



National Library of Canada  
Collections Development Branch

Canadian Theses on  
Microfiche Service

Bibliothèque nationale du Canada  
Direction du développement des collections

Service des thèses canadiennes  
sur microfiche

## NOTICE

The quality of this microfiche is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible.

If pages are missing, contact the university which granted the degree.

Some pages may have indistinct print especially if the original pages were typed with a poor typewriter ribbon or if the university sent us a poor photocopy.

Previously copyrighted materials (journal articles, published tests, etc.) are not filmed.

Reproduction in full or in part of this film is governed by the Canadian Copyright Act, R.S.C. 1970, c. C-30. Please read the authorization forms which accompany this thesis.

**THIS DISSERTATION  
HAS BEEN MICROFILMED  
EXACTLY AS RECEIVED**

## AVIS

La qualité de cette microfiche dépend grandement de la qualité de la thèse soumise au microfilmage. Nous avons tout fait pour assurer une qualité supérieure de reproduction.

S'il manque des pages, veuillez communiquer avec l'université qui a conféré le grade.

La qualité d'impression de certaines pages peut laisser à désirer, surtout si les pages originales ont été dactylographiées à l'aide d'un ruban usé ou si l'université nous a fait parvenir une photocopie de mauvaise qualité.

Les documents qui font déjà l'objet d'un droit d'auteur (articles de revue, examens publiés, etc.) ne sont pas microfilmés.

La reproduction, même partielle, de ce microfilm est soumise à la Loi canadienne sur le droit d'auteur, SRC 1970, c. C-30. Veuillez prendre connaissance des formules d'autorisation qui accompagnent cette thèse.

**LA THÈSE A ÉTÉ  
MICROFILMÉE TELLE QUE  
NOUS L'AVONS REÇUE**

A MODEL FOR THE ILLUMINATION OF PARTICIPANT  
VALUES IN EDUCATIONAL GOAL SETTING

by Colin S. Walley

Thesis presented to the School of  
Graduate Studies of the University  
of Ottawa in partial fulfillment  
of the requirements for the degree  
of Doctor of Philosophy

Ottawa, Ontario, 1979

This thesis was prepared under the supervision of Professor Robert O'Reilly, Ph.D., of the Faculty of Education, University of Ottawa, whom the author wishes to thank for his direction, support, and needed encouragement.

My thanks also go to my wife, Frances, and to my children, Norma, Keith, David, and Frances, who sustained me in this endeavor.

## TABLE OF CONTENTS

|                                                                                                             | Page |
|-------------------------------------------------------------------------------------------------------------|------|
| LIST OF TABLES . . . . .                                                                                    | v    |
| LIST OF FIGURES . . . . .                                                                                   | vi   |
| APPENDIXES . . . . .                                                                                        | vii  |
| ABSTRACT . . . . .                                                                                          | viii |
| Chapter                                                                                                     |      |
| 1. INTRODUCTION . . . . .                                                                                   | 1    |
| PUBLIC PARTICIPATION IN EDUCATION . . . . .                                                                 | 6    |
| A PUBLIC INFORMED FOR EDUCATIONAL<br>PLANNING . . . . .                                                     | 14   |
| THE NEED FOR GOAL STATEMENTS . . . . .                                                                      | 18   |
| Need for Goals . . . . .                                                                                    | 18   |
| Determination of Goals . . . . .                                                                            | 21   |
| Utilization of Goal Statements . . . . .                                                                    | 28   |
| EXPLICATION OF VALUES . . . . .                                                                             | 30   |
| Strategies for Value Explication:<br>Toward a Model for Identifying Public<br>Goals for Education . . . . . | 30   |
| A PARADIGM . . . . .                                                                                        | 35   |
| NEED FOR A NEW MODEL . . . . .                                                                              | 37   |

## Chapter

## Page

## 1. (Cont.)

## PURPOSE OF THE STUDY . . . . . 40

The Problem . . . . . 40

Nature of the Model . . . . . 40

The Purpose of the Illustrative  
Procedure . . . . . 42

REFERENCES . . . . . 44

REFERENCE NOTES . . . . . 50

## 2. THE PUBLIC AND THE GOALS OF EDUCATION . . . . . 51

EXTENDING THE THEORY AFFECTING  
PARTICIPATION . . . . . 52

Judgment in Goal Setting . . . . . 53

Preference vs. judgment . . . . . 54

Knowledge as a component . . . . . 56

Values as data . . . . . 57

A-Dynamic for Value Restructuring . . . . . 60

Summary . . . . . 66

## PUBLIC AS SOURCE AND PROCESSOR . . . . . 67

Public as Source . . . . . 72

Public as Processor . . . . . 75

Context dependence . . . . . 75

Intra/interconstruct contrasts . . . . . 77

Approaches using participant values . . . . . 80

Implications for Goal Setting . . . . . 83

Deliberation . . . . . 85

## CRITERIA FOR THE MODEL . . . . . 89

REFERENCES . . . . . 93

REFERENCE NOTES . . . . . 96

| Chapter                                                                 | Page |
|-------------------------------------------------------------------------|------|
| 3. THE MODEL . . . . .                                                  | 97   |
| MODELS AND INVENTION . . . . .                                          | 99   |
| A "Technology of Foolishness" . . . . .                                 | 100  |
| Iteration . . . . .                                                     | 103  |
| PRELIMINARY DESIGN CONSIDERATIONS . . . . .                             | 105  |
| "Range of Convenience" of the Model . . . . .                           | 106  |
| Power of the Model . . . . .                                            | 107  |
| Anticipated Applications . . . . .                                      | 110  |
| A MODEL FOR SETTING EDUCATIONAL GOALS . . . . .                         | 112  |
| Model Components . . . . .                                              | 112  |
| The polarities of funded knowledge<br>and conventional wisdom . . . . . | 112  |
| The constraints exercised by a<br>designated authority . . . . .        | 115  |
| The dynamic cycle . . . . .                                             | 119  |
| PHASE ONE . . . . .                                                     | 119  |
| PHASE TWO . . . . .                                                     | 120  |
| PHASE THREE . . . . .                                                   | 122  |
| The core . . . . .                                                      | 123  |
| The Display of the Completed Model . . . . .                            | 127  |
| REFERENCES . . . . .                                                    | 132  |
| REFERENCE NOTES . . . . .                                               | 135  |
| 4. AN ILLUSTRATIVE PROCEDURE . . . . .                                  | 136  |
| DESCRIPTION . . . . .                                                   | 136  |
| Procedural Steps . . . . .                                              | 137  |
| Limitations and Delimitations . . . . .                                 | 138  |
| Relevance of the Procedures . . . . .                                   | 140  |

## Chapter

## Page

## 4. (Cont.)

|                                                             |     |
|-------------------------------------------------------------|-----|
| IDENTIFICATION OF A PUBLIC'S<br>EDUCATIONAL SPACE . . . . . | 141 |
| Step One . . . . .                                          | 141 |
| Step Two . . . . .                                          | 145 |
| Step Three . . . . .                                        | 153 |
| Step Four . . . . .                                         | 158 |
| Step Five . . . . .                                         | 165 |
| IDENTIFICATION OF GROUP CONTRASTS . . . . .                 | 167 |
| Step Four (re-traced) . . . . .                             | 169 |
| Step Five (re-traced) . . . . .                             | 174 |
| EVALUATION OF THE PROCEDURE . . . . .                       | 177 |
| REFERENCES . . . . .                                        | 179 |
| REFERENCE NOTES . . . . .                                   | 180 |
| 5. CONCLUSION . . . . .                                     | 181 |
| REVIEW OF THE STUDY . . . . .                               | 181 |
| FITTING THE MODEL TO THE CRITERIA . . . . .                 | 190 |
| CONTRIBUTION OF THE MODEL TO CURRICULUM . . . . .           | 195 |
| SUMMARY . . . . .                                           | 199 |
| REFERENCES . . . . .                                        | 200 |
| REFERENCE NOTES . . . . .                                   | 202 |

|                                     | Page |
|-------------------------------------|------|
| BIBLIOGRAPHY . . . . .              | 203  |
| BOOKS . . . . .                     | 203  |
| COLLECTIONS . . . . .               | 209  |
| ARTICLES FROM COLLECTIONS . . . . . | 211  |
| ARTICLES FROM JOURNALS . . . . .    | 217  |
| GOVERNMENT PUBLICATIONS . . . . .   | 223  |
| MISCELLANEOUS . . . . .             | 225  |

#### LIST OF TABLES

##### Table

|                                                                           |     |
|---------------------------------------------------------------------------|-----|
| 1. Goal Setting Model Criteria and<br>Related Design Questions . . . . .  | 98  |
| 2. The Ten Stimuli Used in the $n(n-1)/2$<br>Paired Comparisons . . . . . | 149 |
| 3. Summary of Survey Returns . . . . .                                    | 155 |
| 4. Patterns of INDIFFS Analysis . . . . .                                 | 159 |



## LIST OF FIGURES

| Figure                                                                                                                            | Page |
|-----------------------------------------------------------------------------------------------------------------------------------|------|
| 1. The polarities of Funded Knowledge and Conventional Wisdom . . . . .                                                           | 117  |
| 2. The Dynamic Cycle . . . . .                                                                                                    | 121  |
| 3. The Core . . . . .                                                                                                             | 128  |
| 4. A model for the illumination of participant values in educational goal setting . . . . .                                       | 130  |
| 5. List of stimuli (abbreviated form) . . . . .                                                                                   | 162  |
| 5a. Stimulus configuration: Hanover S. D. . . . .                                                                                 | 162  |
| 6. Stimulus configuration: Interlake S. D. . . . .                                                                                | 163  |
| 6a. Stimulus configuration: Midland S. D. . . . .                                                                                 | 163  |
| 7. Stimulus configuration: St. Boniface S. D. . . . .                                                                             | 163  |
| 7a. Stimulus configuration: St. Vital S. D. . . . .                                                                               | 163  |
| 8. Stimulus configuration: All divisions . . . . .                                                                                | 164  |
| 9. Subject saliences: Hanover S. D. . . . .                                                                                       | 171  |
| 9a. Subject saliences: Interlake S. D. . . . .                                                                                    | 172  |
| 10. Subject saliences: Midland S. D. . . . .                                                                                      | 172  |
| 10a. Subject saliences: St. Boniface S. D. . . . .                                                                                | 172  |
| 11. Subject saliences: St. Vital S. D. . . . .                                                                                    | 172  |
| 12. Subject saliences: All divisions . . . . .                                                                                    | 173  |
| 13. A model for the illumination of participant values in educational goal setting with illustrative procedure embedded . . . . . | 189  |

## APPENDIXES

| Appendix                                                                      | Page |
|-------------------------------------------------------------------------------|------|
| A. A Survey to Generate Stimuli for a Paired Comparisons Protocol . . . . .   | 229  |
| B. Photo-reduced Copy of the Paired Comparisons Protocol . . . . .            | 259  |
| C. Cover Letters and Instructions for the Paired Comparisons Survey . . . . . | 265  |
| D. Values for the Stimulus Vectors and the Subject Saliences . . . . .        | 269  |

Abstract of

A Model for the Illumination of Participant  
Values in Educational Goal Setting

There is evidence for increased public participation in educational goal setting. Public participation has strong support in the literature on educational planning. Increasingly, the public is being seen as both source and processor of data that is used in planning.

Current practice in the use of the public in educational goal setting reveals two things. Emphasis is still on the use of the public as a source of data. Where the public is used as processor, participation is carefully structured and confined to prescribed tasks. The concern seems to be that unless this is so, results of goal setting will be of little use to policy makers and program planners. Contention among alternative value positions among participants is thus largely avoided.

As a consequence, there has been little reason to develop strategies in goal setting for the explication of participant values, or to structure the models within which such strategies might be best developed, explained, and evaluated.

The purpose of the present study, then, was to

structure such a model and to suggest its utility by developing a procedure illustrative of a model which had as its intent, the illumination of participant values in educational goal setting.

The method in the structuring of a model was iterative. Review of the literature identified the educational context within which the proposed model was expected to have validity. A paradigm outlining a possible pattern by which participant values might be illuminated emerged.

Further literature review allowed for extension of theory thought to be germane to the structuring of a new model. The role of judgment in public goal setting and a theory explaining possibilities for restructuring of participant values were examined.

Criteria for a new model were posited.

Preliminary design of a model was attempted. Design features were derived from the criteria. The design represented but one of many possible iterations in conceptualization of the new model. The process of model design proceeded in an awareness of March's "technology of foolishness" (1972).

The model in its final form was displayed and its design components explained.

The model's dynamic was suggested through an elaboration of a three-phase cycle which began with identification of participant value differences within an educational space, and concluded in the emergence of a set or of sets of goals.

Activity at the core of the model provided for the proper function of the dynamic cycle. It was there that restructuring of participant values was conceptualized. The incidence of participant value restructuring became the measure of growth within the model.

Designation of an educational authority to provide for definition in a particular goal setting exercise made up the third model component. The designated authority was conceptualized as the outer shell of what became a spiral under circumstances of growth at the core.

The heuristic import of the model was illustrated through the design and implementation of a procedure thought to be consistent with the model's intent.

The Department of Education of Manitoba was identified as the designated authority. Participants from among students, their parents and teachers, of five representative school divisions were surveyed. The data thus acquired, in the form of multidimensionally scaled responses to a paired comparisons protocol, allowed for a graphic display

of subject saliences which were interpreted as participant value positions vis-a-vis education in Manitoba.

An isomorphism between the design of the procedure and the model was demonstrated, and, in this sense, the procedure was said to be relevant to the model. Proposals were advanced as to how the procedure could be extended.

The promise of the model lay in the possibility that, with information specific to participant values, the public, as processors in a goal setting exercise, might make progress toward acceptance of a value pluralism as the basis for educational planning. In time, it was hoped that there would be gradual improvement in the quality of the public's participation in planning by virtue of residuals of goodwill toward alternative values left as a result of the goal setting experience.

The model thus proposes a concern for quality which is to be found at the core, and which then radiates out to a more complete recognition of the many contrasting ways education might be made better.

7

## CHAPTER ONE

### INTRODUCTION

Over the past decade there have been repeated calls for greater public participation in educational decision making (Green, 1968; Educational Policy Research Center, 1969; Allen, 1971; Joint Committee on Educational Goals and Evaluation, 1972; OECD External Examiners, 1976).

Tyler (1949, 1966) had earlier recognized the wisdom of having the public participate. Young (1971), at the same time that he drew attention to curriculum as the social organization of knowledge, pointed out that a more active and direct participation of the public in educational affairs was a matter of some urgency. Kirst and Walker (1971) in an analysis of curriculum policy making note the "demands for community control" (p. 507).

Faure (1972) states the case for public participation in unequivocal terms.

Education, through its instruction, practice and commitment, should contribute to a project which is very typical of our time, that of replacing a mechanical, administrative type of authority by a lively, democratic process of decision making. Participation of the greatest number exercising the highest responsibilities is not merely a guarantee of collective efficiency, it is also a pre-condition for individual happiness, a daily assumption of power in society and over things, a way of freely influencing fate. The citizen's job is no longer to delegate his power but to wield it, at all levels of society and stages of life. (p. 151)

Put in the most general terms, public participation is seen as integral to maintenance of a democratic society (Economic Council of Canada, 1971; Callahan, 1973; Canadian Teachers' Federation, 1974; OECD Committee on Educational Statistics and Indicators, Note 1).

The process of goal setting appears to be an area of educational decision making that is especially appropriate for public participation. In the past decade attention has been repeatedly drawn to the need for goal statements in education (Educational Policy Research Center, 1969; Foster, 1971; Tripodi, 1971; Rossi, 1972; Greenfield, 1975). The assumption that the public would be involved in the formulation of goals has been concomitant with the expressions of that need.

Procedures have been developed as guides to goal setting in education (Greenfield, 1975; Northern



California Development Center, Note 2). Models dealing with group processes, whether in education or in some related field of applied behavioral science, have been developed to provide frameworks within which to organize for goal setting (Delbecq & Van de Ven, 1971; Leithwood, 1976).

The procedures and models place stress on careful planning for participation of the public. Greenfield (1975) notes the importance of task structure if the likelihood of conflict among participants is to be avoided (p. 18). Delbecq and Van de Ven allow for more exchange among participants but exercise control over the nature of the exchange by use, in the first instance, of nominal groups (p. 472).

Careful planning for participation seems to enhance the likelihood that participants will accept the necessity for task completion and forego "evaluation of any particular problem dimension and distraction of elaborating comments" (Delbecq & Van de Ven, p. 474). In effect, there appears to be a deliberate attempt to avoid the occasion for exchanges among participants which might bring value differences into contention; and, not without cause, for, as Greenfield notes, when goals are set in an atmosphere of conflict it is "difficult to use goals for

policy-making and program development" (p. 18).

However, there is a cost associated with the advantage gained by not bringing value differences into contention in goal setting. The cost is not direct; it is nonetheless important. Where value issues are typically avoided, there is no reason to develop models which take values into account, and yet, it is recognized that values are intimately related to goals (Kluckhohn, 1951, p. 429) and, presumably, should be recognized in some explicit manner when goals are being considered. There is evidence that frames of reference which incorporate values into their structures are being developed for the more general area of educational evaluation (Morrison, 1977): What appears to be required is a somewhat comparable frame of reference, a model, that is applicable to goal setting.

The purpose of the present study is to develop a model for setting goals in education. The model is to provide for specific acknowledgment of ways in which participant values might be brought into contention as part of the goal setting process.

The model is limited in its conceptualization by four questions thought to be proper for the study of goals in education. First, for what purpose should the public participate in setting educational goals? Second, what

are the issues to be faced if a participating public is to be informed for participation? Third, why set goals for education? Fourth, what is the relationship between goals and values?

Attempts to address these questions and, in turn, to proceed to develop the model, are delimited in several ways. Only problems in setting goals for public schooling are considered: It is here that the public is a stakeholder. It is assumed that there are educational administrations, whether at provincial, divisional, or school level, who, from time to time, are committed to the importance of having the public participate. It is also assumed that budgetary allocations would be made to finance the expert help anticipated for the model (such expert help will be identified under the rubric "curriculum worker" for the balance of the report).

The grounds upon which such a model is developed are dealt with in two stages. The remainder of chapter one attempts, further, to establish the need for the model; and concludes with a summary statement of the purpose for the study. In ~~Chapter~~ two theoretical considerations germane to identification of criteria for the model are reviewed.

### Public Participation in Education

Public participation, for some, is seen as part of the answer to resistance to educational innovation. Averch, Carroll, Donaldson, Kiesling, and Pincus (1972) regard "real innovation" in education as depending upon leverage from outside the system, that is, leverage exerted by the "federal government or by citizens" (p. 151). Foster (1971) argues the necessity of including representation from groups external to formal administrative structure if educational bureaucracies are going to be able to overcome a tendency to react to societal pressures rather than being able to anticipate forces for change by actively working toward a rational assessment of situations (p. 21).

Another reason given for having the public participate in decision making, and more especially decisions affecting curriculum, has to do with the perceived need to limit the influence of experts. Tyler (1949) anticipated the problem of delegating too much control to experts. Although he acknowledged that expert help is necessary if decision makers are to be provided with reliable and valid information about education, such data, whether of individuals or of groups, do not of themselves develop

purposes and objectives (p. 22). Expert help is essential if decisions are to be founded on an adequate data base, but experts in the interpretation and use of research findings possess no special wisdom for deciding the value of those findings in a particular setting (Bross, 1953). In the final analysis the public must be willing to exercise its prerogative to influence decisions affecting society, including those which affect education for "although you and I cannot comprehend the technical aspects of these specialities, . . . we can tell whether or not the consequences are to our liking" (p. 30).

The public is not reluctant to contribute to decision making when opportunities are provided (Baker, 1972). The public, as represented by parents, teachers, and pupils, is not only willing to participate but also capable of making responsible contributions (p. 411).

Not all the discussion respecting public participation is covered in terms of the opinions of those who directly advocate participation. There are those, who, by their analyses of some of the problems which attend public participation, infer the desirability of such activity.

Biddle (1964) gives close attention to a problem which emerges when groups within the jurisdiction of an

organization attempt to influence decisions. In his view each of the competing groups develops stereotypic views of outsiders and ascribe to the outside groups motivations which are frequently a distortion (p. 168). This so-called "pluralistic ignorance" seems to result from a lack of any substantial intergroup experience, whether in terms of a sharing of espoused group aspirations, or of information about the deeper value positions which give meaning to those aspirations. Biddle proposes that pluralistic ignorance is especially likely when organizations are in the public domain and they have "poorly stated purposes" (p. 169).

Identification of pluralistic ignorance as a problem associated with participation of groups in the decision making of an organization does not lead Biddle to conclude that such participation should not be attempted, rather, he proposes that the problem of intergroup stereotyping must be anticipated and, where possible, ameliorated. Greenfield (1975) notes a "likelihood of conflict" among groups who set out in an uncoordinated search for education goals for a school system (p. 18). Lack of opportunities for groups to overcome the pluralistic ignorance of which Biddle speaks would be a logical outcome of uncoordinated group activity. Greenfield recommends

careful structuring of participant tasks to reduce intergroup conflicts and to ensure fruitful outcomes.

Maguire (1968) does not address the problem of pluralistic ignorance directly, but he does recognize the significance of developing information about the group value components which provide contexts within which educational judgments are made (p. 84). Presumably, the availability of information about differences in group values would be a first step in avoiding the onset of intergroup stereotyping, and, in time, might provide for the resolution of value differences.

Another problem which ultimately affects public participation, and which is receiving critical attention, is the realization that many decisions affecting social programs are political. Beauchamp and Beauchamp (1972) state the case with respect to educational goal setting: "Goals or objectives for schools are political decisions. Curriculum planners must verify those they use through political channels" (p. 162). The political nature of educational goals is clearly recognized by Faure (1972). McMurrin (1969) had previously put the matter this way:

The purposes of education cannot be deduced from cosmic principles, nor are they established as a body of absolute values laid up eternally in some platonic heaven. These purposes are not irrelevant to metaphysical considerations and they certainly are intimately involved with, and in some instances identical with, elements of moral philosophy and value theory. But attempts to derive them from philosophical theory will fail to produce anything genuinely viable and relevant as a body of principles unless that theory is brought into some meaningful relationship with the facts of personal and social experience; with the needs, interests, and aspirations of individuals; with the failures, successes, and goals of society; with the established personal and social values and the criticism of those values. (p. 5)

Stipulation that some significant educational decisions are political provides a context for the discussion of two related issues. One is the desirability of encouraging an open stance toward decision making, that is, actively seeking participation of those affected by the decisions. The other is the necessity for seeking out, and developing, modes of public discourse which are intended to take public debate beyond the confines of confrontation and acrimony typical of political activity.

The desirability of maintaining an open stance in decision making receives particularly strong support in a recent report on educational policy in Canada (OECD External Examiners, 1976). In order to join the issues of public participation and educational decision making, the report strongly advocates decentralization of



educational bureaucracies. The claim is made that bureaucracies are reluctant to redistribute decision making powers and as a result there is a notable discrepancy between what bureaucracies are saying and what they are doing.

This obvious discrepancy between Ministry lip-service to decentralization and a reality that is moving continuously in the direction of less decentralization, lends the entire discussion about local participation a somewhat insincere tone and, perhaps more importantly, pushes it in the wrong direction. (p. 12)

The argument for decentralization is one of strategy. The report is careful to emphasize that strategic concerns should not mask the more fundamental issue of whether or not participation is desirable.

The question is not whether more or less decentralization means more or less democratization but; how can it be arranged that open decision-making and execution of affairs in the educational realm be brought about in a democratic manner? (p. 12)

The limited exchange of views made possible by political acts appears to be no longer adequate for decision making in contemporary society. Assumptions of the conventional will have to be challenged and attempts will have to be made to look beyond heretofore accepted political solutions (Skager, 1975). Faure (1972) is explicit on the matter.

What is known as formal democracy--which it would be wrong to deride, for it marked great progress--has become obsolete. The delegation of authority for a fixed period had and still has the advantage of protecting the citizen from arbitrary exercise of power and of providing him with the minimum of juridicial guarantees. But it is not capable of providing him with an adequate share of the benefits of expansion or with the possibility of influencing his own fate in a world of flux of change; nor does it allow him to develop his own potential to best advantage. (p. xxv)

Callahan (1973) is not encouraging about the prospects of society making the commitments to community necessary to counter a perceived lack in formal democracy, given the problems of a technologically advanced society (see also Green, 1969). He is prepared to concede that it may be that politics, in the conventional sense, provides the best possible solution to the resolution of the problems he identifies. "If that is the case then the best path to follow would be to attempt to maximize public information and debate, subject vexing issues to courts and legislatures when necessary, and hope for the best" (p. 152).

Public participation in making decisions affecting education is being advocated. Innovation in educational programs is said to be more likely when leverage from outside the system is employed, and is given as one reason for encouraging participation. Others propose that participation is a necessary complement, in decision

making, to the contributions of experts. Indirect advocacy of participation results from discussions of some of the problems inherent in invoking a lively public response to social issues. And, notwithstanding the incidence of "pluralistic ignorance" which seems inevitable as increasing numbers of the public aggress to make their positions known, there is insistence on the need to develop, not fewer, but more opportunities for the public to participate and, in the process, to affect decisions. In effect, what is being said is that far from being satisfied with utilizing extant political processes, society must attempt the still more difficult task of formulating institutions and processes which result in more enlightened forms of participation, that is, forms of participation which lead, not to the more efficient rule of the ballot box, but beyond, to the evolution of a communal conscience founded on a profound sharing of the latent value positions which give each group its special character and integrity.

Availability of information may prove to be critical to the success of attempts at more enlightened forms of participation. Whether or not information is deemed to be available is likely to depend as much upon the form in which it is provided as its abundance.

### A Public Informed for Educational Planning

Insuring the adequacy of the information available to the public is viewed by some as integral to participation (Economic Council of Canada, 1971; Rein, 1971; Riffel, 1972; Tunstall, Note 3). The view is expressed that there is a positive relationship between improvements in education and advances in the level at which relevant publics are informed (Rein, 1971, pp. 304-305; OECD External Examiners, 1976, p. 11). Childs (1950) has stated that quality of the decisions made about curriculum are seen as a function of information attainment (p. 139).

Accessibility of information becomes a matter for special comment. Again, the OECD External Examiners, at the time that they note the necessity for an informed public, add that information will have to be accessible (p. 11). The Economic Council of Canada (1971) in addressing the larger issue of improvements in social policy places major emphasis upon "extending and improving the role of individuals in the process of decision-making" (p. 33) including providing participants with whatever information is necessary to give them a chance to get a grip on the situation with which they are dealing (p. 34). Merriam (1967) places access to information within a

context of providing for equity in the utilization of social services, pointing out that equity means more than formal availability and includes, among other things, access to information about the service in question (p. 179).

The form in which information is to be made available requires comment. It is now generally accepted that education, as contrasted with a fairly recent past, is a complex social phenomenon.

The starting point for a reconsideration of the form and processes of school governance would be recognition of the extent to which the school of 1975 is no longer the school of 1950. It is no longer an institution generated by a fairly restricted community, receiving from it a clear mandate, and organizing its education around a limited set of generally accepted fundamental values. To-day, the schools are situated at the intersection between the society of to-day and the society of tomorrow--something which does not yet exist and which no-one can clearly define. (OECD External Examiners, 1976, p. 11)

With education becoming increasingly complex, the information about education begins to reach unmanageable proportions and only serves to add to what Phenix (1964) refers to as "this hyperabundance of culture and profusion of related problems" that bring about feelings of frustration and impotence in modern man (p. 37). It is in the context of the plethora of observations which could be made about education--and other, related social phenomena--that Phenix, and others, suggest the fuller

use of technical resources; more especially those resources associated with data reduction. In the face of an overwhelming number of observations affecting entities about which information is required, the comprehensibility of the observations is dependent upon their reduction to measurement scales (Coombs, 1964, p. 6). Tatsuoka (1971) argues the advantage of being able to handle data in a more parsimonious manner through the use of techniques of multivariate analysis suited to educational problems. More specifically Subkoviak (1975) suggests the use of multidimensional scaling as an appropriate tool for use in becoming better informed about education "to the extent that the resulting summary pictures and related information assist the user in understanding the relationships among the objects" (p. 387)

Government has a role to play in ensuring an informed public (Economic Council of Canada, 1971). This is not to suggest, simply, that all government files should become available for inspection so much as it is intended to convey the idea that government give priority to "making information usable and digestible and in especially publishing periodic review procedures" (p. 33). It is no longer thought possible for the public to keep abreast of events without recourse to digests or briefings of one

sort or another. And, as the Economic Council notes, it is largely a question of government policy whether or not such digests and briefings are to be produced and made readily available.

If, then, the public is to participate in educational decision making, it seems that attention will have to be given to how it is to become informed. Availability of information pertinent to decisions will have to be assured, as will access to the information. Large amounts of the information will, in all likelihood, have to be presented in the form of digests and briefings that have been prepared by those adequately trained in social reporting, and who, coincidentally, are as free as possible from other than a commitment to see that the reporting "in its design and procedures for collecting and analyzing information . . . adhere as closely as possible to the canons of scientific method" (Riffel, 1972, p. 12). Finally, governments are seen as having a leadership role in ensuring an informed public.

Advocacy of public participation in educational goal setting brings with it the requirement that the public be appropriately informed for such a task. But is there a need for goal statements sufficient to justify the time and expense of providing for a public that is so informed?

