsible to the Grand National Assembly. In the department there are three under-secretaries, senior civil servants (supposedly) not appointed on a political basis. Below them are directors general, each of whom chairs one division of the department, e.g., elementary, secondary and higher education, at the central level; a Director of Education to represent the ministry in each province; and an Education Officer to represent it in each sub-province. An organizational chart is shown in Figure 1.

The Turkish educational system, like all public administration in that country, is an example of a highly centralized system. Policy-making and the administration of schools are conducted and regulated at the ministerial level. The Minister makes all final decisions. His signature appears on all orders, even dealing with relatively minor matters such as the appointment and transfer of teachers, the use of textbooks and the approval of petty financial transactions.

Figure 1 ADMINISTRATIVE ORGANIZATION OF TURKISH EDUCATION



In Turkey the general level of literacy is low – 54.5 percent in 1973–and there is great regional disparity. In some provinces nearly 90 percent of the population is illiterate.[6] The variance between the eastern and western halves of the country and between the rural and urban population is marked. Of 40,000 village communities, one in three (by the most recent count) has no school.[7]

In 1963 the percentage of the population with five years of schooling was 15.2, eight years of schooling 1.9, eleven years of schooling 0.7, and with two or more years of higher education 0.4.

In 1924 John Dewey was invited to visit Turkey and suggest educational policies appropriate for the new nation. He stayed two months studying and observing the existing educational system and prepared two reports for the Ministry of Education which contain a number of proposals for new education policies. With regard to rural development he advised hat not only an elite but the mass of citizens be educated. This would require more than just schools to train pupils in academic subjects. It would require schools to become centres of community life, centres of recreation and physical exercise, and above all centres of vocational, agricultural, commercial and industrial training. He advised that unused land be allocated to rural schools to provide (1) teacher accommodation, and (b) relieve the Rural Education Department from such petty details as approving all financial transactions. He suggested that a new type of teacher training program be implemented, one which would foster a distinct kind of normal school, with special reference to the needs of peasants and agricultural workers. He warned that unless special attention is given by schools to the interests of peasants and agricultural workers, there is danger that the establishment of a system of universal primary education would actually result in social harm. It would give the system of education a theoretical and scholastic bias which might easily divert the younger generation away from rural life, without giving them the capacity to do anything else. He advised that certain of the new schools be enlarged so as to provide commercial, industrial and agricultural training, and that one of these normal schools have a graduate department to train special teachers for the other new normal schools and to train supervisors for the elementary schools.[8]

Unfortunately, the report was not acted upon. In fact it was kept secret by the Ministry of Education for fifteen years and was not published till 1938, the year the Village Institute Project was first put forward. There seems to be some link between the fate of the Dewey Report and that of the village institutes. In 1950 when institutes were abolished the John Dewey Report disappeared once more. It has become a "rare document".

A Distinct Type of Normal School

Dewey intended the new institution to be a "distinct type of normal school". The first village institute, Kizilcullu Koy Enstitusu, was established in 1938 and, in a relatively short time, there emerged twenty-one of them dispersed over the country. They were constructed near remote villages, within rural districts which were most likely to be out of touch with the currents of "modernization". Their pupils were recruited from the village children who had completed elementary education. Admission was selective; selection was through competition.

The institutes were economically self-supporting. Except for certain construction materials (cement, iron, lumber) and for the instructors who were provided by the state,

the sole financial resource of an institute lay in the labour of its students. They built the classrooms and dormitories; installed water pipes and telephone and power cables, planted trees, tilled the farm, and raised sheep and cows. In a surprisingly short time an institute not only became financially self-sufficient but also built up working-capital through which it began to sponsor nearby village schools and to help develop village communities. These were boarding schools and they were coeducational. They offered a five-year program, a curriculum that was half study and half practical work. The latter included carpentry, masonry, plumbing, agriculture and, in the coastal villages, fishing. For the girls there was also instruction in domestic science, hygiene and child care.

One of the main functions of the village institute was as a rural normal school, training teachers for the village elementary schools. One institute, Hasanoglan Koy Enstitusu, had two additional departments: The College for Health and The Graduate Department. The latter produced subject-specialist teachers for the other institutes and supervisors to assist the village elementary school teachers. Upon completion of their courses, graduates of the institutes were qualified village teachers, health officers or elementary school supervisors. They were then sent to their home communities – not only to teach or supervise (or otherwise carry on their job) but also to devote half their time to the improvement of the community. "Thus the rural teacher was prepared to be a leader in the rural community in raising the standard of living as well as to teach the academic curriculum."[9]

During the years 1939 to 1950 the village institute movement made remarkable progress. Their numbers grew and the official evaluations of both government and foreign experts show that they were a success – their accomplishments were spectacular. But when the Democratic Party came into power in 1950, they were abolished. The election of 1950 marked the first free election in Turkey (two previous experiments in representative government had failed). We would define a "free" election as one in which every citizen of voting-age can (if he decides to) vote without coercion or fear to indicate his choice of political party and government. In 1950 the majority of the voters in Turkey (80%) were villagers. The Democratic Party won the election on their votes. The village institute experiment had been specifically aimed at improving the education and the life of villagers and villages. It was a direct government policy response to their needs. The experiment had been regarded as a success and its accomplishments were so great that it was not possible that villagers could be ignorant of them. And yet it was the Democratic Party which abolished them. Why? A number of factors were involved.