### The Need for Goal Statements

The attention given, over the past decade, to the need for educational goal statements was acknowledged in the introduction to the study. Different reasons are offered for the need. That the need exists is a view that is held, almost unanimously, by those concerned with educational progress.

### Need for Goals

In general, goal setting is advocated as a first step toward improved educational planning. Becker (1970) and Averch et al (1972) note that setting goals is typical as a first step toward the development of long range management plans. Drewnowski (1970) comments that social plans require that goals be identified to serve as end points in plans (p. 20).

Setting goals is seen as a way to counteract planning practices which amount to little more than what is frequently referred to as incrementalism; that is, ad hoc modifications made to existing programs with little serious thought given to review of priorities and the possible deletion of redundant or obsolete services (Foster, 1971; Faure, 1972; Rossi, 1972). Educational systems seem prone to linear expansion where policies and programs develop



according to the lines of their earlier evolution. Or put in more general terms:

Experience has shown that public expenditures can become self-justifying, that is, instead of assessing their results in the light of previously established objectives and intended results, the objective is inferred from the actual results. To forestall this type of rationalization requires pre-policy dialogue about the objectives, . . . . . (The Economic Council of Canada, 1971, pp. 31-32)

Goal setting, then, receives widespread support as a step toward better planning.

Although it is difficult, if not impossible, to claim a causal relationship between interest in goal setting and support for public participation in educational decision making, interdependence of the two themes is frequently acknowledged. For example, the Joint Committee on Education Goals and Evaluation (1972) endorsed the following positions. The positions are presented here in summary form.

1. It is essential that the goal setting process includes the extensive and intimate involvement of the public with students and educators at the level of the local educational agency.

2. The support of the public for such goals is essential.

3. The value of setting goals is as much in the

process of participation as in the final outcome . . . .

(p. 5).

A contemporary program for establishing educational goals and objectives (Northern California Program Development Center, Note 2), generally recognized as the "PDK Goals Study"--the program being distributed by the Phi Delta Kappa Commission of Educational Planning--makes clear provision for participation of the community. In a program designated as "a model program for community and professional involvement" (subtitle) the goals are to be "community-ranked" and the objectives "teacher-developed" (introduction). Two educational goals' studies recently completed in Western Canada confirm the recommended practice of involving the public in goal setting (Lethbridge Public School District, Note 4; St. Vital School Division, Note 5). At the present time there appears to be little thought of conducting goals' studies without intending to use relevant publics in some contributory capacity.

Briefly stated, goals are needed to improve planning; without clearly set goals organizations tend to maintain themselves with little thought for renewal. As well, goals may be needed because they appear to provide for a widely accepted focus for the public's involvement in educational planning.

### Determination of Goals

The question, then, arises of whose goals are to prevail? Burkhead (1973), in commenting on the need to limit program, planning, budgeting (PPB) procedures, first, to easily identified goals and, only then, gradually applied to others easily identified (p. 200), gives particular relevance to the question that has been raised.

The problem with PPB in education, as with all budgetary procedures in any government, is that "somebody" must decide whose interests are to be served by the technique--a principal who would like more budgetary flexibility; an accountant who would like to "control"; a superintendant who would like to "manage" or perhaps students and teachers who would like to cooperate in a learning process? (p. 203)

The problem raised by the question is compounded by the fact that there is evidence to suggest that even organizations which are seen to be operating effectively do not function in accord with any single, internally consistent goal at a particular point in time (Cyert, 1964).

Instead, they exist with considerable conflict and potential conflict. What they decide at one point in time is often apparently inconsistent with what they decide at another point in time. What is decided in one part of the system is often apparently inconsistent with what is decided in another part. (pp. 291-292)

Childs (1950), at a time when much less attention was paid to the goals of education than is the case at the present, saw the problem of whose goals are to prevail in

different terms. For him, the question was closely related to whether or not maintenance of a social status quo was a defensible goal for education. As Childs pointed out, no sooner is the goal of maintenance of a social status quo proposed, than the question of what status quo and whose interests are to be maintained (p. 182) must be raised.

The question has no easy resolution. It is one thing to accept the logical necessity of having to define social goals in terms of supposedly homogeneous aggregates of people rather than for individuals (EPRC, 1969); it is another matter altogether to be able to stipulate what, in fact, defines such aggregations. What characteristics are to count? What minimal number of shared characteristics constitutes homogeneity? What mechanism is to be used for assigning individuals to different aggregations? How many aggregations properly define a population?

Indeed, it may well be that it is the difficulty of the question which has lead to a proliferation of strategies for setting goals, strategies which, in one way or another, attempt to make an accommodation to diverse views of the desirable. Of the many strategies which have evolved three will be discussed to illustrate some generally adopted procedures. The three approaches are briefly characterized as follows: First, goals are derived from various

conceptualizations of educational purpose, resolution of the question of whose goals are to count depends very much upon just what conceptualizations provide the framework for the derivation of goals; second, goals are deduced from some accumulation of open-ended responses describing good things for schools to be doing; third, goals are ranked from some master list of goals thought to cover the full range of acceptable alternatives. Both the second and third approaches assume the participation of groups in a community who might have disparate views of education, such as parents, students, and teachers, and, in this way, acknowledge the validity of the question of whose goals are to count.

Belth (1965) is among those who view goals, in education, largely as derivatives of some more broadly based conceptualization of educational purpose. For Belth, educational purpose is essentially identified with "the act of nurturing in individuals the power to think" (p. xii), and from this conceptualization is drawn "the sources of its objectives, the objectives themselves, and the limits of the concern" (p. 4).

A report from the Stanford Educational Policy Research Center (EPRC), (1969), likewise proposes the derivation of educational goals from some more general conceptualization,

in this case, a conceptualization embracing contemporary views of man, notably views expressed by McClelland, Maslow, and Erickson (pp. 17-18).

The Canadian Teachers' Federation (1973-1974) undertook to document and confirm a Canadian viewpoint on what is desirable for education. The two-year study produced seven major goals for education which are essentially derived from previously published views (p. 7).

A Federation Task Force set about to derive goals for education from an examination of a "vast range of documents dealing with education for the future, goals of education and purposes of education" (p. 8). Most of the documents had been produced by Canadian educators. Seven broadly stated goals were finally adopted by the Task Force; they served both to provoke and to guide discussion at "four regional seminars held across Canada in 1973-74, at Moncton, New Brunswick; Montreal, Quebec; Calgary, Alberta; and Toronto, Ontario" (p. 7). The goals were confirmed at the seminars and goal implications were formulated for the areas of: program, process, personnel, school organization, and learning environment.

The "very high degree of agreement across Canada on matters of substance" (p. 9) at the seminars is worthy of comment. It may well be that the ready confirmation

afforded the goals that the Task Force had derived from its review had much to do with the level of generality at which the goals were stated. At the general level goals are amenable to being derived from such broadly stated conceptualizations as views of man. The standards and values implicit in general level goals are not completely culture specific, and, as a consequence, acceptance from a wide range of people becomes possible (EPRC, 1969, p. 17). It is when goals are set at specific levels relevant to smaller educational jurisdictions that derivation of goals may not be appropriate and other strategies will have to be employed.

Educating goals, from some accumulation of open-ended responses describing good things for schools to be doing, provides for one such strategy. The pattern for this strategy is to be found in a derivative of the delphi technique, the Focus Delphi (Sandow, Note 6).

Design features for Focus Delphi include identification of interest group respondents; involvement of respondents in several rounds of questionnaires, each round advancing respondents' declared positions on the topic of interest in the light of summaries of other respondents' positions; an initial response that asks that each individual list ten events they consider to be plausible projections for the

topic; analyses of questionnaires which allow for the emergence of differences in group perceptions of events as they expect them to occur.

Although Focus Delphi does not use goal setting terminology, first round instructions to participants that they "list ten events you conjecture might take place during the next fifteen years . . . ." (Sandow, Note 6) clearly place the respondent in the same future-oriented frame of mind required in goal setting.

Ranking goals from some master list of goals thought to cover the full range of acceptable alternatives provides still another goal determination strategy (Greenfield, 1975; Northern California Program Development Center, Note 2; Lethbridge Public School District, Note 4; St. Vital School Division, Note 5). Although procedures vary in detail from one protocol to another, the procedures specified in the "PDK" protocol developed at the Northern California Program Development Center establishes a pattern which is largely replicated by other goal studies of the goal ranking variety.

In brief, the pattern includes these steps. A goals study committee is designated by some educational authority, whether at the state or provincial level, divisional level, or local school level: The committee, in turn, identifies



the goals to be ranked (generally with the help of curriculum workers) and establishes the procedures by which a representative community committee is to be formed to do the actual goal ranking: The goals are distributed to the larger representative committee for study and reflection by individual members--reflection which is aided by discussions with neighbors and acquaintances: A community meeting is called: Committee members independently rank goals; members then meet in groups of four to which they have been randomly assigned; group consensus on goal ranks is achieved and a mathematical consensus for all groups is tallied: Committee members consider the results of the first meeting's effort for a week and then return for a follow-up meeting at which time they rate how well goals are being met for the situation under review: The committee's efforts at the second meeting are duplicated by professional staff and students in what amounts to a needs assessment survey (Northern California Program Development Center, Note 2).

Goal studies have been completed for many educational jurisdictions over the past decade. The strategies employed have varied; the studies, in one way or another, typically arrive at a ranked set of educational goals which identify the priorities for each jurisdiction.

### Utilization of Goal Statements

Once goal statements have been posited the problem remains as to how the goal statements are to be used. For some, the development of goals leads directly into setting specific objectives that provide "easily discernible statements about the educational status of their schools and students" for the community (see Note 3).

But positing goals does not have to be justified solely in terms of whether or not the goals lead to development of objectives. Jencks (1972), at the time he is expressing considerable doubt about whether schools make a difference, nonetheless acknowledges that communities have educational preferences which should not be ignored.

But since we value ideas and the life of the mind, we favor schools that value these things too. Others, who favor discipline and competitive excellence, may prefer schools that value high reading and math scores. Still others, more concerned with teaching children to behave properly, will prefer schools that try to do this.  
(p. 257)

Schools with goal statements consistent with community preferences are able to provide something tangible to which the community can give allegiance and support.

For some, it is the exercise of goal setting itself which has as much or more utility than the goals themselves. Cyert (1964) sees the exercise as an opportunity

for "organizational learning:" (p. 297). Goals are viewed as tentative statements of an organization's aspirations; they are viewed as metaphors within which an organization attempts to account for its activities.

Miller and Starr (1967) express the pragmatic nature of goal setting wherein "people set their goals in terms of outcomes that are good enough" (p. 53). Goals, in their view, are reference points in a continuing process of organizational renewal.

The need for goal statements has been reviewed: Reasons are given why goals are thought to be necessary; some strategies for goal determination are discussed; utilization of goal statements is considered. In some instances the significance of utilization of goals seems to reside more with the process of goal setting than with the goals themselves.

And it is the possibility that a significant use of goals is in the process of setting them that necessarily leads back to a mention of the relationship between goals and values because of the implications a relationship might have for public participation in the process. The relationship between goals and values is clearly recognized (Childs, 1950; Kluckhohn, 1951; Rein, 1971; Jencks, 1972; Morrison, 1977). For Kluckhohn "values are criteria

against which goals are selected and implications goals have in a situation" (p. 429). This being the case a goal setting exercise provides participants with the occasion to attempt the difficult task of exploring alternative value contexts and to try to circumvent the "avoidance of value pluralism" of which Morrison (p. 12) speaks.

### Explication of Values

Kluckhohn (1951) sees goals as subordinate to values. Concomitantly Schmuck and Runkel (1970) and Morrison (1977) argue the necessity to seek explanations for goals if intergroup frustration arising from ambiguity about the import of goal statements is to be ameliorated.

But explanation only seems possible within some readily defined, more general frame of reference (Kaplan, 1964, p. 331; Scriven, 1972, pp. 120-121; Apple, 1974, p. 26). It therefore seems important that attempts should be made to explicate the values to which educational goals are subordinate.



### Strategies for Value Explication: Toward a Model for Identifying Public Goals for Education

Some years ago Kluckhohn (1951) gave impetus to discussion of some of the ways in which value explication could take place. At that time he pointed out that value

preferences become most nearly explicit when people are presented with choice situations and thus have an opportunity to exhibit patterns of differential behavior (pp. 406-408). That is, through the pattern of their choices, they reveal some part of the structure by which they give personal meaning to the events which make up the fabric of their lives.

At that same time, Kluckhohn posited a definition of a value so that progress might be made toward a theory for action. In general, a conception of a value implies a code or standard which has persistence over time; a conception which organizes, or gives meaning to action. Valuing typically leads to placing things, acts, ways of behaving--social entities generally--on an approval-disapproval continuum, and, following Dewey (1916), differentiates between the desirable and the desired.

In more particular terms, a value is defined as "a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable which influences the selection from available modes, means, and ends of action" (Kluckhohn, p. 395).

Selection is clearly an attribute of valuing and in operational terms involves the individual in making choices. "The reality of choice" (p. 402) is important

in the study of values.

In Kluckhohn's view, choice can be examined within three dimensions. First, there is the approval-disapproval dimension. Put in dramatic terms, this would imply confronting people with a situation that requires them to consider "what would you die for?" (p. 404). The strong emotional response elicited is useful in placing individuals along this dimension. Or, put more mildly, "where gossip is most current is where that culture is heavily laden with values" (p. 404).

The second dimension along which choice operates is apparent in the differential effort people expend toward the attainment of an end or goal. In contemporary survey techniques such as Focus Delphi (Sandow, Note 6), respondents are asked at one point to indicate on a positive, zero, negative scale, the strength of their willingness to aggress either for or against a goal. At a later round in their responses, they are asked to specify the kind of action that they would engage in.

A third dimension along which Kluckhohn states choice behavior can be examined is consistency of choice. Where "two or more pathways are equally open, and an individual or group shows a consistent directionality in its selections, we are surely in the realm of values, provided

that this directionality can be shown to be involved in the approval-disapproval continuum" (Kluckhohn, p. 405).

It is important to note that whatever the dimensions along which choice is being examined the examination is not of values directly but of their indicators.

Statements about the desirable or selection between possible paths of action on the bases of implicit conceptions of the desirable are crucial in the study of values. Neither of these, however, "are" values. They are rather manifestations of the value elements in action. One measures heat by a thermometer, for example, but, if one is speaking precisely, one cannot say that a temperature of ninety degrees "is" heat. The concept of "force" in physical science is comparable. No one ever sees "a force"; only the manifestations of a force are observed directly. (p. 405)

Acceptance of the possibility of group values in Kluckhohn's definition has consequences for a study involving choice behavior. It means among other things that it is reasonable to enquire into whether or not groups who are assumed to be homogeneous in their values demonstrate commonality of response patterns when placed in a choice situation. Alternately, the possibility of group values provides the basis for assuming commonality of response patterns within groups who for reasons of acculturation are thought to be homogeneous in their values. With this assumption, it is meaningful to enquire, if, and to what extent, there is overlap between groups as

indicated by analyses of their responses in a choice situation. .

The assumption of group values does not imply total conformity of individuals within a group.

Values are clearly for the most part, cultural products. Nevertheless each group value is inevitably given private interpretation and meaning by each individual, sometimes to the extent that the value becomes personally distinctive. Furthermore, the fact that values change and new values are invented could not be accounted for, did we not posit idiosyncratic as well as group values. (Kluckhohn, p. 398)

Thus Kluckhohn prepares the way for several useful kinds of analysis of the data collected from choice situations.

Care should be exercised at this point to note Kluckhohn's insistence on the discussability of values as being "one of their most essential properties, though the discussion may be oblique or disguised--not labeled as a consideration of values" (p. 404). That is, although values may be implicit or explicit, the implicit/explicit designation suggests a continuum of verbalizability and not a dichotomy. It is the verbalizability of values which finally distinguishes a value from an instinct or need (p. 430): "Values are eminently discussable" (pp. 396-397).



Not only are values discussable, but data derived from choice situations provide indicants of those values, which, in turn, become information to be turned back upon the discussion, thus establishing the possibility for increasing refinement in the explication of the values.

### A Paradigm

A paradigm relevant to values explication among groups participating in setting educational goals begins to emerge. It can be set out as follows:

|                                          |                                                      |                                                           |
|------------------------------------------|------------------------------------------------------|-----------------------------------------------------------|
| Public as<br>Repository of ...<br>Values | Survey of<br>Choice Behavior ...<br>Among the Public | Analyses<br>Leading to<br>Identifiable<br>Value Positions |
|------------------------------------------|------------------------------------------------------|-----------------------------------------------------------|

|                                                                                   |                                                                                           |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Value Positions<br>... Treated as Data ...<br>to Inform Part-<br>icipating Groups | Value Information<br>about Groups Serves ....<br>as Check to "Plural-<br>istic Ignorance" |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|

|                                                                                       |                                                                                                               |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Participating Groups<br>... Invent Goals on the ...<br>Basis of Informed<br>Judgments | Cycle Repeats with<br>Each Round Producing<br>a Residual of Tolerance<br>for Pluralism within<br>a Population |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|

The paradigm is based on six assumptions which serve to summarize the discussion of public participation in goal setting in education.

First, public participation in setting educational goals is assumed to be desirable.

Second, the public is viewed as being a more suitable repository of community values than experts.

Third, goals are not viewed as direct expressions of values but are regarded as value derivatives.

Fourth, goal setting in education has come to be regarded as a political activity.

Fifth, the "pluralistic ignorance" which may be generated as various interest groups contend over whose goals are to prevail is not amenable to political resolution. The question to be resolved in coming to agreement on a set of educational goals may not be so much one of who has the power to make their goals count as it is one of how can contending groups come to identify with positions other than ~~their~~ their own prior to making decisions about goals?

Sixth, values are discussable and they can be explicated to some degree. It is just such value explication which appears to have potential for extending consideration of alternative value positions among contending groups in an educational goal setting task.

Need for a New Model

Tyler (1949), in the statement of a rationale for educational planning, established the principle that the process of the determination of the educational purposes which schools should attain include studies of contemporary life outside the school, including the stated and surveyed opinion of representative groups of society. Public participation in setting educational goals per se was not advocated; nonetheless, careful attention to the public's views remains a strong feature of the rationale.

Goodlad and Richter (1966), in their conceptualization of a curriculum system, recognize conventional wisdom and funded knowledge as the prime sources from which to inform curriculum decisions. "For some decisions, it is desirable to seek out what the body politic or sub-publics of it believe to be true or to be good and desirable. For other decisions, it is desirable to seek out the viewpoints of specialists in a given field of knowledge" (p. 8).

Goodlad and Richter, in their conceptual system, see no need to detail which decisions should be referenced to funded knowledge and which to conventional wisdom (pp. 8-9). They do, however, recognize the political implications of decisions made at the societal level and,

in effect, places much reliance upon conventional wisdom for that level (p. 37).

Whether or not recourse to conventional wisdom requires public participation is a moot point in Goodlad's work. For the most part, reference to conventional wisdom appears to be operationalized through elected officials, principally education board members. If reference is made to public participation, it is made in terms of responsibilities invested in boards "for continuously seeking consensus as to what educational institutions are for. The board is now--until removed from office--the controlling agency for these institutions. It should devote its energies primarily to maintaining a dialogue about and promoting inquiries designed to define educational ends" (p. 35).

Taylor and Maguire (1972), in proposing a theoretical evaluation model, reiterate the necessity to take views of the public into account in curriculum planning, particularly at the level of setting "broad objectives" (p. 89). As with Tyler and Goodlad, there is a notable lack of specificity about just how taking the public's views into account is to be done. The presumption seems to be that, far from actively arranging for systematic review of the public's views through participation,

curriculum planners should consider the public's contributions to education as pressures from the "legislators, PTA's, news media, taxpayer's associations, malcontents, and cranks" (p. 90).

Provision is lacking in the above conceptualizations of educational planning for active, cooperative, participation of the public even though the public's right to make its views felt is clearly acknowledged. Contrasted with this omission is a growing sentiment, expressed by Kirst and Walker (1971) in a review of curriculum policy making, that public participation in education is virtually certain to increase (p. 507). In this regard it is of interest to note the incidence of public participation in recent goal studies (Greenfield, 1975; Riffel, Schalm, and Hersom and Colleagues, 1975; Lethbridge School Board, Note 4; St. Vital School Division, Note 5).

The public, it seems, is participating in educational goal setting and this in spite of the fact that models against which the practice could be reviewed and evaluated are typically lacking with respect to public participation; and all this at a time when curriculum planning is seen as increasingly political and reference to the public as a curriculum source is accepted as mandatory in a democratic society. What seems to be needed are additional models for

curriculum planning which are capable of accounting, more fully, for public participation, and which incorporate into their design assumptions about the centrality of value explication as groups become accustomed to contending for a say in whose goals are to count. Such models would allow for systematic review of current practice, so that the public's contribution, over time, can be improved.

### Purpose of the Study

#### The Problem

It is the purpose of the study to develop a model within which strategies for direct forms of public participation in education goal setting can both be developed and assessed. A procedure thought to be illustrative of the model's intent is formulated and then evaluated in terms of the model.

#### Nature of the Model

The design of the model is premised on the importance of public participation in educational planning and the need to enhance the public's role in the planning process. The model sets the public's participation within a space which is intended to reflect the complexity of judgments about education. Educational space is assumed to be multidimensional. The model is intended as a framework

within which to develop strategies so that a participating public can become better informed about the educational space it inhabits, as well as about the disparities of view typical of groups within that space. The object of such information is to provide for a fuller explication of group value positions within a public's educational space.

To the extent that values are made explicit, alternative goals are expected to be less ambiguous. Delay in the hardening of positions over contentious goals is thus seen as a possibility.

Finally, the model is intended for the gradual improvement of educational planning as participants become more fully aware, through experience, of the many, and alternative, ways in which the educational good can be justifiably construed. The hope of the model lies in a proliferation of a view expressed by Hook (1973).

To discover why a man comes to value what he does, does not necessarily lead us to justify his values, but enables us to be more intelligent about its character. What is true for individual values is true for group values. The whole of modern anthropology consists in removing the shock of difference, when one value system is confronted with another, by providing the cultural and historical perspectives within which both are surveyed--not rationalized--as responses to the same need. One of the differences between insularity and parochialism on the one hand, and moral sophistication and wisdom on the other, is that the latter is aware of the conditions out of which values grow. We may not countenance these values when we have such knowledge; but we are at least not completely baffled by them. We know what they are an outgrowth of and response to. (p. 192)

#### The Purpose of the Illustrative Procedure

A question in model building is the heuristic value of the model. What happens when the model is used to guide practice? A report of an exercise designed to answer the question, in an illustrative sense, follows the description of the model. The exercise concerned public participation in goal setting for education. The public being referred to consisted of students, their parents and teachers, and was seen, for purpose of analysis, as representative of opinion at the school division and provincial levels. It was to be involved as a source for data. The data were to reflect a model which was to provide for the illumination of participant values. In



particular, a procedure is developed for generating what are thought to be indications of group value positions within a multidimensional educational space.

# References

- Allen, A. F. Perspective on quality education. Educational Horizons, 1971, 49, 100-107.
- Apple, M. W. The process and ideology of valuing in educational settings. In M. W. Apple, M. J. Subkoviak, & H. S. Lufler, Jr. (Eds.), Educational evaluation: Analysis and responsibility. Berkeley: McCutchan, 1974.
- Averch, H. A., Carroll, S. J., Donaldson, T. S., Kiesling, J. J., & Pincus, J. How effective is schooling? A critical review and synthesis of research findings (Prepared for the President's Commission on School Finance). Santa Monica: Rand, 1972.
- Baker, E. L. Parents, teachers, and students as data sources for the selection of instructional goals. American Educational Research Journal, 1972, 9, 403-411.
- Beauchamp, G. A., & Beauchamp, K. E. Comparative analysis of curriculum systems (2nd ed.). Wilmette: Kagg, 1972.
- Becker, H. S., & de Brigard, R. Considerations on a framework for community action planning. Middletown, Conn.: The Institute for the Future, 1970.
- Belth, M. Education as a discipline: A study of the role of models in thinking. Boston: Allyn & Bacon, 1965.
- Biddle, B. J. Roles, goals, and value structures in organizations. In W. W. Cooper, J. J. Leavitt, & M. W. Shelly (Eds.), New perspectives in organization research. New York: Wiley, 1964.
- Bross, I. D. J. Design for decision: An introduction to statistical decision-making. New York: The Free Press, 1953.
- Burkhead, J. Economics against education. Teachers College Record, 1973, 75, 193-205.

Callahan, D. The tyranny of survival and other pathologies of civilized life. New York: Macmillan, 1973.

Canadian Teachers' Federation. The quality of education (A CTF Conference Report). Ottawa: Author, 1974.

Childs, J. L. Education and morals: An experimentalist philosophy of education. New York: Arno, 1971 (Originally published in 1950).

Coombs, C. H. A theory of data. New York: Wiley, 1964.

Cyert, T. M., & March, J. G. The behavioral theory of the firm: A behavioral science-economics amalgam. In W. W. Cooper, H. J. Leavitt, & M. W. Shelly, (Eds.), New perspectives in organization research. New York: Wiley, 1964.

Delbecq, A. L., & Van de Ven, A. H. A group process model for problem identification and program planning. Journal of Applied Behavioral Science, 1971, 7, 466-492.

Dewey, J. Democracy and education: An introduction to the philosophy of education. New York: Macmillan, 1916.

Downey, M. E., & Kelly, A. V. Theory and practice of education: An introduction. London: Harper & Row, 1975.

Drewnowski, J. Measuring social variables in real terms. In J. Drewnowski, Studies in the measurement of levels of living and welfare. Geneva: United Nations Research Institute for Social Development, 1970.

Economic Council of Canada. Design for decision-making: An application to human resources policies (Eighth annual review). Ottawa: Information Canada, 1971.

Educational Policy Research Center. Toward master social indicators (Research memorandum). Stanford: Stanford Research Institute, 1969.

Faure, E., Herrera, F., Kaddoura, A., Lopes, H., Petrovsky, A. V., Rahnema, M., & Ward, F. C. Learning to be: The world of education today and tomorrow. Paris: UNESCO, 1972.

Foster, C. W. (Ed.). Educational resources management system. Chicago: Association of School Business Officials, 1971.

Goodlad, J. I., & Richter, M. N. The development of a conceptual system for dealing with problems of curriculum and instruction. Los Angeles: University of California and the Institute for Development of Educational Activities (IDEA), 1966.

Green, T. F. Work, leisure and the American schools. New York: Random House, 1968.

Green, T. F. Schools and communities: A look forward. Harvard Educational Review, 1969, 39, 221- 252.

Greenfield, T. B. Educational goals for a school system. The Ontario Council for Leadership in Educational Administration (OCLEA). Toronto: OCLEA, 1975, Sept., 16-19.

Hook, S. The teaching of values. In C. J. Troost (Ed.), Radical school reform: Critique and alternatives. Boston: Little, Brown & Co., 1973.

Jencks, C., Smith, M., Acland, H., Bane, M. J., Cohen, D., Gintis, H., Heyns, B., & Michelson, S. Inequality: A reassessment of the effect of family and schooling in America. New York: Harper & Row, 1972.

Joint Committee on Educational Goals and Evaluation. Education for the people (Vol. 1). Sacramento: California Legislature, 1972.

Kaplan, A. The conduct of inquiry: Methodology for behavioral sciences. San Francisco: Chandler, 1964.

Kirst, M. W., & Walker, D. F. An analysis of curriculum policy-making. Review of Educational Research, 1971, 41, 479-509.

Kluckhohn, C., & Others. Values and value-orientation in the theory of action: An exploration in definition and classification. In T. Parsons, & E. A. Shils (Eds.), Toward a general theory of action. New York: Harper & Row, 1951.

Leithwood, H. A., Clipsham, J. S., Maynes, F., & Baxter, R. P., in collaboration with McNabb, J. D. Planning curriculum change: A model and case study. Toronto: Ontario Institute for Studies in Education, 1976.

Maguire, T. O. Value components of teachers' judgments of educational objectives. AV Communication Review, 1968, 16, 63-86.

McMurrin, S. M. Innovation and the purposes of education. In H. T. James et al (Contributors), The schools and the challenge of innovation. New York: McGraw-Hill, 1969.

Merriam, I. C. Concepts and measures of welfare. Proceedings of the Social Statistics Section of the American Statistical Association. 1967, 179-183.

Morrison, T. What you see is what you get: An agenda for the reform of program evaluation. In C. Walley, & B. Levin (Eds.). Report of proceedings: Peter Taylor Memorial Seminar on Educational Evaluation. Winnipeg: The Manitoba Educational Research Council, 1977.

Organization of Economic Co-operation and Development (OECD) External Examiners. Report on educational policy in Canada. Toronto: The Canadian Association of Adult Education and the University of Toronto Students' Administrative Council (Joint publishers), 1976. (Newspaper format)

Phenix, P. H. Realms of meaning: A philosophy of the curriculum for general education. New York: McGraw-Hill, 1964.

Rein, M. Social policy analysis as the interpretation of beliefs. American Institute of Planners Journal, 1971, Sept., 297-310.

- Riffel, J. A. Social reporting in Alberta: Problems and prospects. Edmonton: Alberta Human Resources Council, 1972.
- Riffel, J. A., Schalm, P., & Hersom, N. and Colleagues. Developing evaluation systems in schools: Organizational strategies (A report on the Interprovincial Schools Evaluation Project). Winnipeg: ISEP, c/o A. J. Riffel, Faculty of Education, University of Manitoba, 1975.
- Rossi, P. H. Testing for success and failure. In P. H. Rossi, & W. Williams (Eds.), Evaluating social programs: Theory, practice, and politics. New York: Seminar, 1972.
- Schmuck, R. A., & Runkel, P. J. Organizational training for a school faculty. Eugene: Center for the Advanced Study of Educational Administration, 1970.
- Scriven, M. Objectivity and subjectivity in educational research. In L. G. Thomas (Ed.). Philosophical redirection in educational research (Seventy-first yearbook of the National Society for the Study of Education, Part I). Chicago: University of Chicago, 1972.
- Skager, R. Evaluating educational alternatives. In J. I. Goodlad, and others (Authors), The conventional and the alternative in education. Berkeley: McCutchan, 1975.
- Subkoviak, M. J. The use of multidimensional scaling in educational research. Review of Educational Research, 1975, 45, 387-423.
- Tatsuoka, M. M. Multivariate analysis: Techniques for educational and psychological research. New York: Wiley, 1971.
- Taylor, P. A., & Maguire, T. O. A theoretical evaluation model. In P. A. Taylor, & D. M. Cowley (Eds.), Readings in curriculum evaluation. Dubuque: Wm. C. Brown, 1972.

- Tripodi, T., Fellin, P., & Epstein, I. Social program evaluation: guidelines for health, education, and welfare administrators. Itasca Illinois: Peacock, 1971.
- Tyler, R. W. Basic principles of curriculum and instruction. Chicago: University of Chicago Press, 1949 (31st impression, 1971).
- Tyler, R. W. New dimensions in curriculum development. Phi Delts Kappan, 1966.
- Young, M. F. D. An approach to the study of curricula as socially organized knowledge. In M. F. D. Young (Ed.), Knowledge and control: New directions for the sociology of education. London: Collier-Macmillan, 1971.

Reference Notes

1. Organization for Economic Co-operation and Development (OECD), Committee on Educational Statistics and Indicators (Working Group). Indicators of Educational Performance. A report prepared for OECD, Washington, 1971.
2. Northern California Program Development Center. Educational goals and objectives (Administrator's Manual). Phi Delta Kappa, no publication date.
3. Tunstall, D. B. Developing a social statistics publication. A paper prepared for delivery at the annual meeting of the American Statistical Association, 1970. (Mimeographed)
4. Lethbridge Public School District No. 51. Educational goals questionnaire. Lethbridge, 1974.
5. St. Vital School Division. Educational Goals, 1975-77 (A report). A report prepared by the St. Vital Education Goal Committee, Winnipeg, 1977.
6. Sandow, S. A. The focus delphi and the cross-purpose matrix: Two aids for institutional policy deliberation. A paper prepared as a working draft for research being carried on at the Educational Policy Research Center, Syracuse, 1971.



## CHAPTER TWO

### THE PUBLIC AND THE GOALS OF EDUCATION

In the introductory chapter, public participation in education was examined. Calls for public participation, from educational theorists and governmental organizations with responsibilities for educational leadership, were noted. A rationale for public participation was identified. Attention was drawn to indirect support for public participation which comes from those concerned with problems associated with public participation. As well, views were advanced concerning: politicization of educational decision making, especially in the area of goal setting; conditions effecting an informed public; the need for goal statements; explication of values; and, the need for a model to provide a framework for the adequate design and review of goal setting strategies which directly involve the public.

### Extending the Theory Affecting Participation

Yet to be explored, before positing the model called for in the introductory chapter, are more comprehensive theoretical grounds from which to derive those aspects of the model which are thought to provide for a fuller account of public participation.

One of the areas to be considered is the role of judgment in goal setting. Public participation inevitably raises the possibility of goals being advanced which have different sets of values as criteria. If there is no attempt at explication of those values "pluralistic ignorance" might well result (see Biddle, 1964). But participants' exercise of judgment in setting goals might avoid such an impasse. If judgment were invoked, there would be a demand for grounds (Green, 1973). That demand appears to be satisfied by appeal to data which indicate the nature of the value differences creating the impasse. Exercise of judgment thus brings into play data which when given consideration might provide for the measure of wisdom Hook (1973) proposes as the outcome of knowledge of values other than our own. It appears, then, that a clearer understanding of the role of judgment in goal setting provides for progress toward improved goal setting.

Another area to be considered in providing more comprehensive theoretical grounds from which to derive the proposed model is the identification of a dynamic which accounts for modifications among contending groups' values. Identification of such a dynamic provides justification for enquiring into differences among groups in the first place. Except that there is some prior expectation that restructuring of group values, no matter how minimal, is a possibility, and that some of the restructuring might come about as the result of becoming informed about group value differences, mere identification of such differences appears to be of limited use.

#### Judgment in Goal Setting

The extent to which judgment is required in many contemporary goal setting exercises is problematical as is seen from the earlier review of three extant goal setting strategies which may or may not call for judgment as part of the process. More particularly, where the strategy is that of ranking goals selected from some master list thought to cover the range of suitable educational alternatives, simple preference seems to play a large role, with significant portions of the time allowed for any group consideration of goals given to reading the individual scores

into the record, averaging scores to produce a group score, and, only then, considering goals individually with the object of arriving at a consensus on the ranking (Northern California Program Development Center, Note 1).

Whether or not the process just described is thought to provide sufficient opportunity for judgment will depend somewhat on the role judgment is assumed to play when a public participates in goal setting. The role is examined under the following headings: preference versus judgment; knowledge as a component of judgment; and, values as data.

Preference vs. judgment. Although, for the sake of clarity, it is frequently convenient to regard preference and judgment as dichotomous terms, it is evident that preference can be thought of as a position on a choice-behavior continuum, different only from judgment, in the degree to which the choices in question satisfy a demand for grounds (Green, 1973).

Indicating a preference is generally associated with the management of daily affairs and is made manifest through the act of choosing. This shirt and tie are chosen over that shirt and tie; this breakfast cereal is chosen over that breakfast cereal. "Individuals continuously choose, often without knowing which alternative

course is best" (Rothe, 1978, p. 30). The choices are mundane and are made, by and large, without reflection and in response to exigencies of the moment.

The state of affairs which evokes preferential behavior suggests, if not a plethora of goods, at least the sense of plenty such as that which attends a smorgasbord where foods are available in such variety and plenty, that selection can take place solely on the grounds of whim or desire (Green, 1973, pp. 204-205).

Judgment, on the other hand, is entered into less frequently; not as part of the texture of daily affairs, but as a point of particular interest in the management of the daily round. There is an objectivity about judgments "in the sense that they rest upon evidence, reasons, standards, or some other kinds of ground" (Green, pp. 201-202). Rothe (1978) confirms Green's distinction between the two modes of choice although he uses a somewhat different terminology. In place of judgment, Rothe speaks of practical reasoning and notes that such reasoning produces decisions which are justifiable within a certain light of perspective (p. 31).

One final point should be made which is of considerable significance to the eventual design of the intended model. Judgment, in contrast to preference, calls for some

explication of values in the sense that although preference is typically made from among entities that are presumed to be equally available and of equal value judgment presumes the possibility for differential weighting of alternatives. Further, the weighting may not take place within a single frame of reference, it being more likely that appeals to a frame of reference will give rise to dispute as to what or whose values are to count as appropriate for such a framework. Thus trade-offs will have to be negotiated as one alternative is advanced over another with each alternative arguably desirable, but for different reasons (Green, 204-205).

Knowledge as a component. Knowledge of a situation thus sets judgment apart from preference: The more knowledge, the more judgmental the act. The knowledge may be far from complete. Indeed, to speak of judgment in all but an idealistic sense presumes the acceptance of a lack of certitude.

The policy-maker never has all the information he needs. He must make choices and take action in the absence of information. In political affairs, policy formulation, and moral decisions as well, what is required is not certitude as to the right course of action but wise judgment in the absence of such knowledge. (Green, p. 201)

Judgments, then, are open to dispute; they are open, as are the formal hypotheses of science, to validation on the basis of results that accrue from having completed empirical tests.

The fact that men's judgments in relation to values frequently differ does not mean their judgments are beyond the reach of argument . . . . The fact that men differ in such judgments means only that their appraisals are in fact judgments--having neither the subjectivity of mere preferences, not the certainty of knowledge, nor the insubstantial quality of a mere guess. (p. 205)

Total knowledge of a situation, as Green infers, is never achieved. If it were judgment would no longer be required because selection from among available courses of action would be a simple matter of selecting that which is known to be the only true course. On the other hand, any increase in knowledge increases the likelihood that better judgments will ensue (pp. 201-202).

Values as data. Goals embody values (Kluckhohn, 1951; Kirst and Walker, 1971; Apple, 1974; Beauchamp, 1975). It is therefore appropriate that in goal setting there be a deep concern lest, in the aggregate, information about the values of individuals is lost. One way to reduce such loss appears to be to make more direct use of data about individual and group value positions as part of the knowledge base to be acquired prior to the selection of goals.

How these data are to be generated or made available among participants in goal setting, although a considerable problem in its own right, is not at issue for the moment. What is at issue is the more general question of whether or not cognizance should be taken of individual value positions as integral to judgment in goal setting.

Argyris (1972) in speaking of organizational change, a process comparable to goal setting in that the perceptions and values of individual participants are rarely consonant, reports on this view of his work.

He [Argyris] advocates what he calls 'openness' or 'authenticity', which is his particular combination of rational and emotional communication. Openness does not mean that each individual should express whatever is on his mind regardless of any concern for the feeling of others. The aim is to create a situation in which the members of an organization who are working together can express how they feel about problems in their relationships in such a manner as to help those with whom they are communicating to express themselves in a similar open manner. The theory is that the emotional problems within the groups do not simply disappear when they are not faced by members of a group; rather they tend to obstruct the carrying out of rational plans of the members. (Whyte, 1970, in Argyris, p. 123)

The intent of Argyris' position seems clear; if negotiations among participants in an organization are to be successful, much care and effort must go into fashioning as high a level of interpersonal understanding as time and resources allow. Assuming understanding



among individuals is effected by complementary action, and accepting Kluckhohn's definition of value as "a conception . . . which influences the selection from available modes, means, and ends of action" (1951, p. 395), then, it seems that any attempts to help participants obtain a more complete grasp of each other's value positions will facilitate the kind of communication Argyris has in mind.

None of which would be of too much significance if, in spite of available value data for the mutual enlightenment of participants, there was little prospect for adjustments and realignments among diverse positions. If values are indeed fixed and inflexible, it is difficult to imagine in what sense Hook (1973) sees any hope for increasing "moral sophistication and wisdom" through the process of discovering "why a man comes to value what he does" (p. 192).

It appears that if data about value positions are to be effective as part of the knowledge base in making judgments about goals, then, a dynamic is required which, in a theoretical sense, provides for adjustments within value positions, adjustments which can be hoped for so long as conditions persist to maintain what Kluckhohn regards as the "eminently discussable" nature of values.

### A Dynamic for Value Restructuring

A dynamic which allows for adjustments in value positions, or the restructuring of values, appears to be provided by Kelly's (1955) theory of personal constructs. In order to relate value restructuring to Kelly's theory it is necessary to recall Kluckhohn's stipulation that a value is a construct. Not all of Kelly's theory is specific to the matter of restructuring of values; a brief overview of the theory is presented so that those portions which are specific will be seen in perspective.

Before dealing with the overview, consideration is given to the connotation of construct as presented in common usage. In a direct and somewhat compelling way the connotation of construct, in common usage, is presented in the question "but how am I to construe your remarks?". Presumably the remarks in question are literally sensible, that is, appropriate language has been used in terms of grammar and syntax. What seems to be missing is a construct which is shared sufficiently between those trying to communicate that the sense of the message being delivered is preserved for the receiver. That the original question is posed at all suggests some lack in the sharing of construct. Thus, in the most direct sense of common language usage, to invoke the idea of a construct or

constructs as a substratum to meaning for even the common-places of everyday seems appropriate, indeed, necessary. Meaning, then, inheres in the construction placed upon experience and not in raw perceptions. It is this philosophic position, stated in more sophisticated terms as "constructive alternativism", which undergirds the development of Kelly's theory (Kelly, 1955, 1970).

In Kelly's view, there are practical limits to the construction of events. As a consequence, there may be frequent appeals made to a convenient stereotype as the basis upon which meaning is assigned to perceived events.

Our ingenuity in devising alternative constructions is limited by our feeble wits and our timid reliance upon what is familiar. So we usually do the things the way we have done them before or the way others appear to do them. (1970, p. 3)

Further, the facts of life in themselves are neutral in their meanings: The responsibility rests with the individual to place a construction upon them. Nor is the construction placed upon events infallible. Granted it is possible to gain confirmation for a particular construction that has been placed upon events; at most, the confirmation demonstrates a positive correlation between the anticipated meaning and the outcome. For:

even when events are reconciled with a construction we cannot be sure that they have proved it true. There are always other constructions, and there is a lurking likelihood that some of them will turn out to be better. The best we can do is project our anticipations with frank uncertainty and observe the outcomes in terms in which we have a bit more confidence. (1970, p. 4)

Finally, there is a need to remain open with regard to the constructions placed upon events in spite of the risk involved. There is no known, safe way to proceed toward enlightenment. Enlightenment is there to be won, at times at the expense "of what may turn out to be insanity" (1970, p. 7).

So far, the discussion has centered around constructions which are placed upon events in the world. The possibility for alternative constructions is acknowledged. But what of systems of personal constructs? Are they, too, to be regarded as having alternative forms? Kelly's answer is yes. Through experience "a person's construction system varies as he successively construes the replication of events" (p. 17). The mechanism for variability in the system is suggestive, in the general sense, of the process of accommodation proposed by Piaget (1952, pp. 6-7). In a more particular sense, it is suggestive of the process in science by which hypotheses are proposed, submitted for empirical tests, confirmed or

disconfirmed, and constructively revised as a consequence (p. 18).

The possibility for change in construct systems is critical; it is this possibility which makes any consideration of eventual reconstruction of values meaningful. The extent to which an individual is able to vary his construction or value system and make an accommodation with another's is dealt with by a corollary to Kelly's theory (modulation). The individual who is able to govern his life upon such broadly held principles as those typified by Kohlberg's (1966) highest level of moral reasoning would be said to possess constructs that were permeable under this corollary as contrasted with those operating within a law and order orientation. The permeability of a construction system, then, depends upon the power of a system to give meaning to events. Where meanings are simplistic due to the constraints of a system, the individual is likely to be rather rigid and uncompromising in his responses to events and change is unlikely: Where meanings are profound because the related construct systems have greater power to evoke meaning and suggest many subtle interrelationships, the individual is more likely to be open and flexible in his responses to the unanticipated, and thus change within his system is

more likely.

Constructs tend to be specific to each individual, although there is the possibility of overlap of construction systems among groups or individuals (individuality corollary). "Persons differ from each other in their construction of events" (p. 12); at the same time it is possible for one person to employ a construction system which is similar to that employed by another. To the extent that this is so, there is likely to be much agreement as to the meaning of an experience. It is significant to note that agreement on the meaning of an experience is not a function of similar biographies so much as it is the function of similarities in the constructs within which events have been placed for meaning.

And finally, to the question of the adjustments that are possible within value systems, or constructs, is the stipulation that interpersonal events can be construed at two levels (sociality corollary): First, there is the construction of the other's behavior and, second, the construction of the other's construction system. Construction of events at the first level is relatively straightforward and safe; the other's behavior is simply evaluated in terms of the observer's system of values. Construction of events at the second level is much more

difficult and raises the whole issue of trying to come to an understanding of the other's system of valuing. Whereas at the first level, the other is dealt with as object, at the second level the attempt has to be made to deal with the other as subject. Clearly, in Kelly's thinking, it is at the second level of interpersonal construction that the greater likelihood for mutual adjustment in construction systems exists. For:

When one construes another person's outlook and proceeds to build an experiential cycle of his own upon that construction, he involves himself willy nilly in an interesting way. He can test his construction only by activating in himself the version of the other person's outlook it offers. This subtly places a demand upon him, one he cannot lightly reject if his own experience is to be completed. He must put himself tentatively in the other's shoes. Only by enacting that role can he sense the impact of what happens as the result of taking the point of view he thinks his friend must have. (p. 26)

Values, taken as constructs, are not static within Kelly's theory. Indeed, there is the possibility for considerable restructuring, particularly where the values, as constructs, are permeable and are open to the possibility of being informed by another's valuing.

### Summary

Thus far in extending theory effecting public participation, a rationale has been developed for a shift from a preference to a judgment mode in goal setting. As well, a relevant theory has been posited to provide for the adjustments in personal and group value positions which may provide the key to resolution of conflicts engendered by judgment.

Yet to be considered is the nature of the public's activity in setting goals for education as the shift is made from expecting no more of the public than it state a preference, to requiring it to exercise judgment: from treating the public largely as source to expecting the public to act as processor as well.



### Public as Source and Processor

Delbecq and Van de Ven (1971) in proposing a model for program identification and planning, provide insight into how participating groups can be profitably involved as both source and processors of data. Rationale for the sequencing of group participation throughout the five phases of a process outlined in the model comes from studies in community planning.

A strategy typical of the model is to provide an opportunity for representatives of participating groups to first, act as source as they record perceptions and opinions on 5" x 7" cards (p. 470). Later in the proceedings, these comments are made public in round robin fashion so that the material provided by individuals in the smaller sub-groups to which they had been assigned can be discussed preliminary to rating the comments on a write-in basis. The participants thus process source material which they had previously provided.

Justification for use of reference groups as both source and processor is assumed. The question Delbecq poses for theoretical clarification is not should reference groups (public) participate as source and processor, but rather, when the public participates in this way,

what are optimal strategies for their participation?

The theory clearly favors the nominal group approach as contrasted with an interacting group approach. That is, data, largely in the form of opinion, are generated while participants are seated together, not engaging in conversation, but instead committing their thoughts to writing.

Critical to the nominal group approach is the opportunity to make a clear distinction between participant as source and participant as processor. By having participants commit themselves in writing without interaction with others, the inference is firmly established that the comments provided are to be received as information for eventual consideration and not as highly argumentative positions to be defended. Thus, when the role of participant is shifted from source to processor the ground is prepared for informed response to "multiple-reference groups and representative clients" as opposed to the emergence of a single emotion-charged issue incipient with a particular clientele (p. 478).

Delbecq's work, consistent as it is with "current research on creativity, organization change, and social planning" (p. 490), provides strong support for participation of the public in matters which are of direct public concern. Differences among participants, along both

emotional and organizational dimensions, are identified and displayed (p. 470). The presumption seems to be that, given an opportunity for just such an expression of opinion, participants are satisfied that their views have been adequately acknowledged and they are then prepared to proceed, without acrimony, to a consensus. Outstanding differences, if any, are resolved by majority vote (pp. 474-475).

The Delbecq model allows for interaction of participants at several stages throughout a planning cycle, with a review, in the late stages, which provides for "an outlet for minority reservations in the form of careful control measures to determine whether such reservations are justified" (p. 489). The success of the model appears to depend more upon the anticipation and control of conflict than upon exploration of the value sources for potential conflict. Indeed, there is specific disclaimer of the model's usefulness where groups are "severely polarized" (footnote, p. 490).

Insofar as the Delbecq model seeks genuine involvement of participants and allows for disclosure of the full range of opinions formulated by them, it appears to satisfy many of the requirements of the model proposed for this study. That is, active public participation in

educational goal setting could be accounted for within the model. Where the model appears to be deficient is in a lack of provision for a process for the explication of values among participants, or, to put the matter another way, a lack of provision to have participants attempt what Kelly (1970, p. 24) describes as the construction of the other's construction processes.

This is not to say that the model mitigates against exploration of value differences. Rather, it appears that the intent of the model simply does not require such depth of probing into participant differences. To begin with, the model is only invoked once a task for community planning has been clearly identified (Delbecq and Van de Ven, 1971, pp. 466-467). Participants in planning, although of several minds as to how planning should proceed, are seemingly in no doubt about the worth of the task objective itself. And, second, because the model assumes clear identification of a task objective, there is some reason to expect participants to support steady progress toward task completion. And steady progress toward task completion is provided for in the model by virtue of the care taken to delineate "specific group techniques and specific roles for different interest groups at different phases in the process" (p. 469).

Under the circumstances, lack of provision for exploration of the underlying value differences among groups would not necessarily be regarded as a lack in the model.

Delbecq and Van de Ven provide a planning model which could be applied to educational goal setting. The model provides for significant public participation in goal setting, both as source and processors of data. Potential conflict is ameliorated by careful design and management of individual and group interaction throughout a planning cycle (p. 490). The model, however, fails to provide for specific disclosure of the value differences among groups. There is no place in the model for a consideration of why groups and individuals have the differences of opinion which they do, and whether or not these differences are attributable to differences in the construction processes being employed.

If, then, in the public's participation as source and processor of data, progress is to be made beyond the statement and reconciliation of differences in opinion, to an exploration of the nature of those differences, then, clarification is required of the implications such exploration has for the public in its dual role. What is likely to be the content and form of the data sought from a public, when the object of the data is to provide for

exploration of the constructions which are presumed to give meaning to differences in opinion? In what sense might a public process such data once they have been obtained?

#### Public as Source

Two conditions are to be satisfied if a public is to act as data source in goal setting which attempts to go beyond the limits of Delbecq's planning model: There must be some prior understanding of the kind of data being sought, and, there must be a reasonable expectation that the data can be obtained.

On the basis of previous argument, it should now be clear that the kind of data being sought is data amenable to the interpretation that it indicates value positions among participating groups. Kluckhohn (1951) in identifying behaviors which should be examined for the study of values, includes among them, choice behavior.

An implicit value is a tacit conception which is inferred to underlie a behavioral sequence because the given train of events is interpretable only if this tacit conception is assumed to be one of the factors determining selective behavior. Such behavior sequences must involve acts in which "choice" is possible within the physical and biological dimensions of the environing situation and in which "choices" made are not random but patterned. Such choices are presumed to be based upon unstated "ought" or "desirability" categories. (p. 415)

But there may still be a problem with the "choices" which Kluckhohn proposes as suitable for the study of values. Choices, as Kluckhohn uses the term, are derivative of subjective states (p. 404) and as such are highly idiosyncratic. To the extent that they provide information about some inner state, choices, therefore, may be thought of as one form of self report.

Scriven (1972) addresses the problem of the so-called subjectivity of self reports. In doing so he distinguishes between the quantitative and the qualitative senses in which subjectivity and objectivity can be assessed. It turns out, from Scriven's analysis, that self reports, although subjective in a quantitative sense, may be objective in the qualitative sense. The problem is that because self reports are subjective in the one sense, they have all too often been dismissed as being unsuitable as data because they have been judged subjective in the other sense as well. For Scriven, the subjective/objective dichotomy is determined, in the qualitative sense, not in terms of the number of those who concur in their report of an event, but in terms of the credibility of the individual making the report. For the report of the individual:

simply describes his state of mind and we have no reason for thinking that he is lying or in some other way misled . . . . Previous knowledge of his veracity and sanity gives us good reason to believe him. So the claim is quantitatively subjective, even though it is qualitatively objective, and the two senses cannot be equated. A man's tastes, attitudes and values as well as his thoughts and feelings are quite properly thought of as characteristic of him or of his state of mind at a particular time and are no less objective facts about him than his weight--to give simple dispositional properties--his strength or his ability to multiply seven by seven. But of course his thoughts may be private or personal and idiosyncratic and non-generalizable and all the other terms that mean that they are not objective in the quantitative sense. (p. 96)

It seems clear that there should be no difficulty in meeting the conditions to be satisfied if a public is to act as source within a goal setting model which provides for the possibility for participants to examine value differences among groups. Not only does the value-bound nature of goals suggest the appropriateness of using information about participant values but legitimate strategies for obtaining such information appear to be assured.



### Public as Processor

The conditions to be met if the public is to serve as processor within the anticipated model may be more difficult to identify. Presumably, the public as processor will eventually be faced with the responsibility for making judgments about the goals to be set--about whose goals are to prevail. But how are those judgments to be informed, and to what purpose?

The answer to these questions will be attempted by a discussion of the context dependence of any matter which is presented for judgment, a discussion of the two levels of context dependence, and the presentation of some examples from education evaluation studies which invite the intrusion of participant values in the judgmental process.

Context dependence. When entities are presented for consideration, whether in terms of simple apprehension, as in obtaining a "grasp of the matter" or, in terms of judgment where the entity is set against some absolute or relative criterion for comparison, the entities do not stand alone (Alpert, 1939; Belth, 1965; Jenkins, 1966).

For example, Alpert maintains that "facts, our popular language notwithstanding, do not speak for themselves. We cannot approach facts without some knowledge

of what we are looking for" (p. 116).

Similarly, Belth acknowledges the context dependence of the so-called facts of education and the role played by the various levels of context, from metaphor to model, within which the facts are interpreted. He notes that once the centrality of these contexts in giving meaning is recognized "it becomes possible to say that the study of education has as its subject the formation and use of models in their present and possible variety, the effect they have on the experiences we undergo, and the thinking made possible by them" (p. 62).

It thus appears that processors of data, to be effective, must have some grasp of the context dependence of the data being processed--an awareness of the possible grounds within which various classes of data are said to be meaningful.

And herein lies the crux of the difficulty in using the public as processors of data. No sooner is the attempt made to make the grounds of constructs explicit than it is likely to become apparent that there are many, and often competing, constructs which serve the purpose of giving meaning to a particular datum. Short of being able to identify the true framework, it becomes necessary to consider these many possibilities (Black, 1968, p. 121).

As was noted in the discussion of Kelly's work, making sense of the world inevitably seems to turn on the question of how matters are to be construed.

Intra/interconstruct contrasts. If the possibility that events in the world have alternative constructions is accepted, then it seems that the constructions placed upon events by participants, as processors, will take place at two levels: Events will be given meaning within a single, commonly held construct (intraconstruct) or events will be given meaning within several independently held constructs (interconstruct).

If intraconstruct, then meaning is given within what Phenix (1964) refers to as the "interconnected whole"-- a construct held in common by the members of a group bound together by the language of custom and which is regulated "by a great many reinforcing acts symbolizing respect, authority, and freedom, dependence and independence, responsibility and other aspects of status and expectation" (p. 85). Exemplars of such groups might include communities of a strong sectarian religious affiliation where the bounds of religious constraint have been clearly codified; service units brought together to perform specialized tasks related to life and safety; large social aggregates where there is a strong sense of community

by virtue of an interdependent life-style characterized, for example, by an established farm community.

If interconstruct, then meaning is given within alternative constructs. Where homogeneity of view exists it is within groups: Where heterogeneity of view exists it is between groups. At the interconstruct level each group places an idiosyncratic construction upon the events experienced by the groups as a whole so that what makes sense to one group may be regarded as nonsense by another.

What has been said to this point applies in general. The task, of the moment, is to identify those conditions which apply, more specifically, when the public serves as processor within a goal setting model which is to account for value differences among participants. It seems, under the more particular circumstances that goal statements, however formulated, are the "events" under consideration and, following Kluckhohn (1951), participant values are the constructs or conceptualizations within which the statements have their intended meanings (pp. 429-430).

Thus intraconstruct goal statement meanings are determined by whether or not a statement is identified as conforming to a single set of values and provides for the possibility of deriving an unequivocal standard against which attempts at goal attainment can be measured.

Interconstruct meaning is more complex. It is determined, not in terms of a single set of values but, rather, in terms of alternative sets. Goal statements might, as a consequence, be ambiguous. Their meanings are likely to be as diverse and numerous as the several sets of values to which they conform. Under these circumstances it is possible to derive contrasting standards against which attempts at goal attainment can be measured.

Schwab (1975) remarks on the problem confronted by those who attempt to deal with events, such as goals in education, which are ambiguous because they have diverse meanings within alternative constructions.

Irenic discussion and many such differences of view will be marked by appeal to different dicta on the part of different participants, thus posing one of the most difficult, yet most common of the problems of persuasion and collaboration, and therefore one of the most important problems to learn to solve. (p. 45)

Scriven, earlier (1967), makes much the same point about the difficulty of establishing unambiguous meaning where a context is not clearly defined in advance, where, in fact, the central task is the identification of just such contexts. Although Scriven writes of value judgments, the examples he provides demonstrate an isomorphism between value judgments and educational goals.

Finally, there are value judgments in which the criteria themselves are debatable, a type of value judgment which is only philosophically the most important and whose debatability merely reflects the fact that important issues are not always easy ones. Examples of this would be the assertion that the most important role of evaluation is in the process of curriculum writing, or that the IQ test is an unfortunate archaism, or that the Copenhagen interpretation of quantum physics is superior to any known alternative. In each of these cases, the disputes turn out to be mainly about what is to count as good, rather than to be arguments about the straightforward 'facts of the situation'. (p. 48)

A second attribute of effective data processing, then, appears to be an understanding of the contrast between discussions of the data which take place intraconstruct where, as Schwab points out "it is easy indeed to come to agreement with men 'who agree with us in principle'", and those which take place interconstruct where appeal is made to "different dicta" (p. 45).