Social stratification and rural values

In a rural society the ones who show high ability to foresee, to become informed and enlightened, and who are open to change, are mostly drawn from the poor of the community. At least, this seems to be true of rural communities in Turkey. It is the rural poor who have no land stake in the village as it is presently constituted. They are forced to look for jobs in towns and cities. They, therefore, gain new experiences, develop new needs for a 'better' life and recognize new ways of satisfying these needs. The prosperous members of the village community lack the incentive to look for new experiences or adopt new ways of doing things. When the village institutes started, the poor readily consented to send their children to the new schools. They were more enthusiastic than the prosperous villagers. The latter could neither see the importance of education for their children and its advantages, nor afford to let them leave the village because they provided labour for the farm. After being trained at the village institute for five or more years the poor

village kid returned. He was no longer just "the son of Ahmet the Poor", he was now an educated leader for the village – teaching, supervising, guiding. This upset the social hierarchy. The "Agha", the rich man of the village, did not appreciate being secondary to this new teacher. How could "the Son of Ahmet the Poor" be more important in village affairs than the Agha? It was not to be tolerated! So there ensued pitiless campaigns against village teachers, with charges ranging from incompetence to "communist" activities.

The institute project probably was overly ambitious. This village teacher who was to act as a "change agent" training village youth, fostering agricultural development and teaching scientific farming was himself only a half educated youngster. The institute graduates were teenagers expected to provide leadership in agricultural communities where a criterion for authority was age.

Status Quo

The institute graduate teacher or health officer quickly became a threat to the *status quo*. Other district and provincial government officials resented them, since often it was the teacher or health officer who reminded the state authorities of unfulfilled duties and responsibilities. Officials were offended when the village teacher started to argue with them about the rights of villagers. The governor of a province, for example, did not take kindly a village teacher's reminder that he was but a public servant supposed to be serving the citizens, and that he (the Governor) had no right to scold villagers or expect them to beg for services which were granted to them under the constitution. This new village "teacher" was neither merely a villager nor a government official. Both sides objected to his interference in village affairs; to both he represented a challenge to authority.

Moreover, one practice was adopted which caused the institute graduates even to be disliked by the other village elementary school teachers who might otherwise have been their natural allies. According to The Village Institutes and Village Teachers Act,* in a village school only the institute graduate could act as headmaster. And this was so without any regard to his age, experience or administrative efficiency. Thus, in the larger village schools the graduate had to work with teachers who were more experienced than himself and had to take over the duties of former experienced headmasters. So, from the beginning, the young institute teacher graduates had a ready made set of enemies within their own schools.

Religious Considerations

The rural population of Turkey is almost one hundred percent Moslem. In terms of administrative structure the Moslem religion is not as "organized" as Christianity. The religious affairs of a village are conducted by the "hodja". This person does not necessarily report to any superior organizational echelon. He is hired directly by the community, and he assumes unlimited sanctioning authority on practically every aspect of community affairs which has any remote religious connection.

According to the 1965 Census, none of the hodjas had had a formal schooling higher than elementary school and only a small percentage had completed elementary school.

**The Village Institutes and Village Teachers Act, No. 4274, Ankara: Ministry of Education Publication, 1946.*

Almost all had acquired their training privately, from other hodjas. The training involves memorizing the "Quran" (the Bible of Islam), through rote learning, since the Quran's language is Arabic and the village hodja knows no Arabic. In conducting the affairs of the village (e.g., for marriage*, the settlement of conflicts among community members and for preaching at the Jami, the Church in Islam), the hodja's frame of reference is tradition, the past practices of other hodjas since medieval times. A hodja, for example, would preach that the Earth is placed upon the horns of a yellow ox and that an earthquake occurs when flies disturb the animal. In giving the people the factual information about the nature of things and making villagers aware that the hodja was really quite an ignorant man, the institute graduate inevitably became the number-one enemy of every hodja. With illiterate villagers the hodja's authority to oppose and undermine the work of the institute teacher was tremendous.

Values and Mores of the Society

The villager in Turkey is unbelievably influenced by the teachings of the hodja. For example, it is still common belief that music, painting and the use of roman alphabets are against religion**. The average villager opposes educating girls and boys in the same school. To some extent the education of boys is acceptable but he sees no need for girls to attend school. The hodja's moral objections fed the villagers social objections. The villagers themselves were not entirely happy with the village institutes; they connected them with state enforcement of schooling and the requirement of village communities to build a school.

Political Considerations

Its graduates having become unpopular with such a large segment of village society and so many rival establishments and authority figures, it was inevitable that the village institutes would become a controversial political issue. And in the 1950 election the Democratic Party made good use of the issue, promising to abolish the institutes.

Evaluation***

A number of evaluations have been made of the Turkish Village Institute Project and several references have been included at the end of this paper. Here we shall confine ourselves merely to listing some of their accomplishments. Their most important contribution was made in raising the level of mass education. When they were abolished in 1950 literacy had risen to 35% of the population from 24%, the level of 1938, the starting year of the project. This is the highest rate of increase in literacy that Turkey has ever been able to achieve. Correspondingly, there was a significant decrease in the percentage of school-age village children not in school during these 11 years, as may be seen from the following:

*Turkey under its civil law requires that marriage be performed by a judge, but in rural areas it is still performed by hodjas.

**Turkey adopted the roman alphabet in 1926; before that the arab alphabet was in use.

***All the figures presented in this section are taken from *Milli Egitim Istatistik Ozetleri 1932-1949* (in Turkish). Ankara: Ministry of Education, 1950.

PERCENTAGE OF SCHOOL-AGE CHILDREN NOT IN SCHOOL

		1941-42	1949-1950
In villages:	boys	67.5	25.4
	girls	85.0	44.8
In cities:	boys	26.1	24.0
	girls	56.'	42.0

The percentage decrease in the villages (served mainly by the institute graduates) was 42.1 for boys and 40.2 for girls; the corresponding figures for the cities were only 2.1 and 6.1, and by 1949-50 the proportion of non-attending girls in the villages was almost as low as in the cities.