Approaches using participant values. Instances when participant values have been taken into account as part of educational decision making can be found. The reports of education evaluators whom Stake (1977) categorizes as using the "transaction-observation" approach, provide for such instances. In contrast to evaluators who, in terms of Stake's categorization, carry out their studies on the assumption that the results are interpretable within a single construct, that is who use a "student gain

by testing", an "institutional self-study by staff", or a "management analysis" approach, the evaluators using the transaction-observation approach are not so concerned with the merit of a particular product or entity as they are with bringing about a greater interpersonal awareness among the publics represented in the evaluation exercises. Further to this point, where evaluators assume a single construct system within which to explain their results, the very fact that only one point of view is represented eliminates much of the need for participation of large numbers of people in the evaluation; indeed, the exercise may often be conducted by a handful of experts.

Evaluators of the transaction-observation mold, on the other hand, typically require the involvement of large numbers of people because they assume differences in points of view and wish to assure their representation.

Canadian educators who appear to fit the transaction-observation mold include Leithwood, Clipsham, Maynes, Baxter, and McNabb (1976), Morrison (1977), and Riffel (1977). Typical of their approach to evaluation is the advocacy of an alternative to what Riffel has identified as independent-empirical evaluation studies. In their place they advocate more use of what Parlett and Hamilton (Note 2) call the "'anthropological' research paradigm".

Methodological strategies under this categorization include: "observation, interviews with participants (students, instructors, administrators, and others), questionnaires, and analysis of documents and background information" (summary page).

Admittedly Leithwood et al, Morrison, and Riffel do not deal directly with the problem of how to cope with interconstruct or value differences--rather, they seem to be more concerned with their identification. Nonetheless, the strategies that they propose for identification of the differences assume the differences are of sufficient consequence that mechanisms for some of the resolution of those differences would be part of the evaluative process. Morrison, in particular, argues the primacy of values and the need to search out a comprehensive evaluation framework on the basis of those values. Riffel and Leithwood et al, offer views which are somewhat different in degree as to how, in fact, an evaluation framework is to be identified. For Riffel the question of whose values are to count should remain fluid as participants, in what he calls a "participatory problem solving situation" agree to "'muddling through', and assess results in terms of usefulness to themselves in their situation" (1977). For Leithwood et al, the evaluation framework is seen in



more precise terms. Included in his outline is maintenance of open communication, acceptance of successive approximations, and sliding agent-client relationships.

Where the public is to participate as processor, then, participation is likely to be more effective when the context dependence of entities under discussion and the intra/interconstruct contrasts are recognized and taken into account. The work of contemporary Canadian educators who advocate a transaction-observation approach to gathering and processing data about educational programs provides insight into the nature of participant activity when participants are accepted as processors.

#### Implications for Goal Setting

Attention must now be given to the implications for goal setting of having participants act as both source and processors. It should be recalled that some implications were advanced during the discussion of the contrast between intra and interconstruct goal statement meanings. As was pointed out at that time, intraconstruct meanings are determined by whether or not a statement satisfies a single set of values whereas interconstruct meanings are determined by the possibility that a statement might have

alternative meanings in conformity with the several sets of values within which the statement can be construed. Thus, insofar as goal setting rests on appeals to participant values, both intra and interconstruct possibilities will have to be taken into account and some determination made about whether the appeal is being made within a single well defined context of a plurality of contexts.

If, in setting goals, appeal to values is made intraconstruct, then, the likelihood is that the goals will be arrived at through some selection process designed to identify those goals which best typify the set. Experts in such matters as the uses of language in logically consistent ways would seem to be suitable for such a task. In effect, what is at stake is the identification of a "product" in the form of a set of goals. The goals then provide an unequivocal referent for standards to be applied in making judgments about education.

Where the issue is addressed interconstruct, the question of what is to stand as goal statements does not have a clear resolution. If the insights of evaluators of the transaction-observation mold apply, resolution of the issue seems to have more to do with the process by which goals are set than with the goals themselves.

There is a well defined process in curriculum decision making where appeal is made to different dicta (Schwab, 1970, 1973, 1975), that is, appeal is made inter-construct. The process is deliberation. A brief review of what Schwab connotes by the term may reveal why the same process appears to hold promise for goal setting under circumstances when different values are in contention.

#### Deliberation

Schwab devotes much of his writing to trying to formulate a curriculum decision making process. Disparity of views among collaborators is seen by Schwab as central to the problems faced in a curriculum exercise, whether it be as particular as the selection of textbooks for a course of study, or as general as setting goals. There is, for example, a wide gulf between the views of scholars and others attempting to translate scholarly material into curriculum (1973, p. 501). The differences are not peripheral; nor are they easily resolved. Indeed, if they are to be resolved at all, it will be because scholars and others:

learn something of the concerns, values, and operations which arise from each other's experience. They must learn to honor these various groupings of concerns, values, and operations, and to diminish their own values enough to make room in their thinking for the others. (p. 501)

They will, in effect, have to engage in a process identified by Schwab as the process of deliberation--a process which appears to be isomorphic with the process which is being sought for achieving agreement in the interconstruct sense.

Deliberation is complex and arduous. It treats both ends and means and must treat them as mutually determining one another. It must try to identify, with respect to both, what facts may be relevant. It must try to ascertain the relevant facts in the concrete case. It must try to generate alternative solutions . . . . It must then weigh alternatives and their costs and consequences against one another, and choose, not the right alternative, for there is no such thing, but the best one. (p. 36).

Schwab insists on the need to maintain an open stance throughout the process; to engage in a process that is iterative and evolving. To do otherwise is seen as failure in the task of encompassing and communicating the real intentions of a planning group (p. 506). For as Schwab (1973) states:

Values are realized reflexively. A value is embodied in a stated educational intention but only equivocally and imperfectly. The stated intention then serves as an imperfect guide or pattern for construction of a curriculum bit. Experience of the curriculum bit reduces by a little the equivocation of the stated intention and illuminates a little more the value which lies at its roots. Substitution of another curriculum bit, or modification of the first may follow from the illuminating experience but there will also be reflexive modification of the formulated intention itself or modification of the way in which it is understood. The value may be so well illuminated that it becomes accessible to scrutiny, criticism, and change. (p. 507)

Albeit, the curriculum bit to which Schwab refers may suggest a derivative of some educational goal or intention, nonetheless, to assume a curriculum bit might also refer to the particular formulation of a goal or subset of goals, which are as yet not evident, does not seem to violate the sense of the argument. The difference in what might be taken as curriculum bits, whether they be goal derivatives or the goals themselves, would, after all, seem to be one of degree and not of substance.

It appears from the foregoing, that where the public is to serve as data source and processor in goal setting, the ensuing task is likely to be complex and time consuming. For if interconstruct goal setting is to be regarded as isomorphic with deliberation, the following will hold among participants: some minimal level of understanding

of the critical role values play in giving meaning to goal selection; respect for other's values; acceptance of the arduous and difficult nature of the task; acceptance of goals which are the best available for the moment; acceptance of the iterative nature of goal setting and value illumination. These conditions, given in summary, suggest the profile of a participant public prepared to address the issue of setting goals inter-construct.

### Criteria for the Model

Eight criteria emerge as the basis upon which to structure a model for the illumination of values where educational goals are set by a participating public. The criteria, in effect, summarize the development of the themes related to the purpose of the study and represent an amalgam of views based on work from diverse but educationally related fields.

The criteria are:

1. Participants within the purview of the model are to be treated as both the source and the processors of data relevant to the model's intent. The criterion is largely derived from the work of Delbecq (1971) and his associates.
2. A distinction between judgments rendered intra-construct (or within constructs) and those rendered inter-construct (or between constructs) should be clearly evident. The need for this criterion is based on the work of those who have contributed to an understanding of the role of variously labelled constructs--metaphors, models--in determining meaning.
3. Information should be regarded as integral with judgment. The criterion is suggested by the work of Green

(1964, 1973).

4. The data of self reports, or the so-called mere expressions of opinion, should be regarded as legitimate for the purpose of informing judgment, particularly when judgment is interconstruct and consequently of the kind that attempts to establish, not the facts of the matter, but the values within which the facts have their meaning. The criterion derives from Scriven's (1972) distinction between data which are quantitatively subjective, and often, therefore, eschewed as unsuitable to inform judgment, but which are, at the same time, qualitatively objective and, as such, are highly desirable as data for informing judgments of the kind that seek to establish the good from among several alternatives.

5. There should be a dynamic to account for the restructuring of value positions among participants. The possibility for such a dynamic is suggested in the work of Kelly (1955, 1970).

6. There should be provision for a curriculum worker, or workers, conversant with the dynamics of interpersonal communication. The criterion is supported by the work of those education evaluators who fit Stake's categorization of evaluators who use a transaction-observation approach to evaluation.



7. The mode of communication among participants is best characterized by deliberation where, as Schwab points out, there is opportunity for a dialectic between the goals under consideration and the value positions which serve as criteria. The dialectic presupposes an open search, not for a right answer, but the best answer available for the moment.

8. The last criterion posits a suggestion of what is to count as success in a goal setting exercise and, in a sense, summarizes the previous criteria. Where it becomes clear in goal setting that participants "agree in principle", that is, are able to deal with the task intra-construct, then, as Schwab (1975) maintains it will be easy to come to agreement on the task outcome (p. 45). Success will be measured in terms of the logical consistency between the values participants espouse and the goals they set.

Where the circumstances indicate a plurality of value positions, success will have less to do with the agreed to set of goals and more to do with the nature of the process maintained during the goal setting. Where the process supports participant commitment to the task and encourages openness to values which differ from one's own, the process will count as successful.

With the criteria in place, it is appropriate to proceed with delineation of the model.

### References

- Alpert, H. Emile Durkheim and his sociology. New York: Russell & Russell, 1939.
- Apple, M. W. The process and ideology of valuing in educational settings. In M. W. Apple, M. J. Subkoviak, & H. S. Lufner, Jr. (Eds.), Educational evaluation: Analysis and responsibility. Berkeley: McCutchan, 1974.
- Argyris, C. The applicability of organizational sociology. Cambridge: Cambridge University Press, 1972.
- Beauchamp, G. A. Curriculum theory (3rd ed.). Wilmette Illinois: The Kaggs Press, 1975.
- Belth, M. Education as a discipline: A study of the role of models in thinking. Boston: Allyn & Bacon, 1965.
- Biddle, B. J. Roles, goals, and value structures in organizations. In W. W. Cooper, J. J. Leavitt, & M. W. Shelly (Eds.), New perspectives in organization research. New York, Wiley, 1964.
- Black, M. The labyrinth of language. New York: Praeger, 1968.
- Delbecq, A. L., & Van de Ven, A. H. A group process model for problem identification and program planning. Journal of Applied Behavioral Science, 1971, 7, 466-492.
- Green, T. F. Teaching, acting and behaving. Harvard Educational Review, 1964, 34, 507-524.
- Green, T. F. Judging. In C. G. Troost (Ed.), Radical school reform: Critique and alternatives. Boston: Little, Brown & Co., 1973.
- Hook, S. The teaching of values. In C. J. Troost (Ed.), Radical school reform: Critique and alternatives. Boston: Little, Brown & Co., 1973.

- Jenkins, J. J. Meaningfulness and concepts: Concepts and meaningfulness. In H. J. Klausmeier, & C. W. Harris (Eds.), Analyses of concept learning. New York: Academic Press, 1966.
- Kelly, G. A. The psychology of personal constructs: A theory of personality (Vol. 1). New York: W. W. Norton, 1955.
- Kelly, G. A. A brief introduction to personal construct theory. In D. Bannister (Ed.), Perspectives in personal construct theory. London: Academic Press, 1970.
- Kirst, M. W., & Walker, D. F. An analysis of curriculum policy-making. Review of Educational Research, 1971, 41, 479-509.
- Kluckhohn, C., & Others. Values and value-orientation in the theory of action: An exploration in definition and classification. In T. Parsons, & E. A. Shils (Eds.), Toward a general theory of action. New York: Harper & Row, 1951.
- Kohlberg, L. Moral education in the schools: A developmental view. The School Review, 1966, 74, 1-30.
- Leithwood, H. A., Clipsham, J. S., Maynes, F., & Baxter, R. P., in collaboration with McNabb, J. D. Planning curriculum change: A model and case study. Toronto: OISE, 1976.
- Morrison, T. What you see is what you get: An agenda for the reform of program evaluation. In C. Walley, & B. Levin (Eds.), Report of proceedings: Peter Taylor Memorial Seminar on educational evaluation. Winnipeg: The Manitoba Educational Research Council, 1977.
- Phenix, P. H. Realms of meaning: A philosophy of the curriculum for general education. New York: McGraw-Hill, 1964.
- Piaget, J. The origins of intelligence in children. New York: Norton, 1952.

- Riffel, J. A. Evaluation in education: Toward an alternative for small-scale studies. In C. Walley, & B. Levin (Eds.). Report of proceedings: Peter Taylor Memorial Seminar on educational evaluation. Winnipeg: The Manitoba Educational Research Council, 1977.
- Rothe, P. Existential phenomenology as a dimension of evaluation. In T. Aoki (Ed.), Curriculum evaluation in a new key (the monograph series). Vancouver: Centre for the Study of Curriculum and Instruction, Faculty of Education, University of B. C., 1978.
- Schwab, J. J. The practical: A language for curriculum. Washington, D. C.: National Education Association Publications, 1970.
- Schwab, J. J. The practical 3: Translation into curriculum. School Review, 1973, 81, 501-522.
- Schwab, J. J. On reviewing liberal education in the seventies. In S. Hook, P. Kurtz, & M. Todorovich (Eds.), The philosophy of the curriculum. Buffalo: Prometheus, 1975.
- Scriven, M. The methodology of evaluation. American Educational Research Association (AERA) Monograph Series on Curriculum Evaluation (Part 1, Perspectives of curriculum evaluation). Chicago: Rand McNally, 1967.
- Scriven, M. Objectivity and subjectivity in educational research. In L. G. Thomas (Ed.), Philosophical re-direction in educational research (71st yearbook of the NSSE, Part 1). Chicago: University of Chicago, 1972.
- Stake, R. Nine approaches to educational evaluation (a summary statement). In C. Walley and B. Levin (Eds.), Report of proceedings: Peter Taylor Memorial Seminar on educational evaluation. Winnipeg: Manitoba Educational Research Council, 1977.

Reference Notes

1. Northern California Program Development Center. Educational goals and objectives (Administrator's Manual). Phi Delta Kappa, no publication date.
2. Parlett, M., & Hamilton, D. Evaluation as illumination: A new approach to the study of innovatory programs (Occasional paper). Edinburgh: Centre for Research in the Educational Sciences, University of Edinburgh, 1972. (mimeograph.)

## CHAPTER THREE

### THE MODEL

To attempt to systematize the design of a model is seemingly tenuous, at best (Willer, 1967, p. 65). Nonetheless, the design process does assume some sense of progress through several stages of general toward specific kinds of inquiry. These stages may be identified as: inquiry into the nature of models and the manner of their forthcoming; inquiry into general design considerations; and, the display of the model. Reports on each of these aspects of the model's development will constitute much of the content for the present chapter.

Criteria have been posited for the design of the intended model. A summary of those criteria along with illustrative design questions raised by them is provided to serve as a guide in the design process (see Table 1). Parenthetical reference will be made to appropriate criteria as design features emerge. In this way criteria can be directly related to specific aspects in the design.

7

Table 1

## Goal Setting Model Criteria and Related Design Questions

| Criteria                                                      | Design Questions                                                                                                         |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| 1. Participants: Source and Processor                         | -is distinction clear within the model's design?                                                                         |
| 2. Intra/Interconstruct Contrast                              | -does model suggest contrast? Is contrast maintained with consistency?                                                   |
| 3. Information Integral with Judgment                         | -does model suggest the value of informed judgment? Does information further the model's intent?                         |
| 4. Data from Self Reports                                     | -do data derive from participant as source? Are data interpretable as a participant value position?                      |
| 5. Dynamic to Account for Value Restructuring                 | -does model suggest such a dynamic? Is the dynamic illuminated in the model?                                             |
| 6. Provision for a Curriculum Worker                          | -is provision for a curriculum worker(s) explicit? Are relationships between curriculum worker(s) and others designated? |
| 7. Deliberation as a Mode of Communication                    | -does the dialectic of deliberation receive prominence? Is the observer oriented to the model's intent?                  |
| 8. Intra/Interconstruct Meanings for Success within the Model | -does the model infer what is to count as success within the model?                                                      |



### Models and Invention

There is a large measure of invention in the development of conceptualizations within which explanations of the stuff of experience are attempted (Bertalanffy, 1968, pp. 27-28). Bruner (1967) speaks of the invention of categories and notes that "science and common-sense inquiry alike do not discover ways in which events are grouped in the world; they invent ways of grouping" (p. 7). Kaplan (1964) makes much the same point in putting forward an instrumental view of theories and models. Theories and models in his view are seen as instruments created so that sense can be made of the senseless as we do something with them. "They are the tools of inquiry and of reflective choice in problematic situations" (p. 306).

The conceptualizations, whether categories, models, or theories, proceed from the minds and hands of those sufficiently versed in the entity requiring explanation, that prevailing conceptualizations fail to account for the richness and complexity of the entity in question. In the face of an overabundance of information which is not readily explainable, but which contains intimations of explanation, those seeking explanation set about to create the more powerful conceptualizations that seem to be called for. Such conceptualizations are frequently in the



form of models and are judged successful to the extent that large amounts of, what otherwise would be heterogeneous bits and pieces of the world, are synthesized (Kaplan, p. 306).

#### A "Technology of Foolishness"

And, as is the case in much inventive activity, a model does not spring forth full blown as the result of a once and for all time effort. The development of a model calls for a gestation period during which often ill-formed attempts are made to seize upon a structure requisite to the task of giving meaning where meaning is elusive in spite of what appears to be an abundance of information. The gestation period calls for opportunity to literally play with the information in accord with the tenets of the "technology of foolishness" (March, 1972).

March agrees that such a technology is difficult to conceptualize; he offers two guiding principles by which progress may be made toward some satisfactory result. First, there is the possibility that the familiar strategies of imitation, coercion, and rationalization, are helpful in spite of risks which are "too familiar to elaborate" (p. 424). A ground must be established as a prior condition to further invention: Structures must be extant if they are to be elaborated. The structures to

be elaborated--or, if you will, the models to be developed--are, in the first instance, often nothing more than an amalgam of bits and pieces of models that are previous to, and, in some significant way, suggestive of the model builder's intent for the new model. Imitation of the extant models provides the mechanism for "discovering attractive new goals for ourselves" (p. 424).

The strategy of coercion allows for the possibility that those intent upon invention will receive extrinsic motivation for as long as it is necessary to establish a ground upon which further elaboration is possible. The wisdom of required courses in study programs is a case in point.

Rationalization, as referred to by March, is not to be viewed pejoratively; it does not necessarily imply an evasion of morality. Rationalization can be viewed as an "incremental approach to changes in values" (p. 424); that is, in the most general sense, it can be viewed as the dynamic whereby a gradual shift in the manner in which an individual gives sense to experience is accomplished. Rationalization seen from this viewpoint is reflexive and is the occasion for the individual to engage in a search for the grounds of his behavior.

The second principle that March offers as a guide in the use of a technology of foolishness is the suspension of the rational imperative toward consistency. Here, as has been previously noted, the element of play enters in and support is added to the view that model building requires a gestation period (p. 425). A dialectic must be maintained between a technology of foolishness and of reason.

The usual strictures against self-deception in experience need occasionally to be tempered with an awareness of the extent to which all experience is an interpretation subject to conscious revision. Personal histories, and national histories, need to be rewritten rather continuously as a base for the retrospective learning of new conceptions. (p. 427)

It is as if reason were a spinning top that is of little interest except that from time to time the top can be prodded or poked and then left to struggle to right itself. With each righting of the top the essential stability of its operation is confirmed. If, as well, it can be imagined that the top is crafted in such a way and of such material that with each righting the internal structuring of the top is qualitatively changed to provide for an even greater potential toward equilibrium, then the imagery of top, as reason, in dialectical relationship with poking and prodding, as the technology of foolishness, is complete.

### Iteration

The play that characterizes the gestation period in the development of a model supposes that the dialectic identified by March will continue through several iterations; each iteration allowing for an increase in the information base which in turn yields the opportunity for complexification of the model within which the information has meaning. The importance of continuing the play through several iterations stems in part from the centrality of what Bradley (1975) calls the iterative method of science.

Woodruff (1967), Drewnowski (1970), and Rein (1970) clearly suggest the potency of the iterative method for resolving problems in the social sciences. Drewnowski suggests the possibility of improvement in planning methods as valuation of aims becomes increasingly consistent and explicit over time (p. 71), and likens the process to "successive approximations" (p. 72). Rein points to the significance of the iterative process in policy analysis where a model of "information, analysis, decision, implementation, feedback, reanalysis" (p. 304) is applied.

Evaluation models in curriculum typically call for application of the models over several iterations (Ambry, 1972; Stake, 1972; Taylor & Maguire, 1972). This may well

be because in any given educational setting there are varied, and oft, competing positions on what is to be construed as the educational good against which evaluative judgments are to be made. The strategies for dealing with the resolution of competing positions must avoid rigidity in the interpretation of the results of any such resolution if the good so selected is not to "fall into the error of tacitly representing one of these positions" (EPRC, 1969, p. 12). In other words, there must be tolerance for the ongoing uncertainty that is the price of continuing revision of answers to the questions, "Who are the competing groups?"--if indeed there are viable homogeneities, and, "In what better sense can these groups contribute to setting goals?". Neither question is amenable to a once only answer and requires an approach which allows for progress over the course of several iterations, the so-called "adjustive actions" referred to by Woodruff (1967, p. 86).

Models, within the view that has been proposed, are not here to be discovered so that sovereignty can be declared over them; they are here to be created (Kaplan, pp. 306-308). And, they are here to be created in moments when the necessity to be consistent is temporarily suspended and the "sense of play" epitomized in Schudson's

(1974) view of the individual's struggle to reconcile the "world's constraints" to personal constructs of "privacy and freedom" (p. 318) prevails. But over and above these more general concerns about the design of a model, there are specific considerations.

### Preliminary Design Considerations

And herein lies a major difficulty for a researcher attempting to report on the invention of a model. For how, in actuality, can a fair description of a dynamic iterative process emerge from a report on one, or at most several, of the iterations? How, at a later stage, is the model's dynamic to be revealed in near static representations that are constrained by the limits of the linear constructions of language and drawings?

Criteria for a model have been posited. Argument to support a playful iterative approach to model invention has been put forward. The task of preliminary design appears to be that of attempting a tentative reconciliation of model criteria with model intent. A report on a preliminary design is, in effect, but a report illustrative of numerous attempts that are made prior to a more complete formulation of the model.

Discussion is organized under three headings: "range of convenience" of the model; power of the model; and, anticipated applications of the model. Each of the headings, in turn, is referenced to a subset of the criteria. All criteria are taken into account.

#### "Range of Convenience" of the Model

The idea of a range of convenience for the model is taken from Kelly's work (1955) on the psychology of personal constructs (pp. 51, 62, 71). The range of convenience sets the bounds within which a model--or in Kelly's case, a construct--is intended to have power to evoke meanings. The boundaries typically have to do with both substantive and process concerns.

Substantively, the proposed model is restricted to matters pertaining to setting educational goals. Because, in this case, the model proposes to include information about participant value positions, data from which such information can be inferred will have to be accommodated. In particular, the model must be capable of anticipating, for inclusion within the model, data such as survey results of choice behavior as specified by Kluckhohn (1951)--(Criterion 3: Information Integral with Judgment; Criterion 4: Data from Self Reports).



Collection and analysis of data from which participant value positions can be inferred calls for specialized research skills. Provision for such skills is thus a design requirement (Criterion 6: Provision for a Curriculum Worker).

In terms of process, it is intended that the model be extended beyond the bounds for public participation stipulated by Delbecq and Van de Ven (1970) to include consideration of intergroup value positions as a preliminary to decisions about goals. Participants will thus serve as source and processor (Criterion 1) and, as well, expert help in facilitating intergroup communication is virtually mandatory (Criterion 6).

#### Power of the Model

The power of the model is taken to mean what Taylor and Cowley seem to have had in mind in making introductory comment on the Taylor and Maguire (1972) "Theoretical Evaluation Model" (pp. 89-92).

The model was not a strong model subject to empirical evaluation, but rather was a representation of curriculum development geared to curriculum evaluation which was intended to suggest variables to be measured, judgments to be made and contingencies to be determined. (Taylor and Cowley, 1972, p. 5)

The power of the model lies, not in prediction but, in the extent to which it facilitates clear productive thought about some aspect of the educational enterprise.

The model to be evolved through this study is likewise not intended as a strong model, but rather as a representation of curriculum development geared to a more explicit identification of the grounds within which value-oriented goals might best come about.

Willer (1967) provides a compelling reason why models in the social sciences are frequently weak. A need for abstraction to handle the complexity of the phenomena to be included within the range of convenience of a model predicates few points of direct similarity between the model and the phenomena and, as a consequence, eliminates much of the model's predictive power there being but a "rather weak mechanism" for the model (p. 38).

This is not to say such models are of no value for as Willer maintains:

Finally, when the level of abstraction is high enough, the mechanism may be completely eliminated. This is the case with the sociogram, and the organization chart. It is not to imply that this kind of iconic model has no value . . . . This is especially true in sociology where the extraordinary complexity of the data often requires a high level of abstraction. (p. 39)

Criterion 2 requires that the model suggest the intra/interconstruct contrast which is expected to hold for communication among participants. As has been noted previously, in reference to Kelly (1970), if participants are to be significantly involved in the experiential cycles of others, they will have to be prepared to recognize the distinction between treating the other as object within the observer's outlook or as subject within the observer's "version of the other person's outlook" (p. 26).

Selection of vocabulary which is rich in connotations of interpersonal activity among participants should help illuminate the contrast. Such selection appears to be well within the potential for the anticipated model.

Criterion 5 requires that a dynamic be incorporated into the model to account for restructuring of values. Here, the design problem appears to be one of providing for an appropriate orientation to the model so that the model user has some advance understanding of which aspects of the model have potential for just such a restructuring. Earlier reference to the communication strategies employed by evaluators who use the transaction-observation approach, and to the deliberative mode proposed by Schwab, appears to provide for the required orientation.

### Anticipated Applications

The model is not intended for all goal setting situations. A moment's reflection on the extended theory affecting participation and implications theory has for the public as source and processor suggests several limitations.

First, it now appears that there would have to be a clear disposition in the situation to involve the public, that is, there would have to be a prior commitment to greater democratization of goal setting procedures. Second, there would have to be reason to assume some understanding, intuitive or otherwise, that goals are not prescriptive so much as they are proscriptive (Jencks et al, 1972, p. 257; Tyler, 1975, pp. 52-53). This being the case, there would at least be some minimal possibility to evoke a "technology of foolishness" where goals are treated as hypotheses and intuition is treated as real (March, 1972, p. 426).

Third, there would have to be reason to assume more participant interest in examining the constructs which best explain differences in view than there is in taking immediate action to reduce the differences through political means. A disposition to adopt Punke's (1974) "continuing-labor approach" would do much in this regard.

By previous design, the model provides for goal setting under circumstances which encourage participant groups to attempt to understand views different from their own. Key to such circumstances are the possibilities for use of a mode of communication which allows for interplay of perceptions, a process previously identified as deliberation. If, then, application of the model is restricted as stipulated, and, as before, there is provision for a curriculum worker to facilitate the deliberative process, Criterion 7: Deliberation as a Mode of Communication, appears to be satisfied.

It is one thing to attempt definition of deliberation for purposes of background to a model. It is another to include a deliberative process as part of model design. Inclusion of deliberation is a value judgment. Having given a value to deliberation, by design, the way is then open to delineate what is to count as success within the model (Criterion 8).

Preliminary design of the model has been put forward. The eight criteria posited for the model have been taken into account. It is now appropriate to present a more complete statement of the model.

## A Model for Setting Educational Goals

### Model Components

The model consists of four components: a field of information generated by the polarities of funded knowledge and conventional wisdom; the constraints exercised by a designated educational authority whether at the societal, institutional or instructional level of decision making; a dynamic cycle through which much of the model's intent is operationalized; a core in which the value orientation of the model is realized. Each of these components will be discussed, in turn.

The polarities of funded knowledge<sup>4</sup> and conventional wisdom. Goodlad (1966) recognized funded knowledge and conventional wisdom as contrasting data to be used continuously in curriculum development. The contrast is taken to apply to the present model, with the additional suggestion that not only should data from both funded knowledge and conventional wisdom be entertained in curriculum decisions, but, in effect, the contrast in the two kinds of data establishes a dialectic which motivates curriculum activity--curriculum activity, in this case, being seen as the result of efforts to reconcile theoretical propositions about what we should be doing and the perceived

possibilities in the real world (Schwab, 1975).

To this end, the present model envisions the dual sources of information as polarities, generating a force field within which the dynamic components of a curriculum exercise, that is, goal setting, rotates. It is further envisioned that as goal setting activity becomes more vigorous and rotation through a particular sequence of activities more pronounced, interaction between goal setting and the informational force field becomes more intense, both in terms of greater utilization of information as well as in the concomitant generation of new kinds of data, the latter being the analogue of the current induced in a coil rotating in an electro-magnetic field.

The intensity of the interaction, in turn, enhances the likelihood that the curriculum initiatives undertaken within the scope of the model will continue, first, toward completion of a round of goal setting activity, and second, toward establishing antecedents for a successive round.

Thus, information, both in terms of funded knowledge and conventional wisdom, is posited as a necessary condition for the evolution of successful goal setting in education, rather than as a prime determinant. Use of a colloquial form of address, though stylistically questionable, will

make the point. The model proposes that it is the dual polarities of information which "make the curriculum wheels go round".

If the metaphor of information as a force field within which goal setting activity takes place is accepted, it becomes possible to argue the potential for success in goal setting in having strong and balanced information sources. It is generally conceded that the greatest proportion of decisions affecting organizations are founded on conventional wisdom (Argyris, 1973, p. 160). What appears to be needed to restore balance to the funded knowledge/conventional wisdom dialectic, and thus, strength to the motive force in goal setting which assumes the importance of dealing with a value plurality, is closer attention to the necessity for having funded knowledge appropriate to that process.

Fortunately, technological advances of the last several decades appear to ensure the possibility for just such knowledge (Green and Carmone, 1970; Popham, 1973; Subkoviak, 1975), that is, the possibility of having estimates, derived from research, of the value positions of the participants in a goal setting exercise.

Inherent in the view of information as a dialectic between funded knowledge and conventional wisdom is the



suggestion of the need to satisfy both the criterion dealing with utilization of participants as source for data from which a value position can be deduced (Criterion 4), and, the criterion requiring the provision of workers who are expert in the collection and analysis of such data (Criterion 6).

The sources of knowledge in curriculum, as represented in the model, are thus to be seen as a precondition to goal setting; an activity which is said to be enhanced when a better balance between funded knowledge and conventional wisdom is assured through the office of competent curriculum workers who have the requisite technical skills and the authority to exercise them.

The constraints exercised by a designated authority.

The political nature of educational goals has been previously acknowledged (eg. Beauchamp & Beauchamp, 1972). It is therefore taken as given that any goal setting to be rationalized within the model will be initiated by some educational authority whether at the societal, institutional, or instructional levels as defined by Myers (1970). This does not presuppose that the initiating authority necessarily falls within the bounds of conventional schooling. It does, however, stipulate a belief that organizational effort requires, in the first instance, a

recognition of some authoritative organizational structure no matter how loosely defined. To draw from a theatrical analogy, some person or collective will have to set the theme and hire the director for the drama which is to be created.

It seems, therefore, to rest with the authority to make the decision as to whether the proposed model is appropriate to its intentions for goal setting and to employ the expert help necessary to the task of applying the model.

The model therefore proposes the authority designated for a particular goal setting exercise be seen as an outer layer or shell, thereby suggesting the constraints built into the model (see Figure 1).

If, in the outer shell of the model, the area of authority delegated to curriculum worker(s) is large in proportion to that retained by the designated authority, then, a proportionately larger measure of the goal setting exercise is likely to be influenced by funded knowledge. It will become evident later, that a strong dynamic cycle in the model requires that this be so.

At the beginning of the cycle which is yet to be discussed, help is required so that goal setting strategies and participant tasks are likely to be adequately defined.

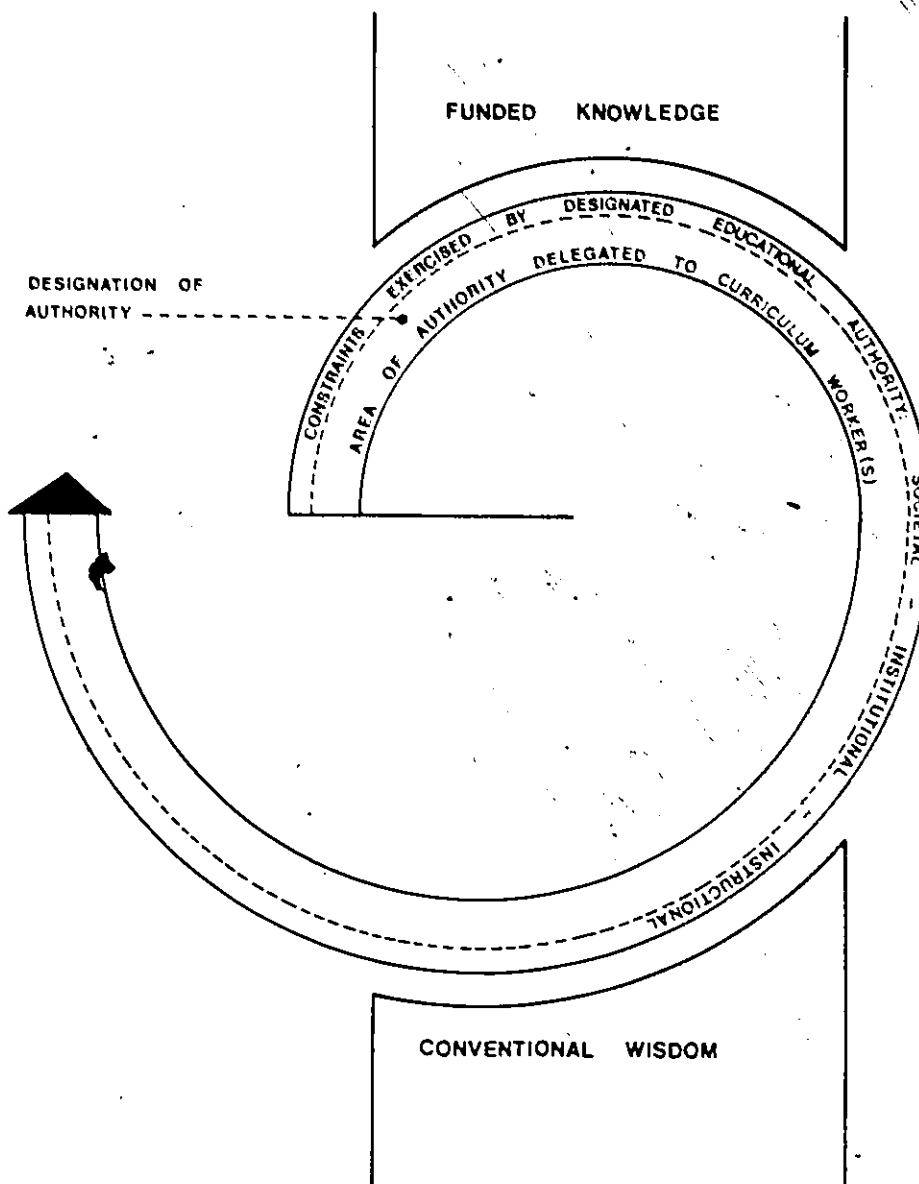


Figure 1. The polarities of Funded Knowledge and Conventional Wisdom with the outer constraining shell--"Designation of Authority".

Expert help is also necessary for the data collection and analysis required by the model. It will be evident that expert help will be necessary to fulfil the model's need for direction during a value orienting and reconstruction phase as well as to bring about a resolution to the goal setting if completion of the cycle is to be accompanied by an acceptable degree of participant satisfaction.

Provision for a curriculum worker, or workers, therefore assumes considerable importance in the model. It is through the worker that the constraints of the educational authority initiating the goal setting are transmitted to participants. Further, because the task of seeking the interconstruct understanding inferred by the model requires considerable participant effort, strong leadership will be required of the worker if participants are to persevere; leadership being taken here in the sense proposed by Beauchamp (1975) where, it is argued, that more will be accomplished if participants are co-opted rather than coerced.

Although the outer shell or layer of the model is designed to suggest a certain rigidity, the spiral form of the shell points to possible growth within the inner portion of the model. The suggestion of growth through a spiral progression is not new in curriculum (Taba,

Durken, Fraenkel, & McNaughton, 1971, p. 21). The concept is adopted here to suggest the possibility that growth in participant understanding is not contradictory to constraints imposed by a designated authority. The authority is thus seen as responding to participant growth in goal setting without any essential loss of jurisdictional imperative.

The dynamic cycle. It has already been suggested that much of the sense of the dynamic for goal setting is imparted in Schwab's concept of deliberation. Yet to be delineated are the specific organizational formats to be invoked if the model's intent is to be operationalized.

The organizational formats will be dealt with in three phases. Phase one is concerned with the problem of defining multidimensional space within which participant value positions can be conceptualized. Phase two is concerned with the problems of orienting participants to that space, and, phase three will address the problem of how participant satisfaction in the goal setting process is to be assured.

PHASE ONE. In phase one the curriculum worker must clearly identify, for participants, the jurisdiction for which goals are to be set. Decisions are made regarding the classes of participants to be included in goal

setting as are the circumstances by which this task is best accomplished (see materials cited in Note 1, for information on how this might be done).

Strategies are identified which make use of participants as data sources. The data are to be of a kind that can be interpreted as indicative of participant values. The display of the data is to be informative in the sense that those who are naive in the use of research data are to be at no disadvantage as compared to those expert in its use.

PHASE TWO. In phase two the curriculum worker has a responsibility to facilitate participant orientation to the data from phase one (see Figure 2). It is during phase two that a participant may find the occasion to re-structure his own values as a consequence of having attempted to "construe the construction processes of another" (Kelly, 1970, p. 22). The attempt is not assumed to result in restructuring of values to the point that the value construct of one becomes the construct of the other. Rather, the assumption is more in keeping with Hook's (1973) view of the result of removing the shock of value differences among cultures by providing cultural and historical perspectives within which the differences are viewed. The value differences are not necessarily

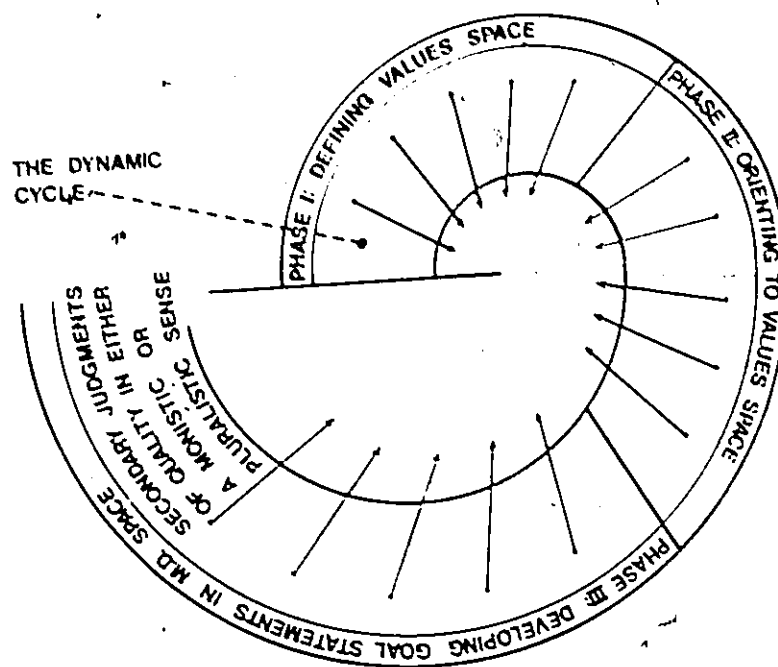


Figure 2. The Dynamic Cycle: Secondary judgments of quality.

countenanced because of the knowledge of contrasting values, but "we are at least not completely baffled by them" (p. 192).

It may be, then, that if nothing else, phase two results in a clear recognition among participants that there is a plurality of values which can serve as criteria for goal setting and that the plurality is sufficiently respected that attempts are made to allow for the alternatives suggested by it.

PHASE THREE. In phase three the curriculum worker has the responsibility to structure some means by which goal setting can proceed to an acceptable set of goal statements. It is at this point that the model assumes the usefulness of strategies for final selection of goals such as those found in the Delbecq model (Delbecq & Van de Ven, 1971), Greenfield's procedures (1975), or the PDK materials (Northern California Program Development Center, Note 1).

The assumption here is that once participants have engaged in deliberation, then negotiation toward final selection of goals, whether in the monistic or pluralistic sense, is more likely to proceed with some sense of satisfaction.



It is in phase three that the opportunity is finally presented to make value judgments about education. Goal statements, defined either as a single set or as a plurality, provide for contexts within which the question of what is to count as good is answered. Making value judgments, then, becomes more a problem of measurement where performance standards are given operational definition and steps are taken to see if those standards are attained. Attainment is then pronounced to be good, not for the attainment itself, but for what it connotes in terms of fulfilling a desirable goal. It is in this sense that judgments made within phase three of the dynamic cycle are described as secondary judgments of quality, that is, judgments made intraconstruct.

The core. The central and thereby, most significant level in the model, is the core. Much has been made of the metaphor of the core in recent years, particularly when a concern for quality in education is being expressed (see Note 2). Although the metaphor is seldom explained, the assumption being that common sense dictates the meaning, there appear to be several characteristics of the core, as metaphor, that undoubtedly contribute to the prevalence of the metaphor at this time.

For many, the core appears to be synonymous with the "basics". There may be dispute about what constitutes the basics: There appears to be no dispute about their centrality to educational practice. But there is more to the metaphor. Regenerative power is also found at the core. A core curriculum can thus hold as much of future promise as it does of present accomplishment.

Both dimensions of core, as metaphor, are used in the development of the present model. Albeit the interpretation may be slightly altered from that inherent in contemporary discourse, nonetheless the interpretation remains essentially true to the metaphor.

The core, as synonymous with that which is basic in education, is interpreted in the model as the area where basic or primary judgments affecting what is to count as success in goal setting are made. Primary judgments are stipulated to be judgments made interconstruct, that is, they are the judgments an individual or collective make during the process of orienting to constructs other than their own, of the desirable in education. They are judgments ordinarily made on the basis of the observed behavior of the other; judgments which are subject to the liabilities of a stereotypic response unless deliberate steps are taken to avoid just such an occurrence.

It is the inward penetrating arrows from the level surrounding the core that provide the suggestion of how a stereotypic response in making judgments at the core might be avoided with a consequent increase in intersubjective experience. For only as the participants successfully identify, and subsequently orient to the several spaces occupied by other participants, will a lively sense of the value orientation of others develop and consideration of the problem of setting goals be raised to a more comprehensive level--a level at which judgments are made in the context of explicit knowledge of the value constructs of participants. As noted, under developments in phase two of the dynamic cycle, identification and orientation to the value spaces of other participants may not lead to conformity of positions. Rather, it is assumed that there will arise an understanding of the significance of the differences, with the result that serious attempts will be made, in goal setting, to accommodate to a plurality of values instead of simply accepting the dictates of majority rule in a procrustean attempt to fit goals into a single point of view.

Thus, it becomes clear, at the core of the model, that success in goal setting has much to do with the eventual sense of participant satisfaction and the extent to

which the interaction of participants is founded on what Argyris (1972) has spoken of as interpersonal and group dynamics where it is argued that: "As these become more effective there is a higher probability that genuine and underlying organizational changes will be considered by clients, carefully explored and effectively maintained" (p. 123).

The interconstruct, or primary judgments, made at the core are not completed in a once and once only assessment of the constructs of the others. The judgments are formative, not summative, and take place within a context of deliberation as previously defined on the basis of Schwab's work on the dynamics of curriculum change.

The sense of participant satisfaction in goal setting as a measure of success is informed, through the metaphor of the core, in still another way. The core, suggests regenerative power. Thus participant satisfaction could be expected to derive from intimations of growth which are thought to attend interpersonal exchanges. It is this element of personal growth among participants which seems to motivate the work of such educators as those previously identified as fitting the transaction-observation mold, where, as Riffel et al (1975) maintains, "Evaluation was seen as an important instrument for self-renewal

in schools" (foreward).

The increase in participant satisfaction at the core is represented by an increase in area as the model is viewed through a complete rotation of the dynamic cycle (see Figure 3). It will become apparent when the complete model is displayed that the core of the model is the only level at which increase through a rotation is posited. It is thus suggested that growth through the goal setting process is essentially growth as a result of participant interexperiencing.

Finally, the suggestion is advanced, through the metaphor of the core, that it is by virtue of participant growth through interexperience that a tiresome roundabout of educational practice becomes the promise of a transforming spiral.

#### The Display of the Completed Model

A model has been created. It was created, not as an exercise of rationality so much as a response to impulses March (1972) proposes as a "technology of foolishness". Creation required the effort of several iterations.

Preliminary design provided for identification of the manner in which the model was to be delimited as well as to identify assumptions in the model's eventual design.

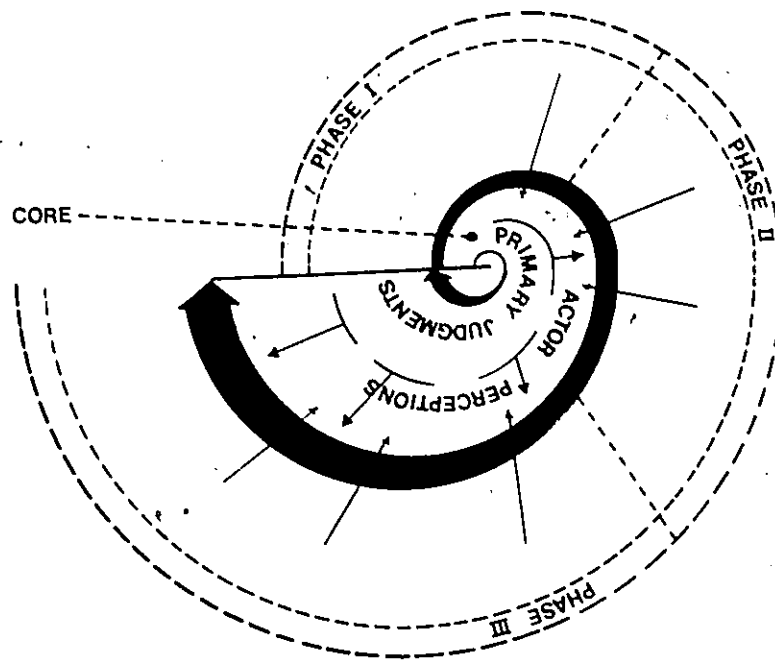


Figure 3. The Core: Primary judgments of quality.

A model was then put forward: Model components were displayed concluding with a display of the core--the central and most significant component. All that remains is the display of the model in its entirety (see Figure 4).

Features of the model which have to do with interaction among the components can now be readily observed. It is evident, from inspection, that the core is the area where growth is inferred. Although progress through the dynamic cycle provides the opportunities for inter-participant exchanges, it is the possibility for growth in participant perceptions through increases in inter-construct awareness, that gives the model power to evoke a sense of how the process of goal setting may be improved.

Constraints exercised by the designated authority are not shown to have capacity for growth. Rather, the constraints are portrayed as serving the function of providing identifiable bounds within which the drama of goal setting takes place. The constraints of authority are shown to be responsive to growth in the sense that the shells of many marine animals expand over time to accommodate the developing creature.

The model, in total, argues for participant sensitivity toward the value constructs others employ as criteria for the goals they espouse. It does not expect conformity

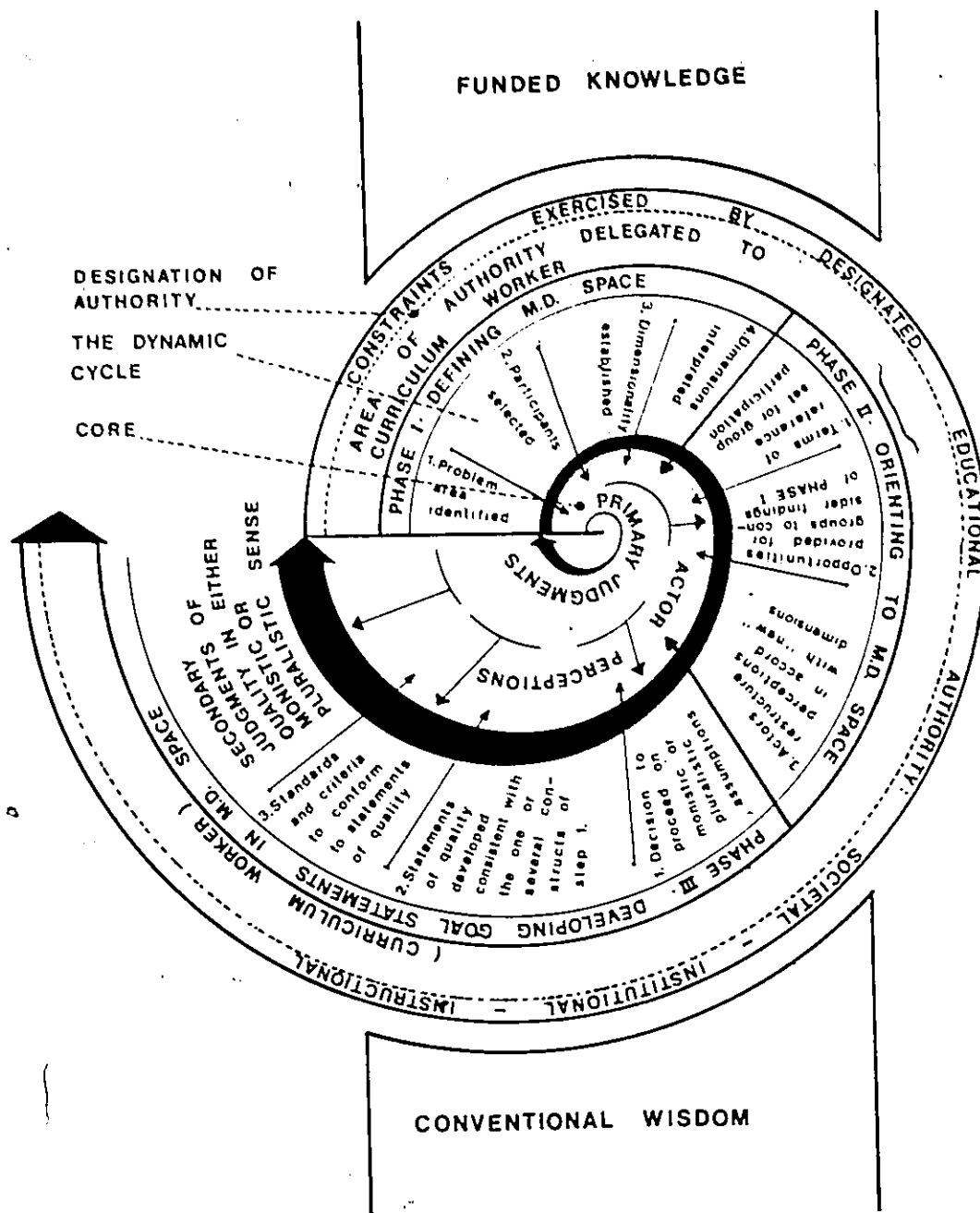


Figure 4. A model for the illumination of participant values in educational goal setting.



where commonality of view does not exist: It does hold promise for identification of genuine plurality and enough residual of participant satisfaction to support the effort to maintain the plurality.

The question now arises as to what strategies, for goal setting, are appropriate to the model's intent. A procedure thought to be illustrative of the many which could be developed is presented in the following chapter.

### References

- Ambry, E. J. Evaluation for environmental education. In P. A. Taylor, & D. A. Cowley (Eds.), Readings in curriculum evaluation. Dubuque: Wm. C. Brown, 1972.
- Argyris, C. The applicability of organizational sociology. Cambridge: Cambridge University Press, 1972.
- Argyris, C. Personality and organizational theory revisited. Administrative Science Quarterly, 1973, 18, 141-167.
- Beauchamp, G. A. Curriculum theory (3rd ed.). Wilmette Illinois: The Kagg Press, 1975.
- Beauchamp, G. A., & Beauchamp, K. E. Comparative analysis of curriculum systems (2nd ed.). Wilmette: Kagg, 1972.
- Bertalanffy, L. von. Organismic psychology and systems theory. Massachusetts: Clark University press with Barre Publishers, 1968.
- Bradley, R. A. Science, statistics, and paired comparisons. Biometrics, 1976, 32, 214-232. (A Biometrics invited paper presented to the Biometric Society as the President's Invited Address, St. Paul, Minnesota, March 25, 1975).
- Bruner, J. S., Goodnow, J. J., & Austin, G. A. A study of thinking. New York: Wiley, 1967.
- Delbecq, A. L., & Van de Ven, A. H. A group process model for problem identification and program planning. Journal of Applied Behavioral Science, 1971, 7, 466-492.
- Drewnowski, J. The level of living index--new versions. In J. Drewnowski, Studies in the measurement of levels of living and welfare. Geneva: United Nations Research Institute for Social Development, 1970.
- Educational Policy Research Center (EPRC). Toward master social indicators (Research memorandum). Stanford: Stanford Research Institute, 1969.

- Goodlad, J. I., & Richter, M. N. The development of a conceptual system for dealing with problems of curriculum and instruction. Los Angeles: University of California and Institute for Development of Educational Activities (IDEA), 1966.
- Green, P. E., & Carmone, F. J. Multidimensional scaling and related techniques in marketing analysis. Boston: Allyn & Bacon, 1970.
- Greenfield, T. B. Educational goals for a school system. The Ontario Council for Leadership in Educational Administration (OCLEA). Toronto: 1975, Sept., 16-19.
- Hook, S. The teaching of values. In C. J. Troost (Ed.), Radical school reform: Critique and alternatives. Boston: Little, Brown & Co., 1973.
- Jencks, C., Smith, M., Acland, H., Bane, M. J., Cohen, D., Gintis, H., Heyns, B., & Michelson, S. Inequality: A reassessment of the effect of family and schooling in America. New York: Harper & Row, 1972.
- Kaplan, A. The conduct of inquiry: Methodology for behavioral sciences. San Francisco: Chandler, 1964.
- Kelly, G. A. The psychology of personal constructs: A theory of personality (Vol. 1). New York: W. W. Norton, 1955.
- Kelly, G. A. A brief introduction to personal construct theory. In D. Bannister (Ed.), Perspectives in personal construct theory. London: Academic Press, 1970.
- Kluckhohn, C., & Others. Values and value-orientation in the theory of action: An exploration in definition and classification. In T. Parsons, & E. A. Shils (Eds.), Toward a general theory of action. New York: Harper & Row, 1951.
- March, J. G. Model bias in social action. Review of Educational Research, 1972, 42, 413-429.
- Myers, D. A. Decision making in curriculum and instruction (Monograph). Dayton: Institute for Development of Education Activities (IDEA), 1970.

Popham, J. W. Evaluating instruction. Englewood Cliffs: Prentice-Hall, 1973.

Punke, H. H. Popular control and quality education. The High School Journal, 1974, 58, 47-52.

Rein, M. Social policy analysis as the interpretation of beliefs. American Institute of Planners Journal, 1971, Sept., 297-310.

Riffel, J. A., Schalm, P., & Hersom, N., and Colleagues. Developing evaluation systems in schools: Organizational strategies (A report on the Interprovincial School Evaluation Project). Winnipeg: ISEP, Faculty of Education, University of Manitoba, 1975.

Schudson, M. On the sense of vocation. Daedalus, 1974, 103, 316-325.

Schwab, J. J. On reviewing liberal education in the seventies. In S. Hook, P. Kurtz, & M. Todorovich (Eds.), The philosophy of the curriculum. Buffalo: Prometheus, 1975.

Stake, R. E. The countenance of evaluation. In P. A. Taylor, & D. M. Cowley (Eds.), Readings in curriculum evaluation. Dubuque: Wm. C. Brown, 1972.

Subkoviak, M. J. The use of multidimensional scaling in educational research. Review of Educational Research, 1975, 45, 387-423.

Taba, H., Durkin, M. C., Fraenkel, J., & McNaughton, A. H.. A teacher's handbook to elementary social studies: An inductive approach (2nd ed.). Menlo Park: Addison-Wesley, 1971.

Taylor, P. A., & Cowley, D. A. (Eds.). Readings in curriculum evaluation. Dubuque: Wm. C. Brown, 1972.

Taylor, P. A., & Maquire, T. O. A theoretical evaluation model. In P. A. Taylor, & Cowley (Eds.), Readings in curriculum evaluation. Dubuque: Wm. C. Brown, 1972.

Tyler, R. W. Have educational reforms since 1950 created quality education? Viewpoints, 1975, 51, 35-39.

Willer, D. Scientific sociology: Theory and method.  
Englewood Cliffs: Prentice-Hall, 1967.

Woodruff, A. K. Cognitive models of learning and instruction. In L. Siegel, Instruction: Some contemporary viewpoints. San Francisco: Chandler, 1967.

#### Reference Notes

1. Northern California Program Development Center. Educational goals and objectives (Administrator's Manual). Phi Delta Kappa, no publication date.
2. Attention is drawn to the Canadian Association for Curriculum Studies--B. C. Region--Conference on Core Curriculum, Kelowna, March 3-5, 1977.

## CHAPTER FOUR

### AN ILLUSTRATIVE PROCEDURE

A procedure was developed illustrative of the model's intent. The results of that development are reported under four headings: description; identification of a public's educational space; identification of group contrasts; and, interpretation of the findings.

#### Description

In the description, the procedure is outlined, limitations and delimitations are specified, the relevance of the procedural steps to the model's intent is demonstrated.

Taken in its most general sense, a model does not provide discrete procedures: rather, a model is a structure within which suitable procedures can be readily conceptualized and the results of those procedures explained (Willer, 1967). Thus, if the usefulness of a model is to be explored, it seems that the exploration has to take place in terms of a procedure that is demonstrably relevant to the model rather than in terms of the model itself.

A procedure was derived from the present model. The description, in brief, is as follows. The author, in the role of curriculum worker, identified an educational jurisdiction within which it would be appropriate to attempt to set educational goals. Participant sub-populations within the jurisdiction were to be used as both source and processors of data pertinent to the model's intent.