The total number of institute graduates still on active duty in the villages is 26,100. Of these 17,000 are teachers and elementary school supervisors, 8,000 trainers ("egitmen" in Turkish, a special kind of village teacher who had only six months training) and 1,100 health officers. When they were abolished the 21 institutes owned about 100 buildings which were in use as classrooms, dormitories, offices and workshops. Each one had a truck farm, a vineyard, an orchard and a dairy farm, and had raised sufficient working capital to make itself self-supporting.

In 1949 in an address to the nation President Ismet Inonu disclosed that 13,500 village youngsters had completed vocational courses operated by the institutes; 874 new shool buildings, 875 workshops and 993 teacher residences had been built in villages, and 851 village schools had been repaired.[10]

The institute's contribution to the many social changes which have taken place in Turkish rural communities since 1938 is difficult to measure precisely but is undeniable. The concept of family has changed from "joint family" to "nucleated family"; the concept of marriage from "polygamy" to "monogamy". These changes were greatly influenced by the graduates from the village institutes. Today few villagers believe in religious-spiritual treatment, as opposed to modern medical care for the ill. The incidence of family arranged marriages has greatly decreased and this can be directly attributed to the increase in the number of village girls attending school.

Conclusion

According to Halpern, "A vital factor in assessing transformation within the village community is the way local individuals assess changes that have taken place within their lifetime."[11] And it is claimed that education is one of the most effective means to help develop the culturally and economically deprived communities of the world. But there is a close relationship between the kind of personnel required for the development process and the education system which produces them. All too often educating a group of persons results in cutting them off from the communities of their origin, alienating them from the very people they are supposed to be helping. When asked to advise the newly independent republic of Turkey abouts its educational policy, Dewey pointed out that, "Unless there is a special attention given by schools to the interests of peasants there is a danger that the establishment of universal education might actually result in social harm".

The most spectacular educational measure taken to modernize rural Turkey was the creation of the system of village institutes which we have described. These institutes were self-sustaining, self-help, model schools providing practical and secondary level education for villager youngsters who then returned home to instruct others. This was a self-accelerating system for the education of villagers by villagers, one which required little transfer of urban resources. Its very success ensured its demise. In a few years it engineered some radical social changes which shook the feudal order of the village and aroused the enmity of the village establishment.

However, before planning the expansion of formal education systems and high investment in their elementary, secondary and higher education institutions the "have-not" nations would do well to look at the accomplishments of such projects as these Turkish village institutes. If the village is to be modernized, if the "distance" between city and village is to diminish, if *all* the people are to be educated (not just a governing elite, not just a group of scholars to join the international marketplace of ideas, and not just the technically skilled to be employed in the small industrialized sector), then some educational scheme like the village institute must be used.

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Edwin Marshall*

THE BEGINNINGS OF EDUCATIONAL PLANNING IN SURINAM

Members of the International Society of Educational Planners have a professional interest in learning about planning modes and problems of countries other than their own. This paper will describe the recent experience of Surinam. In some ways the paper itself represents a pre-planning document. Because most of the readers are North Americans who know little or nothing about Surinam, first we must describe the society in which the educational system will function, the clientele for whom service is being provided and the administrative structure and traditions which govern the service delivery. Having provided rather more background than is generally necessary, we shall discuss planning goals and planning process. Since the planning covers a very short historical period indeed, we cannot yet evaluate its success.

In November 1975 Surinam obtained its constitutional independence. From the outset it was evident that educational planning would be an essential part of the national planning effort. There was confidence that education would be one of the means of bringing about the new attitudes and increased knowledge which would contribute to the development of all sectors of life.

Background

Geography and population

Surinam is situated in the north of South-America. It encompasses about 180,000 square kilometres. It is part of the extensive area called Guyana, which borders on the Orinoco and Amazon rivers. It is a thinly populated country. According to the fourth general census (1971) it has a population of about 385,000, i.e., about 2.6 inhabitants per square kilometre. One-third of the population lives in the capital city, Paramaribo. The remaining two-thirds are scattered over eight counties of greatly varying size – from Coronie, with 3,300 inhabitants, to Surinam with 151,500.

From a sociological point of view Surinam might be described as a plural society. It has a variety of racial and cultural groups much greater than most countries. These include negroes (30.8%), East Indians (37.0%), Javanese (15.3%), Chinese (1.7%), Europeans (2.7%), Libanese (1.0%), bush-negroes (10.3%), and Amerindians (1.3%).

Surinam experiences the high population growth which is characteristic of developing countries. Growth has been about 2.5% per year. The average yearly population growth from 1964 to 1973 was over 2.3%, but there is some indication that the rate of growth is declining – at least it has done so in recent years.

The difficulty from a school planning point of view arises not merely from total population growth but from the very large cohorts aged 0-15. Moreover their propor-

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tionate size and rate of growth vary from one racial sub-group to another. For example among the negroes, the 0-15 age groups represented (in the last census) 45.2% of the total negro population; the same ages represented 51.3% of the east indians, 44.5% of the javanese and 45.7% of the country's population as a whole. So there will be a differential demand for education by social group and by geographical region.

Surinam is also a plural society in terms of religions, and this variety is reflected in the educational system. Apart from Christian religions (Roman Catholics and a number of different Protestant sects) there are also Muslims, Hindus and primitive religions. Every religious group aims at setting up its own schools. As of 1973, the system was divided, denominationally, as follows:

Group	Number of Schools	Pupils	Teachers
State*	112	38,641	1281
Catholic	64	24,378	742
Protestant	54	18,277	615
Muslim) Hindu)	53	13,960	451
Total	283	95,256	3089

*Secular

Source: Division of Educational Planning.