Specific procedural steps were developed to provide for a systematic application of a significant aspect of the model. In particular, the steps were designed to develop information about group value positions, using the participant groups as data source; the data were to be such that it would subsequently serve as data which participants would be urged to process in a goal setting exercise.

#### Procedural Steps

Step one. A problem area for goal setting is identified. A particular educational jurisdiction is selected to define the limits within which goal setting is to take place. Decisions are made about which groups from the public to include as participants in the goal setting.

Step two. Decisions are made with regard to a survey instrument to be used in involving participant groups as source for data about group values. Where the desired

instrument is not extant, it must be designed and made ready for use.

Step three. A survey is conducted and the results are prepared for analysis.

Step four. Analysis is carried out and the results displayed so that they are accessible to the perceptions of participants who are essentially naive when it comes to interpreting research findings.

Step five. Interpretations of the results are prepared for use by participating groups who are now seen as processors of data.

#### Limitations and Delimitations

Implementation of the procedures in the present study was limited by the time and money available to an individual researcher. Decisions about the scope of the study were made, in large part, in response to those constraints.

That portion of the procedures dealing with a survey of participants as source met with the usual limitation of non-completion of the survey instrument by some of them. In particular, the student completion rate was affected by absences from school on the day the survey was conducted. The absences had an effect upon the parent sample. Only students who completed the survey were given



a copy to take home for their parents to complete. Returns for the study were relatively high with 91.45% from students, 83.16% from parents, and 91.51% from teachers.

Procedures were delimited in several ways. First, the procedures were kept within the context of phase one of the dynamic cycle of the model. That is, they were designed to attempt a definition of a multidimensional space within which goal setting might eventually take place, and, the identification of participant value positions within that space.

Second, limits were placed upon the number of participant groups to be identified for the study. Because the procedures were to be illustrative, the number was kept to a minimum, three being the minimum if there was to be the possibility for both indication of conformity and contrast among groups.

Third, data analysis was limited to a format designed to provide the participant who was naive in the use of research findings with data that would have some personal meaning. In other words, display of that data was to serve largely as a metaphor rather than as a statement of fact.

Fourth, the procedures were initiated by a researcher acting on his own behalf rather than on behalf of a designated educational authority. The authority for the study

was assumed to be the Manitoba Department of Education.

### Relevance of the Procedures

The procedures are thought to fit the model for these reasons. First, the survey called for in the procedures can only be properly conducted if expert research help is available. Estimates of value positions among participants require sophisticated data analysis (Green and Carmone, 1970). The model assumes the availability of a curriculum worker as a necessary component.

Second, the procedures call for the participation of students, their parents and teachers. It appears that such groups are likely to have somewhat different priorities (Leithwood, 1976, p. 7). The model assumes group differences in value positions.

Third, the procedures are limited to the use of the public as a data source. This does not preclude the possibility, on some later occasion, of taking the data from the study and using it within the context of phase two of the dynamic cycle of the model. The model allows for just such a possibility by structuring the dynamic cycle as having three discrete phases.

The procedures have been described; limitations identified; and, delimitations imposed. Procedural steps have been identified. The relevance of the procedures to the

model's intent has been demonstrated. A report on the implementation of the procedures follows. It is organized as follows: identification of a public's educational space; identification of group contrasts within that space; and, interpretation of findings.

### Identification of a Public's Educational Space

Implementation of procedural steps one to three, in their entirety, and steps four and five, in part, effectively covers identification of a public's educational space.

An operational context within which to carry out the procedures had to be established. This was done by stipulating, under delimitations, that the Department of Education for Manitoba was assumed to be the educational jurisdiction authorizing the goal setting. It was then the researcher's responsibility to evoke only those procedures which would be clearly within the mandate for a curriculum worker who was under contract to the Department.

### Step One

Two tasks were completed under step one: The educational units to be included in the study were identified, and the groups were selected which were to serve as

representatives of the public.

Five school divisions were identified as representative of Manitoba according to these criteria: There was to be a balance between rural and urban representation; divisions marked by socio-economic extremes were to be avoided; rural divisions where the range of farm practice was severely limited were to be avoided; educationally significant ethnic communities were to be included where they could be clearly identified within a division.

The divisions finally selected were the urban divisions of St. Boniface and St. Vital and the rural divisions of Hanover, Interlake, and Midland.<sup>1</sup>

St. Boniface is of special interest because of a concentration of French-speaking citizens. Louis Riel Collegiate in St. Boniface is a French language school. Hanover has a predominantly Mennonite population, while the remaining divisions are fully representative of the diverse ethnic backgrounds which make up the Manitoba mosaic.

1. The representativeness of the selected school divisions was confirmed by officers of the professional development branch of the Manitoba Teachers Society.

The groups selected to represent the public in the divisions were a random sample of high school students, in programs of an academic orientation, their parents and teachers. Inclusion of these groups does not exploit the full range of possibilities for public participation. It does, however, keep the study within manageable limits and provides for inclusion of those groups that are typically referred to as significant sources in making curriculum decisions (Tyler, 1949, 1966; Maguire, 1968; Baker, 1972; Joint Committee on Education and Evaluation, 1972a, 1972b; Burkhead, 1973; Canadian Teachers' Federation, 1974; OECD, 1976).

The reference to high school students requires further clarification. The operational definition of "academic orientation" is related to changes in entrance requirements for Manitoba universities. Instead of requiring graduation from a program of academic courses, entrance is now possible upon completion of a program which includes combinations of academic ("00" courses) and non-academic ("01" courses and others). As a consequence it is not unusual for students of academic ability to include non-academic business, vocational, and other courses as part of their high school program. Consultation with principals of the urban schools

included in the study, led to a decision to operationally define high school students as those with one-half, or better, "00" courses in their year's program.

The decision to use a sample was predicated by the limitations of the study. Having to reduce participation numerically was compensated for by being able to implement the procedures at what is potentially the provincial level, and thus raising the procedures above a parochial level of significance.

In summary, the participants selected to represent the public as data sources were as follows: from each of the five divisions; 65 academically-oriented students randomly selected from lists provided by the collegiates in those divisions, their parents<sup>2</sup> and teachers, for a total of 841 participants (325 students, 297 parents, 212 teachers).

2. A student's parents were treated as a single participant. Further, because parents were involved through the students, where a selected student failed to participate, there was a corresponding loss of parent participation.

## Step Two

The public, as defined in step one, was to serve as data source within a goal setting model which takes participant value positions into account. Kluckhohn (1951) suggests choice behavior as a basis upon which assessments can be made of individual and group value positions.

The method of paired comparisons was selected as the means to evoke participant choice behavior because, first, there would be a high level of practical simplicity in the method of implementation, and, second, the results would be sufficient as a basis upon which to infer participant values. Or, as Bradley (1975) notes:

The method of paired comparisons has great practical simplicity. It has been used extensively in experimental situations where the subjective judgments or appraisals of individuals lead to qualitative comparative responses, situations where quantification through measurement is difficult or illusory. (p. 214)

Two basic strategies are employed in setting up a paired comparisons protocol. Either respondents are asked to make judgments concerning pairs of pairs (as is the case in requiring respondents to judge which pair is more similar, peas-carrots versus squash-turnips) or, they are asked to simply choose one stimulus over another. In the latter instance Coombs (1964) argues that, in effect, the comparison, although seemingly of

single stimuli, actually involves comparisons of pairs of pairs, in the sense that there is for each individual some point of maximal preference in relation to the stimuli being compared, a so-called ideal point.

It is as if there were, perhaps, an ideal choice for each individual, a stimulus that he would prefer to all the possible alternatives of that kind. We conceive then, of representing an individual by a point in some space containing the stimulus points, in such a way that the point corresponding to the individual is a point of his maximum preference in this domain of stimuli.  
(p. 8)

It is the supposed proximity of one stimulus to ideal point, as compared to the proximity of another stimulus to ideal point, that constitutes the dyads referred to by Coombs. It is also on the basis of this conceptualization that meaning can be assigned to a subject position in some multidimensional stimulus space, the subject position being, in effect, the ideal point to which Coombs refers in his model.



The preferential choice of an individual between two stimuli is interpreted to mean one stimulus point is nearer the individual's ideal point than is the other stimulus point. The model is saying that there is a distance, as yet undefined, between every pair of points, and an individual's ideal point and a stimulus point. Here the data consist of pairs of points, sometimes called dyads or couples, in which the elements of a pair correspond, in order, to an individual and to a stimulus; such pairs of points are referred to as being from distinct sets. The data consist of more than that, however; they consist of the information that the elements of one pair of such points are nearer each other than the elements of another pair. (p. 10)

However, in terms of a respondent's perspective, the task of indicating choices for one stimulus over another remains as the simplest possible for paired comparisons.

Guilford (1954, p. 225) provides guidelines for setting up a response form in which choices are to be made between stimuli paired in this simple manner. First, stimuli must be chosen which represent a wide range of desirability or undesirability for the phenomenon being examined. Second, each stimulus is to be paired with every other stimulus in the  $n(n-1)/2$  possible ways. Patterning in the presentation of stimuli is to be avoided. Third, instructions to respondents must be prepared so that the criterion for choice is clearly defined.

Stipulation that the presentation of simple choices is to be used in the present study defines the form of the protocol but still leaves important questions unresolved, namely, how is an inclusive set of suitable stimuli to be identified, and how are representative stimuli to be selected for comparison? In brief, the answers to the questions were obtained in the following manner. Opinions on quality of education were obtained through a survey of a representative sample of Manitoba residents who were independent of the participants selected as a data source. The opinions thus obtained were edited to put them into comparable format, and then categorized to remove as much overlap among statements as possible. Slogans were then produced that were thought to typify the categories of opinion that had been expressed. These slogans became the stimuli for a paired comparisons protocol.

Details of how stimuli were eventually identified for a paired comparisons protocol are to be found in Appendix A. See Appendix B for a photo-reduced copy of the protocol and the details of its preparation. The stimuli themselves are displayed in Table 2.

Because the form of the stimuli is idiosyncratic to this study it deserves comment and justification.

Table 2

The Ten Stimuli Used in the  $n(n-1)/2$  Paired Comparisons

- 
1. TEACHERS, DOCTORS, LAWYERS: EQUAL PAY IF EQUAL TRAINING!
  2. KNOW STUDENTS' SOCIAL/EMOTIONAL NEEDS!
  3. MORE COMMUNITY USE OF SCHOOLS!
  4. ACCURACY IN SPELLING AND COMPUTATION!
  5. PROVINCIAL FINAL EXAMS FOR XI-XII STUDENTS!
  6. CONTROL STUDENT BEHAVIOR!
  7. SUPPORT OUR PRESENT SCHOOL SYSTEM!
  8. NUTRITIOUS SNACK FOODS FOR SCHOOLS!
  9. COMPULSORY FITNESS PROGRAM FOR STUDENTS!
  10. CONTINUING ON-THE-JOB TRAINING FOR TEACHERS!

If data developed from participant choices between stimuli are to be useful in defining the values participants use as criteria for educational goal setting, it seems that the stimuli must be in the educational domain.\* This presents a problem. The method of paired comparisons assumes the availability of stimuli which have unequivocal referents, that is, the stimuli must be seen as a representation of a clearly recognizable behavior or the product of a behavior (Green & Carmone, 1970, p. 130).

Or as Coombs (1964), has said:

An anchor point is needed, and the same stimulus being presented to different individuals provides such an anchor. If the stimulus differs in a significant way from one individual to the next, absolutely nothing can be done with just these observations and with this point of view to try and find out anything about the stimuli or about the individuals. (p. 8)

In market research, where data from choice situations are used extensively (Green & Carmone), identification of stimuli that have unequivocal referents is generally straightforward. Very often the stimuli are labels that have been affixed to frequently used products, the labels being specific to the point of identifying a brand of a product, the so-called brand name, for example, Maverick, Boeing 747, Crest, and so on.

For research in education, identification of stimuli that have unequivocal referents is not so straightforward.

The stimuli are more likely to be word groups as opposed to product labels, and they have as referents behaviors or the expected outcomes of behaviors of some educational consequence such as final exams, fitness programs, open education, professional development, and the like.

Sheffler (1968) appears to have had just such word groups in mind in his analysis of educational slogans.

Slogans in education provide rallying symbols of the key ideas and attitudes of educational movements. They both express and foster community spirit, attracting new adherents and providing reassurance and strength to veterans. They are thus analogues to religious and political slogans, products of the party spirit. (p. 36)

Educational slogans are symbolic. Their referents are unequivocal in the sense that they are, at one and the same time, in the public domain and are highly visible. The referents are "the key ideas and attitudes of educational movements", the "products" of educational enthusiasms and as such are subject to immediate recollection upon utterance of a slogan.

Slogans tend to be creatures of fashion. This may be inferred from the reference to "educational movements". It becomes apparent from frequent reference to a slogan in everyday conversation, that certain ideas or attitudes are widely shared at given points in time. The idea or attitude evoked in the slogan may defy clear definition

but it can, and does, provide motivating power to help win a war or prevail in an election.

Reference to attitudes and educational movements is a reminder that the referents for slogans originate as much, if not more, from affective as from cognitive states of mind. That is not to say that the referent to a slogan is of any less concern to the individual simply because the possibility of clear definition attributed to cognitive matters has been supplanted by less clearly defined affective states. Indeed, such a referent may well be more perduring to the individual because it strikes at the roots of his person and calls him to greater involvement in the issues of the day. It is in this sense that Sheffler finds that slogans "both express and foster community of spirit, attracting new adherents and providing reassurance and strength to veterans" (p. 36).

Over time slogans tend to lose their power to evoke a key idea or attitude and instead become incomplete and misleading statements of doctrine.

Slogans, we have said, provide rallying symbols of key ideas and attitudes of movements, ideas and attitudes that may be more fully and literally expressed elsewhere. With the passage of time, however, slogans are often increasingly interpreted more literally by adherents and by critics of the movements they represent. They are taken more and more as literal doctrines or arguments, rather than as rallying symbols. (Sheffler, p. 37)

The distinction between slogans as rallying symbols and literal doctrine is important for the task of preparing and selecting appropriate stimuli for choice situations. Clearly slogans that give even the appearance of containing a message of literal import would have to be excluded because they would no longer serve in their symbolic capacity as clarion calls to community action but would, instead, become issues to be disputed.

The method of paired comparisons was selected as suitable means for using participants as source for data which might lead to an understanding of group value positions. Selection of suitable stimuli for the paired comparisons received attention. It was decided that educational slogans, thought to typify the key ideas and movements in the Manitoba educational setting, were suitable for the purpose. Ten slogans emerged to serve as stimuli. The survey instrument was prepared for distribution.

### Step Three

Step three of the illustrative procedures is concerned with conduct of the paired comparisons survey; the results; and preparation of those results for analysis which is intended to produce data that participants can process as part of an attempt to bring about understanding of contrasting value positions among groups.

The survey was conducted during May and June, 1976 (see Appendix C for the cover letter and a copy of the survey instructions). The investigator supervised student completion of the survey according to a schedule worked out with the collegiate principals involved in the study. Every effort was taken to arrange the schedule to provide for the fullest attendance possible.

Survey materials for parents were distributed through students who completed the survey. Materials for teachers were left with principals. The cooperation of the principals was enlisted to ensure a high rate of parent and teacher returns. The summary of returns (Table 3) indicates attainment of the hoped for return rate.

The percentage of returns by school division, taking in order Hanover, Interlake, Midland--the rural divisions--and St. Boniface and St. Vital--the urban divisions--, was 95.38, 92.31, 89.53, 93.95, and 86.15%, or a rate overall of 91.45%.

Although the student sample for each division was selected at random from lists provided by the schools, a cursory review of Table 3, the summary of returns, will confirm a distribution of selected students, by grades that conforms with expected proportions, that is, proportions of 39.69, 32.00, and 28.31%, as compared with 38.10, 35.04, and 26.86%, for each of grades X, XI, and XII.



Table 3  
Summary of Survey Returns: Five Divisions

|   | divisions    | total<br>students | % by<br>division | selected | % by<br>division | com-<br>pletions | % comp-<br>letions    |
|---|--------------|-------------------|------------------|----------|------------------|------------------|-----------------------|
|   | Hanover      |                   |                  |          |                  |                  |                       |
|   | X            | 99                | 35.74            | 23       | 35.38            | 18               |                       |
| S | XI           | 97                | 35.02            | 19       | 29.24            | 17               | +9 <sup>a</sup> 95.38 |
|   | XII          | 81                | 29.24            | 23       | 35.38            | 18               |                       |
| T | Interlake    |                   |                  |          |                  |                  |                       |
|   | X            | 107               | 39.63            | 21       | 32.31            | 19               |                       |
| U | XI           | 96                | 35.56            | 30       | 46.15            | 29               | 92.31                 |
|   | XII          | 67                | 24.81            | 14       | 21.54            | 12               |                       |
| D | Midland      |                   |                  |          |                  |                  |                       |
|   | X            | 88                | 38.10            | 26       | 40.00            | 24               |                       |
| E | XI           | 79                | 34.20            | 19       | 29.23            | 16               | 89.53                 |
|   | XII          | 64                | 27.70            | 20       | 30.77            | 18               |                       |
| N | St. Boniface |                   |                  |          |                  |                  |                       |
|   | X            | 297               | 36.71            | 33       | 50.77            | 31               |                       |
| T | XI           | 313               | 38.69            | 17       | 26.15            | 16               | 93.85                 |
|   | XII          | 199               | 24.60            | 15       | 23.08            | 14               |                       |
| S | St. Vital    |                   |                  |          |                  |                  |                       |
|   | X            | 267               | 40.15            | 26       | 40.00            | 22               |                       |
|   | XI           | 204               | 30.68            | 19       | 29.23            | 18               | 86.15                 |
|   | XII          | 194               | 29.17            | 20       | 20.77            | 16               |                       |
|   | Summary:     |                   |                  |          |                  |                  |                       |
|   | X            | 858               | 38.10            | 129      | 39.69            | 114              |                       |
|   | XI           | 789               | 35.04            | 104      | 32.00            | 96               | +9                    |
|   | XII          | 605               | 26.86            | 92       | 28.31            | 78               |                       |
|   | TOTAL        | 2252              |                  | 325      |                  | 297              | 91.45                 |
| P | Hanover      |                   |                  | 62       |                  | 59               | 95.16                 |
| A | Interlake    |                   |                  | 60       |                  | 48               | 80.00                 |
| R | Midland      |                   |                  | 58       |                  | 50               | 86.21                 |
| E | St. Boniface |                   |                  | 61       |                  | 56               | 91.80                 |
| N | St. Vital    |                   |                  | 56       |                  | 34               | 60.71                 |
| T | TOTAL        |                   |                  | 297      |                  | 247              | 83.16                 |
| S |              |                   |                  |          |                  |                  |                       |
| T | Hanover      | 37                |                  | 37       |                  | 37               | 100.00                |
| E | Interlake    | 38                |                  | 38       |                  | 27               | 71.05                 |
| A | Midland      | 35                |                  | 35       |                  | 32               | 91.43                 |
| C | St. Boniface | 62                |                  | 62       |                  | 61               | 98.38                 |
| H | St. Vital    | 40                |                  | 40       |                  | 37               | 92.50                 |
| E | TOTAL        | 212               |                  | 212      |                  | 194              | 91.51                 |
| R |              |                   |                  |          |                  |                  |                       |
| S |              |                   |                  |          |                  |                  |                       |

<sup>a</sup>Through error, nine students failed to indicate their grade level.

A similar pattern for the distribution of completed surveys is evident for the 288 student returns of known grade level. Representativeness of the student sample by grade is thus maintained in the random selection of the students and confirmed in the record of returns.

Further, the return rate for students maintained the integrity of the parent sample. The smallest parent subsample--the sample selected from a division--was 56, while subsample sizes of 60 or better held for three of the four remaining divisions.

The parent returns, as displayed in Table 3, although proportionately lower than those for students or teachers, was acceptable at 83.16%. The 247 parent returns is well above the limit of 100 deemed adequate for demonstration purposes in a paired comparisons survey, or for that matter above the limit of 200 thought desirable for experiment (Guilford, 1936, p. 225). Presumably students who completed the survey at school had reason to be interested in having their parents complete the same survey.

The advantage gained in selecting the parents of selected students may have been offset by the contaminating effect upon parents of students, who contrary to instruction, may have wanted to discuss the survey with parents prior to their parents having had an opportunity to complete the survey for themselves. However, since the nature of the

survey made it virtually impossible for students to recall particular responses, and since any contaminating effect would bias the results toward a more conservative estimate of the student-parent differences, the advantage of student-parent pairing in the selection of survey respondents appeared to outweigh possible disadvantages.

Rate of return for teachers, although not critical in the sense that teacher selection was independent of both students and parents, was demonstrably high at a rate overall of 91.51%. The rate of return for teachers exceeded the rate for either students or parents. Returns would have been still higher except for the comparatively low rate for one out of the five divisions.

Results from the survey were put on computer cards in a form which would make it possible to compute mean matrices for all possible groupings of participants. The mean matrix for a particular group would thus display proportions of the times one stimulus was chosen over the other by members of the group.

At the same time the mean matrices were computed, the matrices were converted to symmetric form by the simple expedient of replacing the proportion in each cell with the absolute difference between a proportion and 0.50. Programs for the analysis contemplated for the study

required full symmetric or upper or lower half matrices and thus the conversions.

The rationale for using proportions of choice of one stimulus over another as cell entries is straightforward. Where A has been chosen over B in the proportion of 0.85, for example, the assumption is that the stimulus A is much closer than stimulus B to the respondents' ideal points.

The mean matrices computed for analysis are listed in Table 4. The mean matrices of students, parents, and teachers within each division were analyzed, followed by an analysis of the same groups across the five divisions. Contrasts suggested by cultural and socio-economic considerations were analyzed. The matrix for respondents from Hanover School Division--a predominantly Mennonite population--was analyzed against the remaining two rural divisions. Matrices representing rural divisions were analyzed with urban divisions for possible contrasts. The matrix representing responses from grade X students was analyzed in conjunction with a matrix for XI and XII students.

#### Step Four

Step four requires that the paired comparisons data be analyzed so that participant value positions might be inferred. The Carroll-Chang INDIFFS analysis (Carroll,

Table 4

## Patterns of INDIFFS Analysis

| Contrasts between Students, Parents, and Teachers |                       |   |   |   |   |                      |
|---------------------------------------------------|-----------------------|---|---|---|---|----------------------|
| Group                                             | Division <sup>a</sup> |   |   |   |   | All Divisions Totals |
|                                                   | 1                     | 2 | 3 | 4 | 5 |                      |
| Students<br>vs.<br>Parents<br>vs.<br>Teachers     | *                     | * | * | * | * | *                    |

| Contrasts Based on Cultural/Socio-Economic Considerations                     |                 |  |  |  |  |  |
|-------------------------------------------------------------------------------|-----------------|--|--|--|--|--|
| Group.                                                                        | Division Totals |  |  |  |  |  |
| Hanover<br>vs.<br>Interlake, Midland                                          | *               |  |  |  |  |  |
| Rural (Hanover, Interlake, Midland)<br>vs.<br>Urban (St. Boniface, St. Vital) | *               |  |  |  |  |  |

| Contrasts between Students     |                      |  |  |  |  |  |
|--------------------------------|----------------------|--|--|--|--|--|
| Group                          | All Divisions Totals |  |  |  |  |  |
| Grade X<br>vs.<br>Grade XI-XII | *                    |  |  |  |  |  |

<sup>a</sup>Where the five divisions are referred to serially they appear in the order: Hanover, Interlake, Midland, St. Boniface, St. Vital.

1972; Subkoviak, 1975; Carroll & Chang, Note 1) is a multidimensional scaling program which computes point coordinates for three types of configurations (Subkoviak, p. 406), two of which are germane to the problem of inferring participant values. Coordinates ( $x_{i1}$ ,  $x_{i2}$ , ...,  $x_{ir}$ ) locate each of the  $n$  stimulus objects "in an  $r$ -dimensional group space whose  $r$  axes represent object properties" (p. 406). Coordinates are also computed so that subjects making judgments about the objects can be located in a subject space whose axes represent the same stimulus object properties.

Identification of a public's educational space follows from a display of stimuli within a space of suitable dimensionality. For this study a three dimensional space was thought to be suitable.

First, it is characteristic of multidimensional scaling to produce solutions of limited dimensionality as compared to many factor analytic methods (Shepard, 1972, p. 2). Multidimensional scaling aims at solutions which are "coarse grained". They are not to be regarded as an end in themselves but rather "to enable the investigator to gain a better understanding of the total underlying pattern of interrelations in his data and, hence, to decide what further observations, or modifications of

theory will most advance the science as a whole" (p. 3).

Second, the data~~/~~was to be accessible to those naive in the interpretation of research findings. A graphic display is assumed to have more meaning for a naive participant than a numerical account. A comprehensive display is not possible if the number of dimensions exceeds three.

Examination of the three dimensional stimulus configurations (see Figures 5-8) over the scaling of student, parent, and teacher responses for each of the five divisions, and then in the aggregate, suggests clustering in the extent to which stimuli orient to the several axes.

Stimuli 4, 7, and 8 show relatively high loadings on dimension one. Stimuli 2, 8, and 9 typically load most heavily on the y-axis, while stimuli 5 and 10 provide the strongest indication of the nature of the z-axis.

- |                           |                           |
|---------------------------|---------------------------|
| 1. Equal Status: Teachers | 6. Control Students       |
| 2. Know Students' Needs   | 7. Support Present System |
| 3. Community Use          | 8. Nutritious Snacks      |
| 4. Accuracy (Basics)      | 9. Fitness                |
| 5. Provincial Exams       | A. Cont. Ed.: Teachers    |

Figure 5. List of stimuli (slogans). The slogans are in abbreviated form. See Table 2 for the complete statement of the slogans.

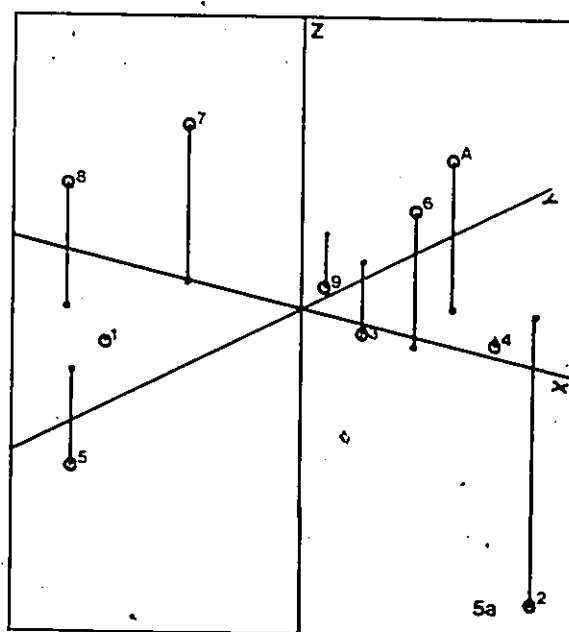
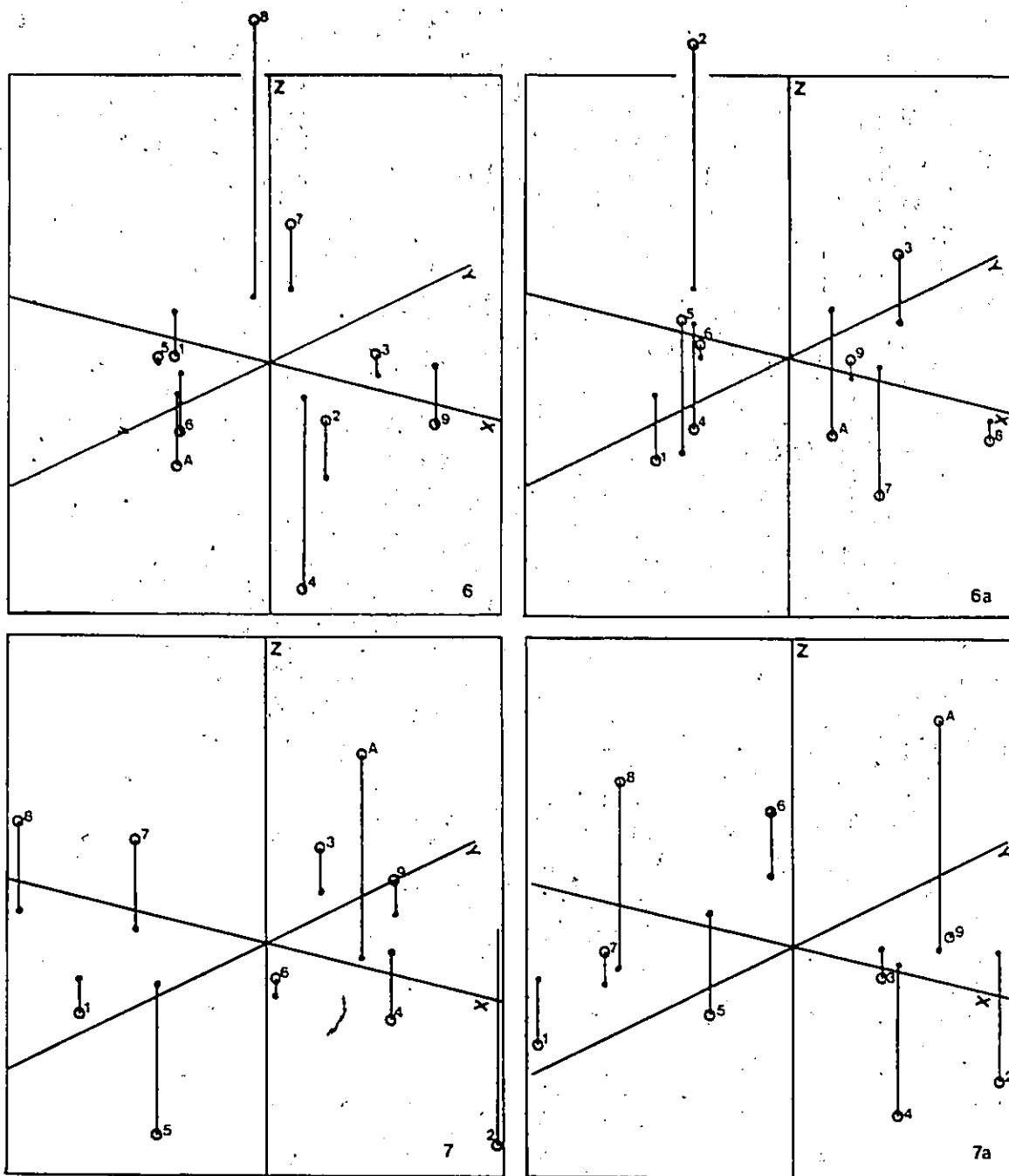


Figure 5a. Stimulus configuration for Hanover S. D. Values for the stimulus vectors, Figures 5a-8, are given in Appendix D.