Constitutional and economic features

Surinam is a parliamentary democracy, a Republic. The present parliament includes six different political parties, and the government is a coalition supported by members of four of the political parties which belong to the Nationale Partij Kombinatie. There is universal franchise of all citizens aged 21 and older and elections are held (by secret ballot) every four years. Almost all political parties are structured on an ethnic/racial basis which reflects the population.

Surinam's economy exhibits the familiar pattern for Third World countries. There is massive structural unemployment accompanied by economic stagnation, small savings quota, a great dependence upon foreign investment, considerable inequality of income (wealth), a lack of technical and scientific manpower of every description and generally little "modern know-how". Subsistence agriculture is the main source of employment, but the mining of bauxite contributes most to the Gross National Product. Bauxite mining is almost entirely in foreign hands.

Of the total labour force 25% work in agriculture and forestry, 15% in mining and bauxite winning, 22% in the civil service and about 23% are unemployed. The distribution of the Gross Domestic Product, by sector in 1971 was as follows: agriculture, cattle breeding and fisheries, 9.2%; forestry, 2.7%; mining, 33.2%; industry, 11.3%; construction, 1.7%; commerce, banking and insurance, 16.4%; housing, 3.3%; government, 19.0%; other services, 4.9%.[1] The dependence upon one product makes Surinam an extremely vulnerable economy. Bauxite mining contributes over one-third of the domestic product, one-third of Government revenue and 90% of export income; but its share in employment is small. The economy is greatly dependent upon foreign countries. This is manifested in two ways: (1) The major part of the economy is *controlled* by the Bauxite companies, and (2) the country depends upon foreign aid. According to the balance of payments of 1973,

foreign-aid appears under two categories: (1) Assistance for the first and second five-year plans (1972: Sf*34.3 million, 1973: Sf.35.9 million). The development aid over the second five year plan (1972-1976) consisted of a donation of 60% and loans amounting to 40% of the total. (2) Loans and donations from such international agencies as the E.E.C., F.A.D., A.I.D. (1972: Sf.7.4 million, 1973: Sf.90 million). Dependency is intensified by the pattern of consumption in the country. Consumption is almost completely geared to the western world. The national consumption quota amounts to 96% and the savings quota averages about 4%.

Problems of employment are the most serious national issues and they are not unrelated to education. Apart from the structural unemployment there is much hidden unemployment in the agricultural section. The reported unemployment percentages are flattering; many people emigrate to Holland in search of employment. According to H.E. Lamur about 70,000 Surinamise (estimated) have migrated to Holland in search of employment. Most of the exit flow involves the most productive age cohorts, 15-64.[2]

In Surinam the national income is very unequally distributed. According to G. Lagerberg and J. Vingerhoets[3] only two percent of the labour force earn more than Sf.1000 per month, while 81% earn less than Sf.166. The average annual per capita income is about equivalent to US $600. The average annual per capita income in the different economic sectors is not readily available, the figures for 1971 range from Sf.200 in agriculture to Sf.6000 in the banks and the bauxite industry.[4] The precise figures will have changed over the years but the proportionate spread is probably much the same.

Education

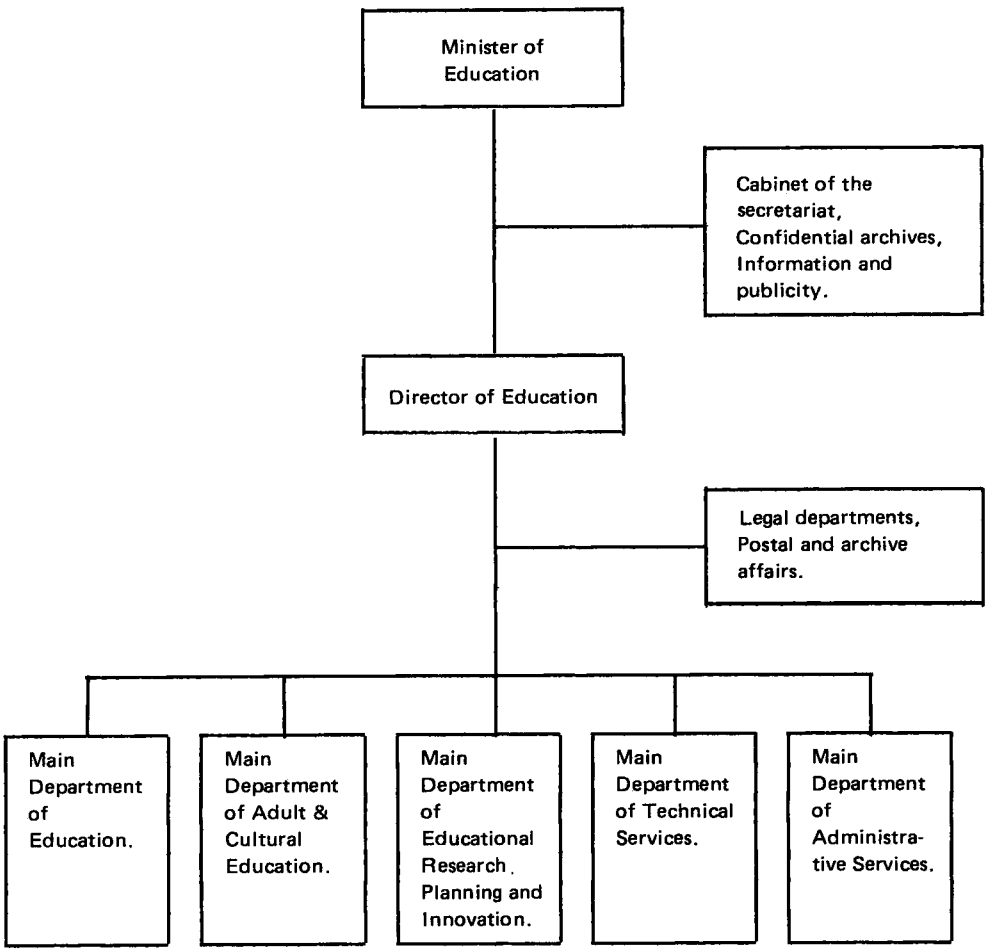
The Ministry

Having given this background information, let us now describe the administrative apparatus of the formal educational system of Surinam. Figure 1 shows the structure of the Ministry. The senior permanent official is the Director of education. The Ministry is divided into a number of main departments each headed by an assistant director. The main departments are, then, sub-divided into divisions, headed by division-supervisors. Communication generally is hierarchical from the top down: from the minister to the director and then to the assistant director, and to the division-supervisor, etc. There is also some direct communication within the hierarchy. The Main Department of Education comprises those divisions which directly deal with the educational process of schools.

- Schools themselves, the teacher training college for secondary schools, the corporate bodies of the teachers, and the schools for special education.
- Organizational divisions, which have a regulatory function, such as the Bureau for Primary Schools (which deals with the transfer of teachers), The Bureau for Technical and Domestic Education, etc.
- Inspection Services, which have an advisory and quality control function, such as the Inspection of Primary Education, the Inspection of Technical and Domestic Education, the Inspection of Higher Secondary Education.
- Services for the guidance of pupils with learning and behaviour problems.

*Sf 1 = US $0.55

Figure 1 THE ADMINISTRATIVE STRUCTURE OF THE MINISTRY OF EDUCATION



We shall not outline the jurisdiction of each department. They are typical of the major structural divisions of any large educational administration (in this case somewhat heavily influenced by the Netherlands pattern). But of special interest here is the department within which the planning activities rest. The Main Department of Research, Planning and Innovation has four divisions: one each for educational research, educational planning, innovation, and corporate affairs. They deal with educational planning at the national level.

The formal educational system

The Surinam educational system is based on that of the Netherlands, one which might be described as being "vertical categorical". Figure 2 shows its organization. After attending the nursery school (age group 4-6; non-compulsory) the 6 to 12 year old children attend primary school. Pupils who are unable to follow the normal primary school program because of mental or physical handicaps can be enrolled in a (limited) number of special schools for the blind, deaf, spastic, mentally retarded, etc. Upon leaving primary school, pupils take entrance examinations for a middle general secondary school or a junior technical school. The certificate of the middle general secondary school, which is a broad-based qualification, can give entrance to a senior high grade college, a teachers training college or a technical high school, but entrance is by competitive examination. In addition to the general educational institutions there are vocational (junior and senior) schools as well. There are junior technical schools and junior domestic science schools (for girls only). At the senior level is the Senior Technical Institute and senior technical schools, the Teachers Training College and the Middle Economic and Administrative School. The higher education academic institutions include the faculty of law, the faculty of medicine and the faculty of social and economic sciences.

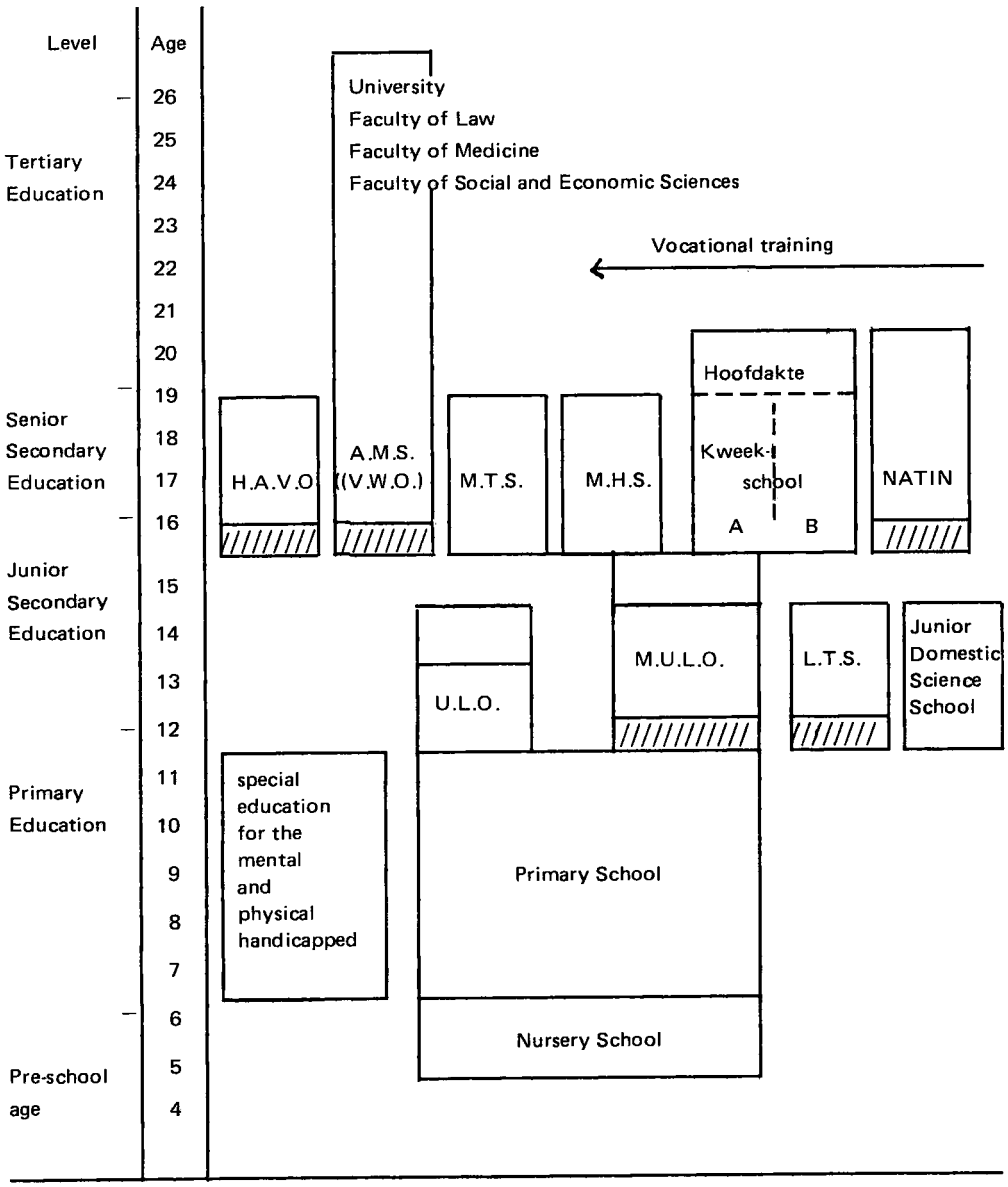
With about 50% of the population being between 6 and 15 years of age, the burden of the cost of schooling is tremendous. The school-attending population has been increasing at about 4% annually.