Figures 6-7a. Stimulus configurations for Interlake S. D. (Fig. 6); Midland S. D. (Fig. 6a); St. Boniface S. D. (Fig. 7); St. Vital S. D. (Fig. 7a).

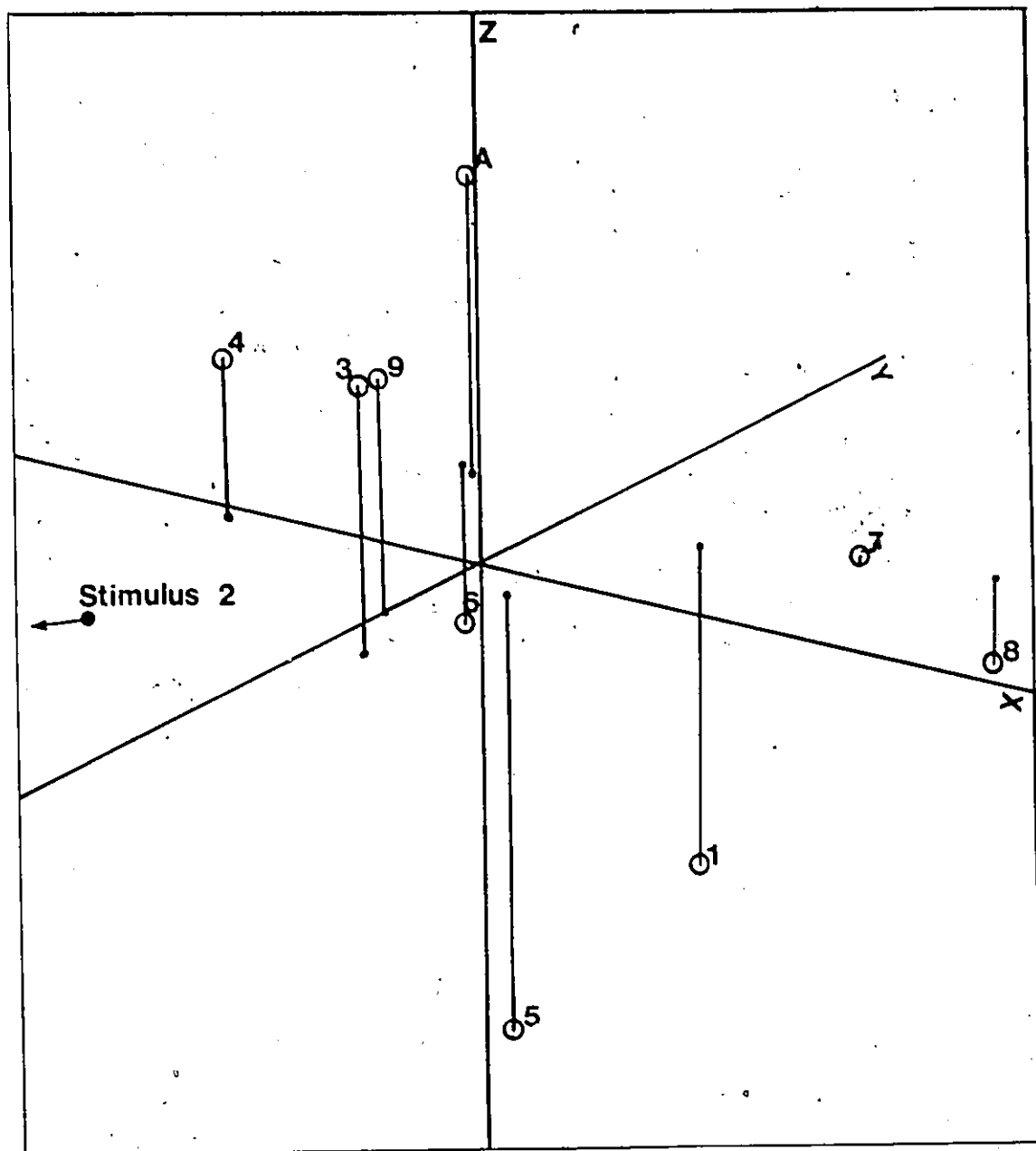


Figure 8. Stimulus configuration for all divisions.

same time there was a concern that the return to the basics was not at the expense of fair and humane treatment for their children.

The y-axis was difficult to interpret as being different from the x-axis, in that concern for children's welfare was suggested by the high loadings on knowing student's social/emotional needs. However when this concern is related to such stimuli as community use of schools, the concern for children seems to take on a connotation of concern to be expressed through alternatives to the status quo. Thus, if the x-axis is to be regarded as the axis along which a value is expressed in the status quo, then, the y-axis would represent the axis of change.

The z-axis may be best defined as the agency or instrumentality axis. It is along this axis that interest is expressed in continuing the professional development of teachers for the overall betterment of education.

Tracing procedural steps one through five has provided illustration of how a public's educational value space might be identified on the basis of data supplied by participants. Steps four and five are re-traced so that illustration can now be provided of how the same data can be used to identify group contrasts within that space.

### Identification of Group Contrasts

Intergroup contrasts are displayed as subject weights or dimension saliences. The weights or saliences are embedded in the stimulus configurations dealt with in the previous section. Although, in the general case, a particular dimension saliences vector is associated with the stimulus configuration arising from the same similarities matrix, for purposes of the present discussion, the dimensions saliences representative of various intergroup contrasts will be thought of as occupying essentially the same stimulus configuration, there being much overlap from one configuration to another. Educational space for Manitoba is thus being construed as homogeneous across all divisions. It is in the sense that earlier mention was made of confining the present analysis to a coarse-grained resolution of educational space in Manitoba, that a rough approximation to homogeneity of educational space is being assumed here.

A brief comment on the nature of the subject dimension saliences is in order prior to an examination of the visual displays--Figures 9-12. The comment is necessary, not so much for what it can add to the information that is immediately available from the examination of the displays, as for a clearer understanding of the part the saliences

play in the Carroll-Chang model.

As has been noted, the Carroll-Chang model assumes a shared space among subjects whose responses have been scaled. The individual differences among the subjects are reflected through the differential weighting each subject gives to the dimensions of the shared space. In effect, the subjects are allowed to differentially stretch or compress a stimulus configuration along any or all dimensions, thus making visually explicit the peculiarities of their way of seeing things.

For example, a given stimulus configuration seen in three dimensions may be thought of as being roughly football-shaped to the disinterested observer. A particular subject, may, by virtue of idiosyncrasies of view, have no interest in the stimuli as far as one of the dimensions is concerned. The stimulus configuration as seen by that subject would then be more of an elliptical pie, rather than a football. Similarly, what, in general is seen as a football-shaped configuration may be seen as a sphere, a sausage, or other differentially stretched and compressed configuration.

Clearly, subject positioning within a stimulus configuration reflects unique vantage points from which the world of the stimulus space is being viewed. And

without enquiring into the nature of each vantage point, the magnitude of the discrepancies among the vantage points provides a strong indication of relative degrees of difficulty one subject may have in communicating with another.

A careful consideration of approximate intersubject distances is thus of considerable interest, an interest which must begin with a display of the various subject positions or saliences in the previously defined three-dimensional space.

#### Step Four (re-traced)

Under procedural step four, then it is necessary to turn to the display of the second of the two configurations computed by the INDIFFS analysis.

INDIFFS in its original form provides for a display of subject vectors in relation to two dimensions at a time, that is, in relation to dimension 1 vs. 2, dimension 1 vs. 3, and dimension 2 vs. 3. In order to make the display visually more comprehensible, especially to the naive observer, the vectors are displayed in a three-dimensional display.

To add to the visual impact of the INDIFFS solutions, the vectors are displayed against a background of what

might appear to the viewer as the three walls of a room, with the orientation for the vectors being given by the x, y, and z-axes which are coincident with the room dimensions.

Visual inspection of Figures 9-12, immediately establishes contrasts in positioning between the vectors representing students, teachers, and parents. As well, inspection demonstrates vectors of considerable proximity to the exclusion of a third. In some instances teachers and students are proximate in contrast to parents; in others students and parents are proximate in contrast to teachers.

In the case of Interlake S. D. (see Figure 9a), for example, the proximity of students and parents is especially strong, the students being roughly twice as close to their parents as they are to their teachers.

In St. Boniface S. D. (Figure 10a) the subject contrasts differ from those in Interlake. There is an apparent separation of view along the x and y-dimensions in a rather tight clustering of teachers and parents at some distance from students.

The display for students, parents, and teachers across all divisions (Figure 12) shows a clear separation between students and the parents and teachers, along all three dimensions.

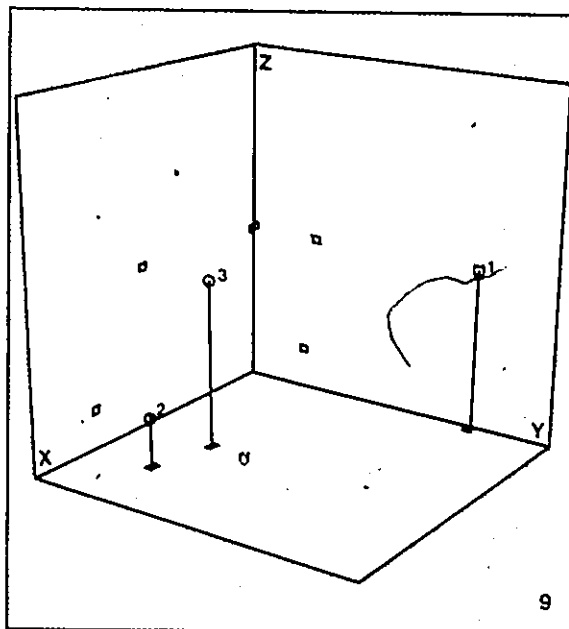
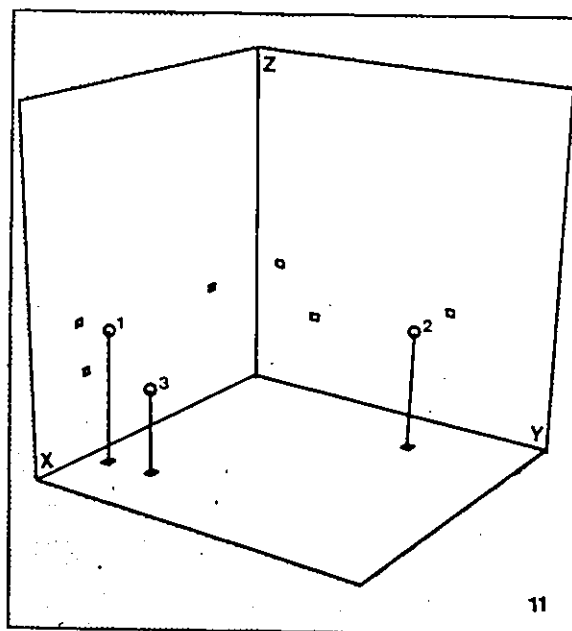
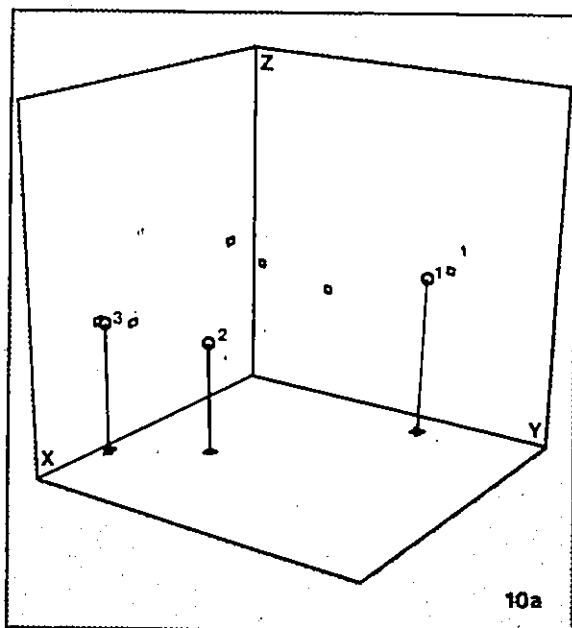
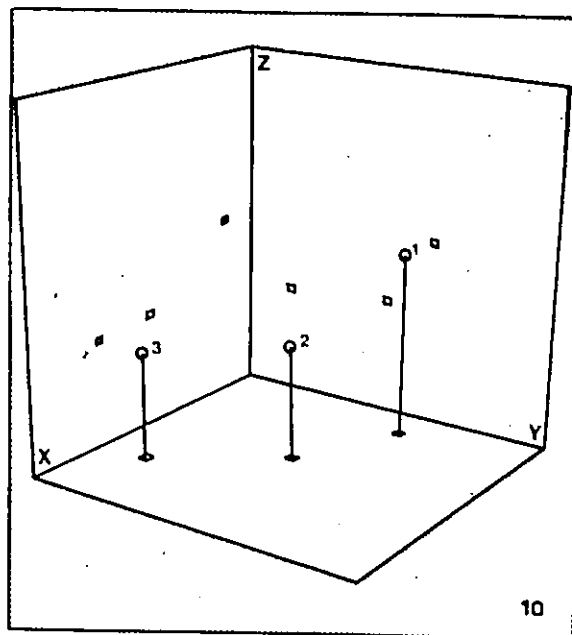
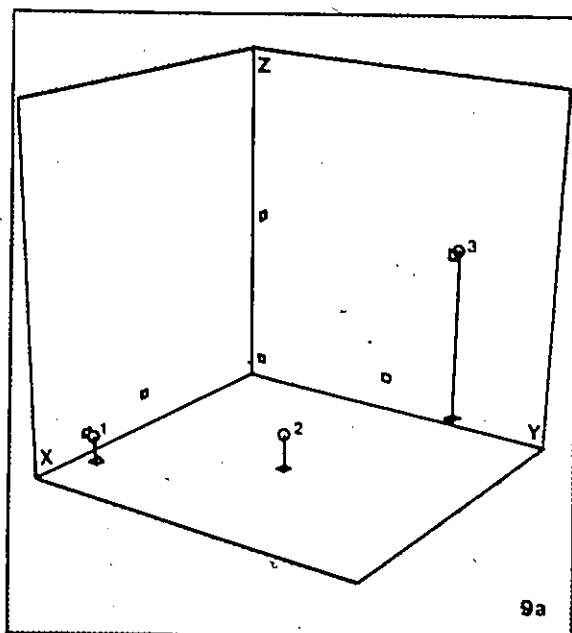


Figure 9. 1. Student, 2. Parent, 3. Teacher, saliences (vectors) for Hanover S. D. Values for the subject vectors, Figures 9-12, are to be found in Appendix D. The subject vectors are displayed in the first octant of a 3-space. The octant has been rotated  $90^\circ$  about the z-axis so that the reader might view subject vectors as they would appear, front to back, in a stage setting.





Figures 9a-11. 1. Student, 2. Parent, 3. Teacher, saliences for Interlake S. D. (Fig. 9a); Midland S. D. (Fig. 10); St. Boniface S. D. (Fig. 10a); St. Vital S. D. (Fig. 11).

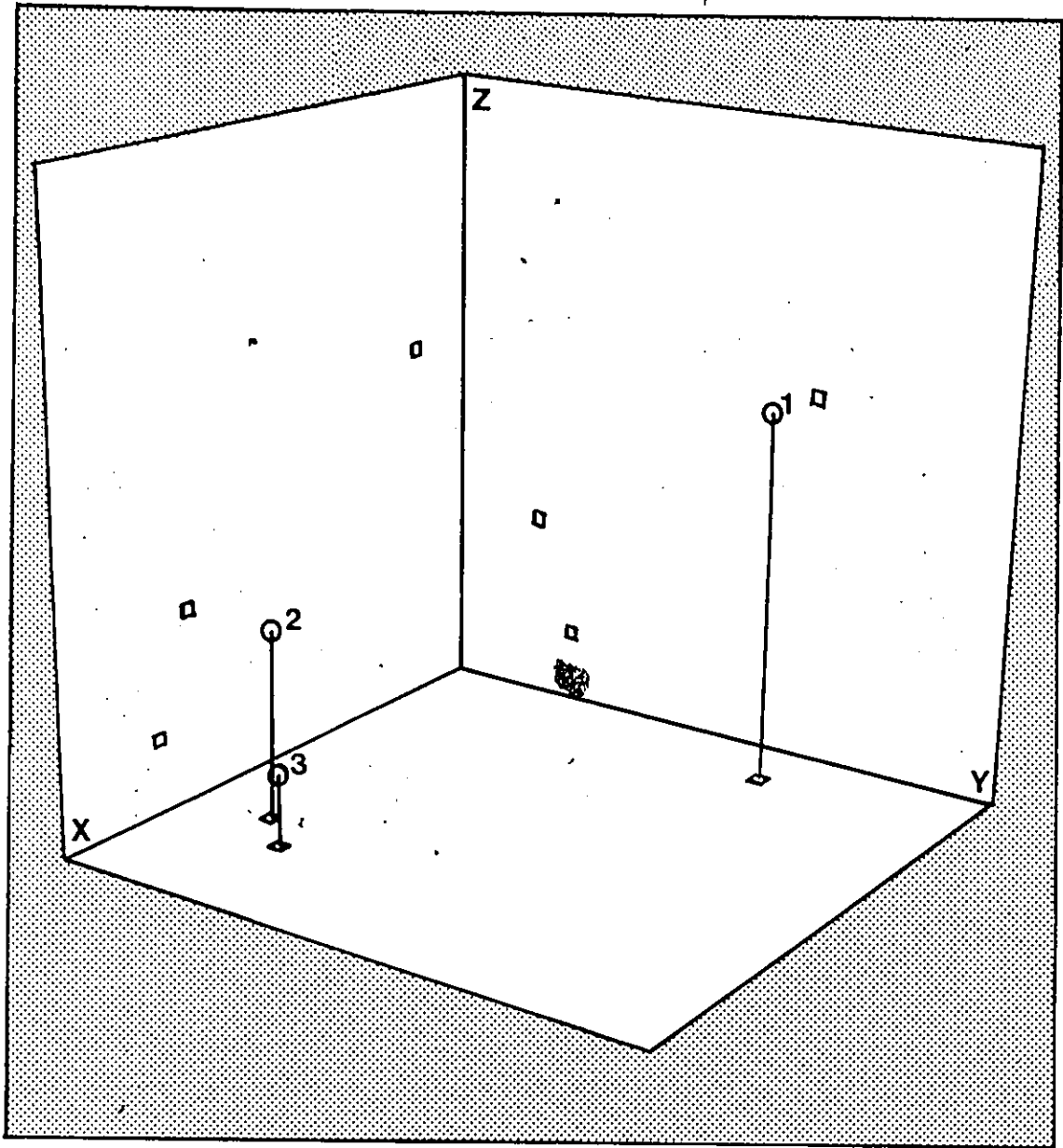


Figure 12. 1. Student, 2. Parent, 3. Teacher, saliences for all divisions.

Step Five (re-traced)

In step five, the results are interpreted so that a curriculum worker has suggestions to offer to participants which might help them to assign personal meanings to the displays generated in step four.

Contrasts between groups are indicated by the inter-subject distances. The possible meaning to those contrasts is suggested by the position of the subject vector in relation to the stimulus configuration of group space axes. Contrasts which are evident for Interlake S. D. (Figure 9a) and for St. Boniface S. D. (Figure 10a), as well as contrasts among all students, parents, and teachers, are briefly discussed as illustrative of the kinds of insights into intergroup relationships suggested in the displays.

In Interlake S. D., students and parents form a cluster apart from the teachers. Interlake is a rural division and such a separation is not likely to be seen as too surprising to participants. Teachers would tend to be seen as a group apart, partly because of their higher than average education, and partly because of their somewhat alien status as arrivals in an otherwise stable farm community. As well, the majority of students are bused to school so that opportunities to adopt attitudes

which extend much beyond the home are limited.

The separation is along dimensions that would be expected. Students and parents appear to value the status quo, whereas teachers seem to see themselves in the role of change agent. Understandably teachers value increasing professionalism in the delivery of educational services.

In St. Boniface, an urban division, the contrasts differ from those in Interlake. There is a rather tight clustering of teachers and parents, as opposed to students, along the x and y-axes. A possible explanation is that with many of the students from St. Boniface coming from middle and upper-middle class homes, there is likely to be compatibility between teachers and parents on both educational and social grounds. Teachers and parents conceivably see themselves as cohorts with students being regarded as the outsiders.

It is interesting that for St. Boniface, the parents and teachers appear to be the maintainers of the status quo whereas students look for greater openness in the system. All three groups give support to what could be described as the maintenance of a high level of professionalism of staff.

When the responses of students, parents, and teachers, in aggregate, are considered, the separation between the

adults and the students continues. The explanation for the separation is not immediately evident.

Overall, teachers and parents appear determined to maintain the status quo, even at the expense of support for increasing professionalism among teachers. The plausibility of a seeming contradiction (at least for teachers) may be best expressed in two, somewhat surprising facts. At the present time over 75% of Manitoba teachers have one or more degrees. At the same time the percentage of teachers taking sabbaticals, or other forms of leave, to improve their professional standing, is almost negligible. Over the years Manitoba teachers have been able to improve their status but without risk. Their progress has been, in a word, conservative. Having made slow but steady gains as wage earners and professionals, it is understandable that they are, by and large, content to rest on their laurels. Students, by contrast, do not appear to see themselves as having the same vested interests and value possibilities for change.

Group contrasts have been displayed and discussed. A procedure has been illustrated which appears to have produced data, from participants as source, which, at a later stage, are data to be processed by participants for the purpose of bringing about increased intergroup understanding.

A question remains. Is the procedure, seen in its entirety, consistent with the model's intent?

### Evaluation of the Procedure

In evaluating the procedure it is useful to go back to the criteria for the model itself. If it can be demonstrated that the procedures satisfy those criteria, or at least the criteria germane to phase one of the dynamic cycle of the model, then it follows that the intent of the model will have been satisfied.

Criterion one requires that participants be both source for data and processors. The procedure clearly used participants as a data source. The data thus obtained were subsequently rendered in a form that made it accessible for processing by the participants.

Criterion two requires that a distinction is made between intra and interconstruct judgments. To the extent that the data obtained from participants are seen as an attempt to make contrasting value positions more explicit, the criterion appears to have been met.

Criterion three places information as integral with judgment. The basic assumption motivating the work of phase one was the utility of producing research findings.

amenable to interpretation, as value positions of the participants.

Criterion four stipulates that the model utilize information founded on self reports. Use of a paired comparisons protocol appears to have satisfied the criterion.

Criterion five is not immediately germane to the procedure being validated. The procedure does not provide for a dynamic to account for value restructuring. Nonetheless the procedure would have been pointless except that the possibility for such a dynamic had been established, in advance, by reference to Kelly's work on personal constructs.

Criterion six was satisfied at the outset of the procedures by acknowledging the role of researcher as the equivalent of curriculum worker in those circumstances where the research is done under contract to an authorizing educational jurisdiction.

Criteria seven and eight, of the model, do not apply to phase one of the dynamic cycle.

It appears, then, that the procedure satisfies those criteria relevant to that portion of the model they made operational.

### References

- Baker, E. L. Parents, teachers, and students as data sources for the selection of instructional goals. American Educational Research Journal, 1972, 9, 403-411.
- Bradley, R. A. Science, statistics, and paired comparisons. Biometrics, 1976, 32, 214-232. (A Biometrics invited paper presented to the Biometric Society as the President's Invited Address, St. Paul, Minnesota, March 25, 1975)
- Burkhead, J. Economics against education. Teachers College Record, 1973, 75, 193-205.
- Canadian Teachers' Federation. The quality of education (A CTF Conference Report). Ottawa: Author, 1974.
- Carroll, J. G. Individual differences and multidimensional scaling. In R. N. Shepard, A. K. Romney, & S. B. Nerlove (Eds.), Multidimensional scaling: Theory and applications in the behavioral sciences (Vol. 1). New York: Seminar Press, 1972.
- Coombs, C. H. A theory of data. New York: Wiley, 1964.
- Green, P. E., & Carmone, F. J. Multidimensional scaling and related techniques in marketing analysis. Boston: Allyn & Bacon, 1970.
- Guilford, J. P. Psychometric methods. New York: McGraw-Hill, 1954.
- Joint Committee on Educational Goals and Evaluation. Education for the people (Vols. 1 & 2). Sacramento: California Legislature, 1972.
- Kluckhohn, C., & Others. Values and value-orientation in the theory of action: An exploration in definition and classification. In T. Parsons, & E. A. Shils (Eds.), Toward a general theory of action. New York: Harper & Row, 1951.



- Leithwood, H. A., Clipsham, J. S., Maynes, F., & Baxter, R. P., in collaboration with McNabb, J. D. Planning curriculum change: A model and case study. Toronto: Ontario Institute for Studies in Education, 1976.
- Maguire, T. O. Value components of teachers' judgments of educational objectives. AV Communication Review. 1968, 16, 63-86.
- Organization of Economic Co-operation and Development (OECD) External Examiners. Report on educational policy in Canada. Toronto: The Canadian Association of Adult Education and the University of Toronto Students' Administrative Council (Joint publishers), 1976. (Newspaper format).
- Scheffler, I. The language of education. Springfield, Ill.: Charles C. Thomas, 1968. (7th printing; original copyright, 1960)
- Shepard, R. N. Introduction. In R. N. Shepard, A. K. Romney, & S. B. Nerlove (Eds.), Multidimensional scaling: Theory and application in the behavioral sciences (Vol. 1). New York: Seminar Press, 1972.
- Subkoviak, M. J. The use of multidimensional scaling in educational research. Review of Educational Research, 1975, 45, 387-423.
- Tyler, R. W. Basic principles of curriculum and instruction. Chicago: University of Chicago Press, 1949. (31st impression, 1971)
- Tyler, R. W. New dimensions in curriculum development. Phi Delta Kappan, 1966, 48, 25-28.
- Willer, D. Scientific sociology: Theory and method. Englewood Cliffs: Prentice-Hall, 1967.

#### Reference Notes

1. Carroll, J. D. & Chang, J. J. A new method for dealing with individual differences in multidimensional scaling. Murray Hill; Bell Telephone Laboratories, no publication date. (mimeograph)

## CHAPTER FIVE

### CONCLUSION

#### Review of the Study

The need for a new model for setting educational goals is recognized. The need appears to be grounded in several assumptions which are substantiated from the literature.

First, it is proposed that public participation in setting educational goals has become an established practice over the past decade.

Second, and concomitant with the first assumption, participation of the public brings with it the need for a better informed public. Public access to information is seen as an issue. Because much information on which public planning is based is under the control of various levels of government, government initiatives in providing access to information are advocated. The initiatives apply to both the form in which information is to be made available, as well as the content.

A third assumption has to do with the values-bound nature of the goals themselves. That is, goals are typically derived from the value aspirations of groups and individuals in society and as a consequence give expression

to what Dewey (1916) referred to as the desirable in education.

A fourth assumption, and one substantiated by such curriculum theorists as Beauchamp and Beauchamp (1972), is the political nature of the goal setting process. This assumption is examined from the standpoint of whether or not total reliance upon political processes in goal setting is adequate to the task to be performed. It is argued that the political process, in the final analysis, is dependent for its success upon reaching either a compromise or a defensible majority view which serve as single overarching policies within which to organize social action. Under the circumstances it is possible that the goals of significant minorities might well be rejected. This possibility leads to a fifth assumption.

It may prove to be too costly to settle for a political solution to goal setting in education because of the danger of masking, or in some instances, subverting the goals of significant minorities. In an area of social concern as pervasive as education, the likelihood of a value pluralism appears to be too high to ignore the dangers of trying to fit all views into a single comprehensive set of goals. Either the goals will have been set at a level of generality that is too broad to give direction to

policy-making and program development, or else the goals, if specific enough to provide direction, will have been constrained to a middle ground that of necessity disregards the extremes, whether or not they are educationally significant.