The purpose of the nursery school is to prepare children of 4 or 5 years for their admission to compulsory schooling. Instruction is in Dutch and, since many children speak a different language at home, the nursery school tries to develop a functional use of the Dutch language. They also lay emphasis on other aspects of the child's cognitive development. One problem is that the provision of schools is geographically uneven, so they differ greatly on such important factors as class-size, as may be seen from the following:

Nursery Education as of 15th October 1973

County	Number of schools	Pupils	Number of teachers	Number of classrooms	Average pupils per class
Paramaribo	59	7055	219	186	37.3
Surineme	93	7487	232	222	32.0
Saramacca	14	525	16	19	22.8
Nickerie	21	1988	56	49	38.2
Coronie	4	190	6	8	27.0
Brokopondo	10	432	7	15	19.6
Commewijne	20	639	30	25	25.6
Marowijne	17	951	24	26	32.8
Pars	16	895	27	29	29.8
Total	254	20162	617	579	33.0

Figure 2 THE FORMAL EDUCATIONAL SYSTEM IN SURINAM



NOTES:

//////////	Entrance examination
H.A.V.O.	Higher General Secondary Education
A.M.S.	Senior High Grade College
M.T.S.	Senior Technical School
M.H.S.	Middle Secondary and Administrative School
NATIN	Senior Technical School
U.L.O.	Lower General Secondary School
M.U.L.O.	Middle General School
L.T.S.	Junior Technical School
KWEEKSCHOOL	Teacher Training College
HUISHOUDSCHOOL	Junior Domestic Science School

All 6 year olds are admitted to primary schools. It is planned that, in future, school-readiness tests will be given to detect those entrants with learning and behaviour difficulties in order to set up remedial schools or programs for them.

There has never been an official statement of the objectives of primary education. The schools' goals are implied by the books which are used. Since the books are mostly imported from the Netherlands and were written for their systems, they do not reflect the world in which the children live. It is evident that primary education was designed for a quite different society. It is broad-based, intended as a preparation for secondary education. In practice, however, primary education in Surinam is final, particularly for pupils outside the city. In this it reflects the dualistic nature of the Surinam education system.

Teachers

By qualification, the teaching staff can be ranked as having a degree from the advanced teacher training college; a degree from the teacher training college; a lower degree of the teacher training college; as a junior teacher (qualified to teach in the first and second forms of the primary school); student teacher (unqualified assistant teacher in the districts); or teacher qualified for the interior (qualified to teach in schools in the interior).

In the academic year 1973-74 the normal primary schools employed the following number of teachers:

Qualification	Number	Percentage
Fully qualified primary school teachers	139	5.2
Partially qualified primary school teachers	797	29.3
Assistant primary school teachers	905	33.3
Nursery teachers	540	20.0
Senior nursery teachers	92	3.3
District student teachers	86	3.1
Teachers qualified for schools in the interior	103	4.0
Completely unqualified	54	2.0
Total	2716	100.0

And in the same year the enrollment and school system they served could be described statistically as follows:

County	Number of schools	Number of pupils	Number of classrooms	Average per class	Number of teachers
Paramaribo	75	31865	854	37.3	858
Suriname	95	33977	1008	33.7	906
Para	17	3938	135	29.1	145
Commewijne	20	4232	158	26.1	133
Marowijne	20	5583	176	31.7	149
Saramacca	14	2779	101	27.5	96
Coronie	5	921	32	28.8	32
Brokopondo	14	2316	102	22.7	77
Nickerie	23	9671	275	35.2	286
Total	283	95282	2841	33.5	2682

At the end of the sixth year of school an examination is taken. The exam, which is organized by the Ministry of Education, provides entrance to the middle general secondary school or the junior technical college. Those who fail the examination may (if their parents wish) attend the lower general secondary school, but it is not compulsory. In 1974, by county, between 17% and 49% of the students "passed" the entrance exam. The highest proportion of success was in Paramaribo. Overall 34% passed. The results show clearly the variation in the quality of schools by geographical area and by denomination. These differences are caused by the structure of the educational system itself, the internal organization of the schools, and the inadequate adaptation of learning materials to the world in which the children live; by differences in the educational qualification of the teaching staff, and differences in educational resources in the schools and in the children's homes.

For years Special Education was neglected in Surinam. Although modernization and expansion has been underway in recent years, the statistics show how inadequate the service is. Few primary schools have classes for children with learning disabilities. There is one school for the blind in the entire country, one for spastic children, and one for the deaf and hearing impaired. Six schools take children who are mentally retarded. Between 1968-69 and 1973-74 the entire special education enrollment more than doubled (from 360 children to 852).

When children leave the primary school, they have the possibility of entering three types of school – the lower general secondary, the middle general secondary, or the junior technical.

The first type of school takes pupils aged 12-15 but it has no clear function within the Surinam system. It really is a sort of creche for those failed to gain admission to the other two. There are two kinds of lower general secondary education: "old style" and "modern". Neither form satisfies pupils, parents or employers. The pupils of this kind of school who pass to its final examination can automatically enroll in the second form of the middle general secondary school. Attempts have been made to convert this vaguely defined general school into a more vocationally oriented experience, but the plans have never materialized fully. Pupils now are given the opportunity, after the second form, to choose between advanced broad-based training, home economics (girls), technical training (boys), agricultural home economics (girls), agriculture (boys).

It is generally conceded that the reform has failed because there is no agreement as to precisely what these schools should do. There has been poor insight and adaptation of programs, and there has been a lack of finance.

The middle general secondary school takes children aged 12-16 and it is recognized as the broad-based academic preparation for higher secondary education and teachers training college. These schools have two main programs: the A stream which emphasizes languages and bookkeeping, and the B stream which emphasizes mathematics and physics. In 1973 there were fourteen such state schools with 44.1% of the total enrollment of 11,635, five Roman Catholic ones with 19.8% of the enrollment, four Protestant with 19.0% and eight others with 17.2%. No uniform final examinations are held for these schools. Each system drafts its own curriculum, under guidelines of the Ministry of Education. Between 71% and 90% are successful in the final examinations (taken at the end of the fourth year). The secondary modern school-leaving certificate permits candidates to sit competitive entrance examinations for admission to higher general secondary

education or the Senior Technical Institute. It also permits entrance to the Teacher's Training College without an entrance exam. In 1974, 43% of those who sat competitive examinations (total 2079) were successful in entering one or other type of higher secondary school.

The third type of "feeder" school the junior technical college also takes children aged 12-16. The present type of college was founded in 1950. Its objectives are explicitly vocational; pupils are trained in specific skills. For many this school is final. However, this type of education was not designed to meet the needs of Surinam either.

There are six basic courses – in engine driving and fitting, construction, car mechanics, electric technique, painting, and carpentry. There is the possibility that some students can be made eligible for the Senior Technical College, through taking a special upgrading class.

Senior Secondary Education has two main streams – one broad-based and academic prepares students for higher education; the other, vocational, is terminal but represents the highest vocational training available. The academic schools have various names which describe their (mainly European) antecedents – the Senior High Grade College, the Combined General Secondary School, and the Higher General Secondary School. The vocational institutions of a senior secondary level are the Senior Technical School (Institute), the Middle Economic and Administrative School, and the Teachers Training College. They all serve youth roughly aged between 16 and 19. Although their enrollments have grown they are small and the fortunes of one have affected the enrollment of the others. The General High Grade College had 390 students in 1965/66 and by 1973/74 had grown to 640. Its increase was somewhat affected by the creation of the Combined Grammar School in 1966. The latter was founded to provide an example of a new school created for the Netherlands. It has not been a success. Only the three upper forms exist and its enrollment has fluctuated. In 1973/74 it had 689 pupils.

The Senior Technical Institute was created in 1973 to provide "natural" studies (agriculture, surveying, forestry, geology, mining), technical studies (construction, road building and hydraulic engineering), and laboratory studies (chemical and medical analyst). It opened with 183 students and a year later (1974) had grown to 293.

The Middle Secondary and Administrative School was founded in 1959 to train cadres for middle and senior executive posts in commerce and industry. It has a 2-year and a 3-year program. The main training of the latter is in bookkeeping, of the former is in secretarial work. In 1967/68 the school had an enrollment of 156, by 1973/74 it had grown to 338.

There are three teacher training colleges whose training lasts for three years and produces the qualification recognized as being a "full" qualification for Surinam schools. There is also an advanced class for the Head Teachers degree. In 1967/68 they had a total enrollment of 664; by 1973/74, 1392.

Higher Education: the University of Surinam

The faculty of law was founded in 1968, the faculty of medicine in 1969 and the faculty of social and economic sciences in 1975. In 1973/74 the first had 240 students; the second, which has a close relationship with the medical faculty of Leiden (Holland), had 106.

Planning

This, then, is the system which the newly independent Surinam inherited. It is quite inadequate in many ways for the population to be served. It has been patterned after a European model with a structure and curricula not at all adapted to the community or the lives of the children and youth who are its clients. The country shares all the problems of poor developing nations with some special variations due to its multi-racial character, its regional inequalities and its vulnerable single-product economy. Yet there are high expectations about education and the part it can play in economic growth and development, and in improving the quality of life. Some of the assumptions and expectations probably sound naive to planners in countries that have already trodden this path. It is assumed that educational planning is a rational process by which comparison may be made of objectives for the public service. Planning is still very much in its infancy. There is a great deal of discussion about the goals of the educational system and its different levels of schools, and the means of attaining these goals. By setting up of a Department of Research, Planning and Innovation, the Ministry of Education had made a great declaration of faith. This is the first step to planning the transformation and expansion of the system in a rational way.

The planning process is seen as being dynamic—dynamic in that it begins with an examination of the existing situation and goes on to drafting, adopting, implementing, revising and evaluating planned changes. Since educational planning cannot ignore social, economic and manpower developments, it is by its very nature a complex process. In general we shall follow the process envisaged by Mohammed Aref Ghaussi and depicted in Figure 3.[5] Four phases distinguish the planning system:

- Examination (evaluation) of the existing situation.
- Formulation of objectives and the values represented by the attainment of those objectives.
- Implementation of the objectives.
- Evaluation of the implementation, and revision of the objectives.

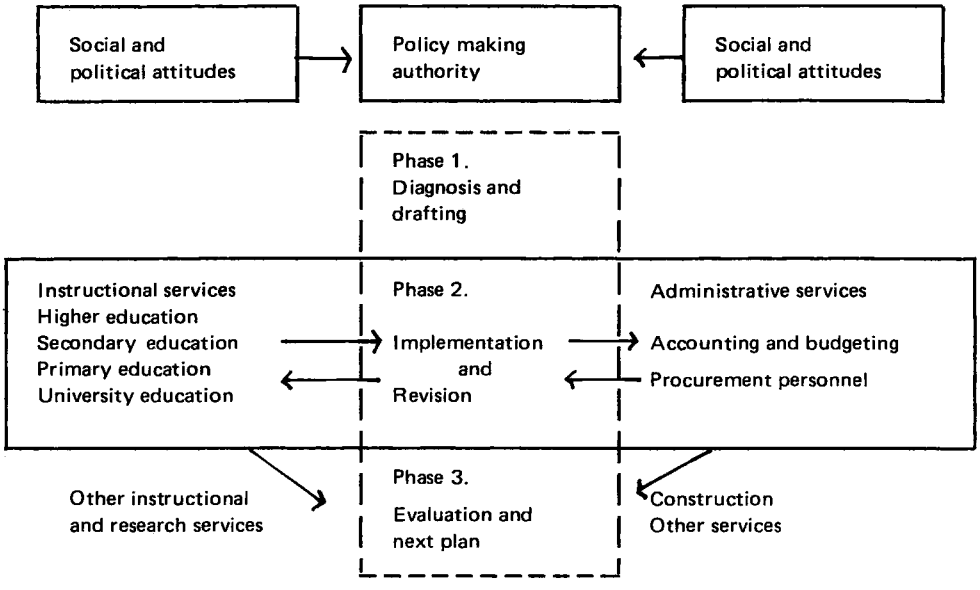
As we see it, planning has to do with the preparation, working out and putting into effect of a strategy to achieve goals, to confront and integrate different objectives and means of change, and to prepare for political decisions by way of continuous dialogue between political possibilities and political desires.

The rational framework of decision-making presumes that the maximum benefit of the desired and stated values can be attained within the given situation. In the planning process decision-making passes through the following stages:

- A complete set of aims is laid out in descending order of importance.
- A stock is made of the means at hand in descending order of necessity and effectiveness.
- The costs and benefits of these means are estimated.
- These costs and benefits are compared with the goal.
- Choice is made of those means which promise the highest benefit.

The point of planning is to achieve objectives in a rational way. Therefore the process must be continuous (not an incidental solution to one special problem, but a permanent activity consisting of a number of interdependent elements). If we are to achieve our goals, if they are worth pursuing in spite of the hardships and costs, we must assume that there

Figure 3 THE PLANNING PROCESS



is a basic conflict relationship between the situation as it is and as it should be. The current situation must be sufficiently unsatisfactory to be worth improving. Planning also assumes a utopian outlook on things – that is to say there is some view of what would be considered the ideal. And in order for the improvement to materialize we must assume that a certain degree of organization is necessary. Otherwise why bother? The desired state can be achieved quite simply, without all this effort. At present the planning process in Surinam is at phase 1, analysing the present situation and sufficiently discontented with the analysis to be formulating desires.

Our analysis of the present situation can be summarized under three headings – policy, curriculum, and teacher-learning.

Policy. The goals of the educational system in Surinam have not yet been formulated. The real content of programs is not derived from their objectives, the material contents are the objectives in themselves. This implies that the orientation of the educational system is determined by the textbooks and other educational artifacts imported from the Netherlands. The relationship between practical vocational education and broad-based academic education is unbalanced. There is too much emphasis upon general academic education – most of which is quite irrelevant to the future lives of the pupils. For example, although 36% of the labour force is employed in the agricultural sector, there is not a single junior agriculture school. In addition, in the structure of the educational system there are too many selection bars.

Curriculum. There is too much variance in the levels of the curriculum. Schools show too many differences in standards. Although the curriculum is intended to have a more or less identical starting level, differences of equipment, educational materials and quality of the teaching staff quickly lead to marked differences in achievement. Decisions on the allocation of educational resources are not always defensible.

Teacher-learning. There are marked differences in the quality of teachers in Surinam's schools. Modification of the teaching staff is a continuous problem for innovators. The teachers are often quite inadequately motivated for their work. Their attitudes towards their pupils is that of the "learned" confronting the "ignorant". Pupils' initiative and creativity are not only not rewarded, sometimes they are ignored or rejected. The common relationship between parents and schools is too often confined to discussion of the childrens' failures.

At present educational planning in Surinam is short-term, from one to two years forward. Long-term policy planning is impeded by a variety of acute operational problems which demand immediate solution and dominate the attention of the planners. Everywhere Ministers have incentives to achieve short-term success. In Surinam the political facts of life make it difficult for Ministers to address great problems which can only be solved over the long-term and which are intractable. They cannot easily support reforms whose outcome cannot be guaranteed. There is insufficient equipment and a chronic shortage of trained staff. There is little knowledge of the quantitative and qualitative variables which influence the educational system. But this listing should not be read with despair or discouragement. A beginning has been made – a commitment to planned educational change.

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