What seems to be called for is a renewed effort to go beyond majority vote solutions for selecting educational goals. Strategies appear to be required which provide for value explication among participants, so that there might be a more complete understanding of a possible value pluralism which resides in a participating public.

But extant models for setting educational goals do not appear to provide for the development of such strategies. By contrast, they appear to be constrained by the necessity to produce a single comprehensive set of goals, whether or not there is reason to suppose a genuine plurality, a plurality which would be more appropriately reflected in a composite of contrasting, and equally respected, sets of goals.

Extant models are seen to be oriented to task definition, in part, because reliance upon an essentially political approach to goal setting makes it desirable to avoid, wherever possible, contention among participant values. Presumably, any effort toward illumination of

values runs the risk of exposing a value pluralism which might create an atmosphere of unresolved, and unresolvable, conflict within which goals, even though supported by a majority, might be of little use for policy-making or program development (see Greenfield, 1975).

Further, extant models for setting educational goals are seen to be limited, in their power to provide for conceptualization, to the status of procedural statements as contrasted with frameworks within which such statements can be developed and validated. Where, for example, the Delbecq and Van de Ven or the PDK models provide, in a procedural sense, for some interparticipant exchange of views about the goals they support, there is no provision for an examination of the efficacy of those exchanges. Such questions as to whether there is sufficient opportunity for participant values to be illuminated, or whether the illumination of such values indicates a value pluralism, are seen as irrelevant within the intent of the models, the models being limited to the task of producing goal statements of immediate use to policy-makers and program developers.

Thus, the problem for the study is to develop a model for setting educational goals. The model is intended to provide justification for the illumination, rather than the avoidance, of value pluralism within a participant

public. It is to serve as a framework within which to develop and validate procedures suited to the illumination of participant values. One such procedure is subsequently developed and validated as illustrative of the many which may eventually emerge.

Theory affecting public participation in educational goal setting is extended. First to be considered was the possibility of using data derived from choice behavior in order to inform the judgment of goal setters. The appropriateness of such data, within a model which purports to illumine participant values in goal setting, is confirmed by reference to Kluckhohn (1951).

Next, is the necessity to identify a dynamic which might account for value restructuring under circumstances that are consistent with the model's intent. Certain corollaries of Kelly's (1955, 1970) personal construct theory are thought to provide for such a dynamic.

The role of the public as participants in educational planning is reviewed. Where, in some goal studies--especially of the kind where participants complete questionnaires (see Lethbridge Public School District, Note 1 and St. Vital School Division, Note 2), the public is used largely as a data source. In studies which bring participants together for limited interparticipant exchange of

views about goals' choices, the public is used as both data source and processor (see Delbecq & Van de Ven, 1971; Greenfield, 1975; Northern California Program Development Center, Note 3).

The model developed in the present study opens the way to the extension of the role of public as processor in the sense that not only will there be opportunity for inter-participant exchange of views about goal choices but also opportunities for exchanges of view about the values from which the goals derive. The model thus places a responsibility upon participants to acknowledge and contend with a possible value pluralism as a precondition to making judgments about educational goals.

Deliberation, as defined by Schwab (1970, 1973, 1975), identifies a means by which participants are likely to experience some success in their role as processors. The conditions which appear to hold for Schwab's definition are given as: a minimal level of understanding, among participants, of the critical role values play in giving meaning to goal selection; a willingness to maintain open communication for whatever period of time data about purported differences in values are being presented; a willingness to foster a spirit of responsible play and engage in a "technology of foolishness" (see March, 1972); a desire to

sustain cooperative effort, and to contribute to a sense of the importance of gradual improvement, over time, by trying to come to a more complete grasp of the situation of the moment.

Criteria for a model were formulated, and, in keeping with those criteria, a model was designed.

Subsequently, a procedure, thought to be illustrative of the model's intent, was fashioned. The procedure deals with a critical aspect of the model, namely, an empirical study of the means by which a participating public might be used as a source for data which purports to provide information about discrepancies in the value positions of participant groups.

The study explores: the development of a survey instrument--in this case a paired comparisons protocol in which ten independently identified educational slogans are compared in all 45 possible combinations; the conduct of a survey covering five representative school divisions of Manitoba--survey participants are identified as randomly selected high school students, their parents and teachers; analysis of the survey results using the Carroll-Chang INDIFFS program for the multidimensional scaling of responses (Carroll, 1972; Carroll & Chang, Note 4); preparation of computer generated displays, in 3-dimensional space, of the resultant



stimulus configurations; and, finally, the student, parent, and teacher, saliences within that space. Because the saliences are, in effect, coordinates locating students, parents, and teachers, within an educational space as defined by the stimuli, observations are made with regard to possible value preferences the subject saliences connote.

It is the display and interpretation of the subject saliences which constitute data said to have meaning for participant value illumination within the model, and, it is in this sense that the procedure is declared valid for the purpose of illustrating the model's intent.

In summary, the model is displayed with the validated procedure embedded in it (see Figure 13). The procedure is identifiable as the shaded portion of the model.

The review of the study leaves a central question unanswered, that is, is the model as finally conceived, and, in part, illustrated, consistent with the criteria posited for its design?



### Fitting the Model to the Criteria

In a sense the question of whether the model fits the design criteria is redundant. Because criteria were posited in advance of model design, considerable fit between criteria and model is to be expected. A review of criteria, and the fit of the model, will, nonetheless, add assurance that the design was done with care, and, in fact, did fulfil the intent of the criteria.

Criterion one--treatment of participants as both source and processors of data, is satisfied in the model, largely through the provision of the dynamic cycle. During the several phases of the cycle, participants are used as a source for data from which a multidimensional educational space is defined and participant value positions described. The descriptions, in turn, become information to be utilized by participants as part of the overall necessity to become informed for subsequent processing of goal statements.

Criterion two--maintenance of the distinction between intra and interconstruct judgments, is satisfied in the model, first, by provision for the identification of disparate value positions which might suggest a value pluralism among participants and, second, by insistence that the success of a goal setting exercise conducted within.

the purview of the model be defined for each of two instances.

In the first instance, success is to be judged on the basis of evidence that the goal setting process itself has resulted in a greater sensitivity and toleration among participants toward the value constructs others appear to employ as criteria for the goals they espouse--a so-called growth in interparticipant value-restructuring suggested by the core of the model. Judgments are thought of as formative in their orientation and are made interconstruct.

In the second instance, success is to be judged by the extent to which a particular set of goals is judged logically consistent with, and adequate for, a single clearly defined value position. Judgments are thought of as summative in their orientation and are made intraconstruct.

Criterion three--acknowledgment of information as integral with judgment, is satisfied at several levels within the model beginning with the provision for a curriculum worker who has expertise in data collection and dissemination techniques.

Criterion four--utilization of the data of self-reports as legitimate for the purpose of informing interconstruct judgments, is given prominence in phase one of the dynamic cycle of the model and subsequently illustrated

in a procedure which was developed from the model. Slogans were developed which were thought to be representative of citizen opinion about events they perceived as good news for education (see Appendix A: "A survey to generate stimuli for a paired comparisons protocol"). The slogans were then presented as paired comparisons so that participants' values might be inferred from a multidimensional scaling of their choices. Analyses of the choices became data to be used as information that participants might consider in coming to some understanding of whether or not they were dealing with a value pluralism among groups.

Criterion five--identification of a dynamic to account for the restructuring of value positions, receives prominence at the core of the model. Except that the model presupposes such a dynamic, there is little basis for the kind of interparticipant growth suggested by the increase in area at the core as the area is viewed through a complete rotation of the dynamic cycle.

Criterion six--provision for an expert to give informed leadership in a goal setting exercise, is accounted for, in the model, by having the designated educational authority delegate much of its area of authority to a curriculum worker.

Criterion seven--designation of deliberation as the preferred mode for interparticipant communication, is supported at all levels of the model. At the level of designated authority, deliberation is anticipated through insistence upon using a curriculum worker to guide the goal setting in what was referred to earlier as the transaction-observation approach as used in evaluation studies. Deliberation is inferred throughout the three phases of the dynamic cycle by, first, positing the need for information about the educational space which is to form the context for the goal setting; seeing to it that that information is made available to participants; providing opportunities for participants to consider the possibility of a value pluralism; and, accepting, rather than avoiding, the challenge of such a pluralism. It appears that the dialectic between the goals under consideration and the value positions which serve as criteria will be evoked and, as a consequence, provide the mechanism for deliberation.

Criterion eight--suggestion of what is to count as success in goal setting, is revealed by the contrast in potential for growth, between the outer layers of the model and the core. The potential for growth is exhibited at the core where, it is argued, restructuring of participant values is seen as a possibility. Presumably the

restructuring takes place as participants make the effort to bring about instances of behavior more in keeping with the trust, individuality of perception, and openness to experience, which characterize the B-Pattern of behavior posited by Argyris (1973) as the obverse to those behaviors that seem to be more customary within organizations. By attempting to bring about Argyris' B-Pattern of behavior, participants will thus find success in terms of the personal satisfaction which accrues from having come to know more of others' values and, thereby, the explanation for their support of goals, which at first glance may well have appeared incomprehensible, at best, and intolerable, at worst.

As well, what is to count as success is given meaning, in a secondary sense, at the conclusion of the dynamic cycle. It is here that, following the incidence of inter-participant value restructuring at the core, there is reason to assume some progress toward either mutual consent and support for a single set of goals or the clear recognition of a plurality of goals. In either case, judgment can be made on the adequacy and consistency of goals in relation to the value criteria from which they are derived.

Success, then, is given meaning within the model in both a primary and secondary sense, the distinction being

suggested by labelling judgments at the core as primary, and judgments at the conclusion to the dynamic cycle, as secondary.

### Contribution of the Model to Curriculum

Willer (1967) notes the need for models as a "middle ground" between grand theory and the particular kinds of findings from empirical studies which may be demonstrably valid but which may signify little in terms of providing direction for the management of day-to-day affairs. The present model is intended to contribute to that middle ground. Development of an illustrative procedure is evidence of the possibility for developing still others.

Kaplan (1964) and Willer and Willer (1973) further point out the need for models in the social sciences to extend the range of phenomena which thereby become explainable. The present model provides for just such an extension by making the illumination of participant values a proper subject for exploration in setting educational goals.

Scriven (1967) pointed out the need to differentiate among the several criteria by which value judgments are made. In particular he noted the "assessment of merit or



comparative merit of some entity in a clearly defined context" and the assessments of merit which "turn out to be mainly disputes about what is to count as good" (p. 48). The model reinforces the distinction made by Scriven by suggesting separate criteria for what is to count as success in goal setting depending upon whether success is being judged at the conclusion of the dynamic cycle--the secondary judgments, or at the core of the model--the primary judgments.

The model further contributes to curriculum by having implications for other than goal setting. There is no perceived difficulty in extending the scope of the model to include program planning and evaluation studies. The arguments which hold for the need for public participation and the illumination of values among participants in goal setting appear to apply equally well to related curriculum enterprises.

The model has implications for further research in curriculum. Several hypotheses are suggested by the model as well as by the illustrative procedures. For example, the model suggests disparity of values among participants in goal setting. Numerous hypotheses could be developed with regard to the incidence and extent of such disparities within various educational settings. The model also

suggests the possibility that success in goal setting is a function of the degree of satisfaction participants experience as a result of the goal setting process. It would be useful to have empirical confirmation for such hypotheses as; participant groups receiving information of the kind generated in the illustrative procedure will be prepared to maintain discussion of educational goals over a more extended time than groups who do not have such information. Alternately, groups receiving value information will actively consider the possibility that a plurality of goal statements is a viable basis upon which to make policy and develop programs.

In effect, groups having value information may well come to hold Schwab's view that education is too complex a phenomenon for courses of action to be derived from a single theoretical point of view and that an eclectic approach to theory utilization--in the case of goal setting, goal statement utilization--is to be preferred. For, as Schwab (1970) points out, in considering an approach to establishing grounds for action "almost every concrete case falls under two or more principles, and is not, therefore, a complete instance of either principle" (p. 36).

Finally, the model addresses the issue of quality in education, and in such a way that some of the confusion

which attends discussion of quality may have a better chance of being resolved. In developing criteria for the model the issue was raised of whose goals are to prevail. From the first instance, then, the question was raised as to what is to count as the criteria by which to judge educational merit.

Further, there was an insistence that proper answer to the question of whose goals are to count is only possible if a plurality of values is recognized and, by derivation, a plurality of goals. Quality, then, is seen as an issue which, in the primary sense, has to do with the means by which agreement is reached among participants about whose values and whose goals are to count, and, in the secondary sense, quality deals with judgments about the measures of achievement of standards set within the context of each of the several value/goal frameworks.

### Summary

It is now evident that priorities for education must be set; choices must be made among competing goods. Goal areas will have to be identified that have as the basis for their selection, the pursuit of the desirable; a pursuit which may only be relevant when conceived within the alternatives of a value pluralism. The public must participate as source and processor. The goals that they set will be judged successful, not only for the congruence of goals to the values which serve as criteria, but also, for the extent to which a residual of goodwill among participants is a legacy of the goal setting process.

It is in this way that the model proposes a concern for quality which is to be found at the very core, and which then radiates out to a more complete recognition of the many contrasting ways education might be made better.

### References

- Argyris, C. Personality and organizational theory revisited. Administrative Science Quarterly. 1973, 18, 141-167.
- Beauchamp, G. A., & Beauchamp, K. E. Comparative analysis of curriculum systems (2nd ed.). Wilmette: Kagg, 1972.
- Carroll, J. D. Individual differences and multidimensional scaling. In R. N. Shepard, A. K. Romney, & S. B. Nerlove (Eds.), Multidimensional scaling: Theory and applications in the behavioral sciences (Vol. 1). New York: Seminar Press, 1972.
- Delbecq, A. L., & Van de Ven, A. H. A group process model for problem identification and program planning. Journal of Applied Behavioral Science, 1971, 7, 466-492.
- Dewey, J. Democracy and education: An introduction to the philosophy of education. New York: Macmillan, 1916.
- Greenfield, T. B. Educational goals for a school system. The Ontario Council for Leadership in Educational Administration (OCLEA). Toronto: 1975, Sept., 16-19.
- Kaplan, A. The conduct of inquiry: Methodology for behavioral sciences. San Francisco: Chandler, 1964.
- Kelly, G. A. The psychology of personal constructs: A theory of personality (Vol. 1). New York: W. W. Norton, 1955.
- Kelly, G. A. A brief introduction to personal construct theory. In D. Bannister (Ed.), Perspectives in personal construct theory. London: Academic Press, 1970.
- Kluckhohn, C., & Others. Values and value-orientation in the Theory of action: An exploration in definition and classification. In T. Parsons, & E. A. Shils (Eds.), Toward a general theory of action. New York: Harper & Row, 1951.
- March, J. G. Model bias in social action. Review of Educational Research, 1972, 42, 413-429.

Schwab, J. J. The practical: A language for curriculum. Washington, D. C.: National Education Association Publications, 1970.

Schwab, J. J. The practical 3: Translation into curriculum. School Review, 1973, 81, 501-522.

Schwab, J. J. On reviewing liberal education in the seventies. In S. Hook, P. Kurtz, & M. Todorovich (Eds.). The philosophy of the curriculum. Buffalo: Prometheus, 1975.

Scriven, M. The methodology of evaluation. American Educational Research Association (AERA) Monograph Series on Curriculum Evaluation (Part 1, Perspectives of curriculum evaluation). Chicago: Rand McNally, 1967.

Willer, D. Scientific sociology: Theory and method. Englewood Cliffs: Prentice-Hall, 1967.

Willer, D., & Willer, J. Systematic empiricism: Critique of a pseudoscience. Englewood Cliffs: Prentice-Hall, 1973.

Reference Notes

1. Lethbridge Public School District No. 51, Educational goals questionnaire. Lethbridge, 1974.
2. St. Vital School Division No. 6 Educational Goals, 1975-77 (A report). Winnipeg: St. Vital Education Goal Committee, 1977.
3. Northern California Program Development Center. Educational goals and objectives (Administrator's Manual). Phi Delta Kappa. No publication date.
4. Carroll J. D., and Chang, J. J. A new method for dealing with individual differences in multidimensional scaling. Marray Hill: Bell Telephone Laboratories, no publication date. (Mimeograph)

## BIBLIOGRAPHY

### Books

- Addenbrooke, D. The Royal Shakespeare Company: The Peter Hall years. London: William Kimber, 1974.
- Agnew, N. Mc., & Pyke, S. The science game: An introduction to research in the behavioral sciences. Englewood Cliffs: Prentice-Hall, 1969.
- Alpert, H. Emile Durkheim and his sociology. New York: Russell & Russell, 1939.
- Argyris, C. The applicability of organizational sociology. Cambridge: Cambridge University Press, 1972.
- Barnfield, G. Creative drama in schools. New York: Hart, 1968.
- Beauchamp, G. A. Curriculum theory (3rd ed.). Wilmette Ill.: The Kagg Press, 1975.
- Beauchamp, G. A., & Beauchamp, K. E. Comparative analysis of curriculum systems (2nd ed.). Wilmette Ill.: The Kagg Press, 1972.
- Bellack, A. A., Kliebard, H. M., Hyman, R. T., & Smith, F. L., Jr. The language of the classroom. New York: Columbia University Teachers College Press, 1966.
- Belth, M. Education as a discipline: A study of the role of models in thinking. Boston: Allyn & Bacon, 1965.
- Black, M. The labyrinth of language. New York: Praeger, 1968.
- Brook, P. The empty space. Middlesex, Eng.: Penguin, 1968. (First published by McGibbon & Kee, 1968)
- Bross, I. D. J. Design for decision: An introduction to statistical decision-making. New York: The Free Press, 1953.



- Bruner, J. S., Goodnow, J. J., & Austin, G. A. A study of thinking. New York: Wiley, 1967. (c. 1956)
- Callahan, D. The tyranny of survival and other pathologies of civilized life. New York: Macmillan, 1973.
- Cheal, J. E. Investment in Canadian youth: An analysis of input-output differences among Canadian provincial school systems. Toronto: Macmillan, 1963.
- Childs, J. L. Education and morals: An experimentalist philosophy of education. New York: Arno, 1971. (Originally published in 1950)
- Coombs, C. H. A theory of data. New York: Wiley, 1964.
- David, H. A. The method of paired comparisons. London: Charles Griffin, 1963.
- Dewey, J. Democracy and education: An introduction to the philosophy of education. New York: Macmillan, 1916.
- Downey, M. E., & Kelly, A. V. Theory and practice of education: An introduction. London: Harper & Row, 1975.
- Elkind, D. Children and adolescents: Interpretive essays on Jean Piaget. New York: Oxford, 1970.
- Fairclough, G. The play is not the thing: Drama in education. Oxford: Blackwell, 1972.
- Faure, E., Herrara, F., Kaddoura, A., Lopes, H., Petrovsky, A. V., Rahnema, M., & Ward, R. C. Learning to be: The world of education today and tomorrow. Paris: UNESCO, 1972.
- Festinger, L. A theory of cognitive dissonance. Stanford: Stanford University Press, 1957.
- Fleming, W. G. Education: Ontario's preoccupation. Toronto: University of Toronto Press, 1972.
- Freire P. Pedagogy of the oppressed (Translated by Myra Bergman Ramos). New York: Herder & Herder, 1971.

- Furth, H. G. Piaget and knowledge: Theoretical foundations. Englewood Cliffs: Prentice-Hall, 1969.
- Furth, H. G. Piaget for teachers. Englewood Cliffs: Prentice-Hall, 1970.
- Gray, F., & Mager, G. C. Liberating education: Psychological learning through improvisational drama. Berkeley: McCutchan, 1973.
- Green, P. E., & Carmone, F. J. Multidimensional scaling and related techniques in marketing analysis. Boston: Allyn & Bacon, 1970.
- Green, T. F. Work, leisure and the American schools. New York: Random House, 1968.
- Guilford, J. P. Psychometric methods. New York: McGraw-Hill, 1954.
- Hage, J., & Aiken, M. Social change in complex organizations. New York: Random House, 1970.
- Hall, E. T. The silent language. New York: Anchor Press, 1973. (Original publication date, 1959)
- Harman, H. H. Modern factor analysis (2nd ed., revised). Chicago: University of Chicago Press, 1968. (Originally published, 1960)
- Jencks, C., Smith, M., Acland, H., Bane, M. J., Cohen, D., Gintis, H., Heyns, B., & Michelson, S. Inequality: A reassessment of the effect of family and schooling in America. New York: Harper & Row, 1972.
- Kaplan, A. The conduct of inquiry: Methodology for behavioral sciences. San Francisco: Chandler, 1964.
- Kelly, G. A. The psychology of personal constructs: A theory of personality (Vol. 1). New York: W. W. Norton, 1955.
- Kerlinger, F. N. Foundations of behavioral research (2nd ed.). New York: Holt, Rinehart, 1964, 1973.

- Leithwood, H. A., Clipsham, J. S., Maynes, F., & Baxter, R. P., in collaboration with McNabb, J. D. Planning curriculum change: A model and case study. Toronto: Ontario Institute for Studies in Education, 1976.
- Luce, R. D., & Raiffa, H.: Games and decisions: Introduction and critical survey. New York, Wiley, 1957.
- Lortie, D. C. School-teacher: A sociological study. Chicago: University of Chicago Press, 1975.
- Mager, R. F. Measuring instructional intent: Or got a match? Belmont California: Fearon, 1973.
- Mannheim, K.: Ideology and utopia. London: Routledge & Kegan, 1956.
- McGregor, H. The human side of enterprise. New York: McGraw-Hill, 1960.
- Miller, D. W., & Starr, M. K. The structure of human decisions. Englewood Cliffs: Prentice-Hall, 1967.
- Morphet, E. L., Johns, R. L., & Reller, T. L. Educational organization and administration. Englewood Cliffs: Prentice-Hall, 1967.
- Myers, D. A. Decision making in curriculum and instruction (Monograph). Dayton: Institute for Development of Education Activities (IDEA), 1970.
- Myers, G. E., & Myers, M. T. The dynamics of human communication (2nd ed.). New York: McGraw-Hill, 1976.
- Parker, J. C., & Rubin, L. J. Process as content: Curriculum design and the application of knowledge. Chicago: Rand McNally, 1966.
- Phenix, P. H. Realms of meaning: A philosophy of the curriculum for general education. New York: McGraw-Hill, 1964.
- Piaget, J. The origins of intelligence in children. New York: Norton, 1952.
- Popham, J. W. Evaluating instruction. Englewood Cliffs: Prentice-Hall, 1973.

- Popham, J. W., & Sirotnik, K. A. Educational statistics: Use and interpretation (2nd ed.). New York: Harper & Row, 1973.
- Rokeach, M. The open and closed mind: Investigations into the nature of belief systems and personality systems. New York: Basic Books, 1960.
- Rowe, F. W. The development of education in Newfoundland. Toronto: Ryerson, 1964.
- Rowntree, D. Educational technology in curriculum development. New York: Harper & Row, 1974.
- Scheffler, I. The language of education. Springfield, Ill.: Charles C. Thomas, 1968. (7th printing; original copyright, 1960)
- Schmuck, R. A., & Runkel, P. J. Organizational training for a school faculty. Eugene: Center for the Advanced Study of Educational Administration, 1970.
- Schwab, J. J. The practical: A language for curriculum. Washington, D. C.: National Education Association Publications, 1970.
- Taba, H., Durkin, M. C., Fraenkel, J., & McNaughton, A. H. A teacher's handbook to elementary social studies: An inductive approach (2nd ed.). Menlo Park: Addison-Wesley, 1971.
- Tatsuoka, M. M. Multivariate analysis: Techniques for educational and psychological research. New York: Wiley, 1971.
- Torgerson, W. S. Theory and methods of scaling. New York: Wiley, 1958.
- Tripodi, T., Fellin, P., & Epstein, I. Social program evaluation: Guidelines for health, education, and welfare administrators. Itasca Ill.: Peacock, 1971.

- Tyler, R. W. Basic principles of curriculum and instruction. Chicago: University of Chicago Press, 1949. (31st impression, 1971)
- Walberg, H. J. Evaluating educational performance: A sourcebook of methods, instruments, and examples. Berkeley: McCutchan, 1974.
- Watzlawick, P., Beavin, J. H., & Jackson, D. D. Pragmatics of human communication: A study of interactional patterns, pathologies, and paradoxes. New York: W. W. Norton, 1967.
- Willer, D. Scientific sociology: Theory and method. Englewood Cliffs: Prentice-Hall, 1967.
- Willer, D., & Willer, J. Systematic empiricism: Critique of a pseudoscience. Englewood Cliffs: Prentice-Hall, 1973.
- Wilson, L. C. The open access curriculum. Boston: Allyn & Bacon, 1971.

### Collections

- Adams, D. K., & Zener, K. E. (Trans.). A dynamic theory of personality (Selected papers of K. Lewin). New York: McGraw-Hill, 1935.
- American Educational Research Association (AERA). Perspectives of curriculum evaluation (Monograph Series on curriculum evaluation, Vol. 1). Chicago: Rand McNally, 1967.
- Aoki, T. (Ed.). Curriculum evaluation in a new key (The monograph series). Vancouver: Centre for the Study of Curriculum and Instruction, Faculty of Education, University of B. C., 1978.
- Apple, M. W., Subkoviak, M. J., & Lufler, S. Jr. (Eds.). Educational evaluation: Analysis and responsibility. Berkeley: McCutchan, 1974.
- Bannister, D. (Ed.). Perspectives in personal construct theory. London: Academic Press, 1970.
- Bauer, R. A. (Ed.). Social indicators. Cambridge: M. I. T. Press, 1966.
- Bertalanffy, L. von. Organismic psychology and systems theory. Massachusetts: Clark University Press with Barre Publishers, 1968.
- Cooper, W. W., Leavitt, J. J., & Shelly, M. W. (Eds.). New perspectives in organization research. New York: Wiley, 1964.
- Cyert, R. M., & March, J. G. (Eds.). A behavioral theory of the firm. Englewood Cliffs: Prentice-Hall, 1963.
- Elkind, D., & Flavell, J. (Eds.). Studies in cognitive development: Essays in honor of Jean Piaget. New York: Oxford University Press, 1969.
- Foster, C. W. (Ed.). Educational resources management system. Chicago: Association of School Business Officials, 1971.
- Goodlad, J. I. et al (Contributors). The conventional and the alternative in education. Berkeley: McCutchan, 1975.

- Hoggatt, A. C., & Balderston, F. E. (Eds.). Symposium on simulation models: Methodology and applications to the behavioral sciences. Cincinnati: South-Western, 1963.
- Hook, S., Kurtz, P., & Todorovitch, M. (Eds.). The philosophy of the curriculum. Buffalo: Prometheus, 1975.
- James, H. J., and others (contributors). The schools and the challenge of innovation. New York: McGraw-Hill, 1969.
- Klausmeier, H. J., & Harris, C. W. (Eds.). Analyses of concept learning. New York: Academic Press, 1966.
- Parsons, T., & Shils, E. A. (Eds.). Toward a general theory of action. New York: Harper & Row, 1951.
- Rossi, P. H., & Williams, W. (Eds.). Evaluating social programs: Theory, practice, and politics. New York: Seminar, 1972.
- Shepard, R. N., Romney, A. K., & Nerlove, S. B. (Eds.). Multidimensional scaling: Theory and applications in the behavioral sciences (Vol. 1). New York: Seminar Press, 1972.
- Taylor, P. A., & Cowley, D. A. (Eds.). Readings in curriculum evaluation. Dubuque: Wm. C. Brown, 1972.
- Thomas, L. G. (Ed.). Philosophical redirection of educational research: The seventy-first yearbook of the National Society for the Study of Education (Part 1). Chicago: University of Chicago Press, 1972.
- Troost, C. G., (Ed.). Radical school reform: Critique and alternatives. Boston: Little, Brown & Co., 1973.
- The Winnipeg Centennial Symposium. Dilemmas of modern man. (Proceedings of the symposium, Winnipeg, Canada, Oct. 27-30, 1974). Winnipeg: Great-West Life Assurance Company, 1975.
- Young, M. F. D. (Ed.). Knowledge and control: New directions for sociology of education. London: Collier-Macmillan, 1971.

Articles from Collections

- Ambry, E. J. Evaluation for environmental education. In P. A. Taylor & D. A. Cowley (Eds.), Readings in curriculum evaluation. Dubuque: Wm. C. Brown, 1972.
- Apple, M. W. The process and ideology of valuing in educational settings. In M. W. Apple, M. J. Subkoviak & H. S. Lufner, Jr. (Eds.), Educational evaluation: Analysis and responsibility. Berkeley: McCutchan, 1974.
- Ashby, E. Dilemmas of education. In The Winnipeg Centennial Symposium, Dilemmas of modern man (Proceedings of the Symposium, Winnipeg, Canada, October 27-30, 1974). Winnipeg: Great-West Life Assurance Co., 1975.
- Bertalanffy, L. von. The open system of science--toward a new "natural philosophy". In L. von Bertalanffy, Organismic psychology and systems theory. Massachusetts: Clark University Press with Barre Publishers, 1968. (Second of a series of two lectures sponsored by the Heinz Werner Institute of Developmental Psychology)
- Biddle, B. J. Roles, goals, and value structures in organizations. In W. W. Cooper, H. J. Leavitt & M. W. Shelly (Eds.), New perspectives in organization research. New York: Wiley, 1964.
- Biderman, A. D. Social indicators and goals. In R. A. Bauer, Social indicators. Cambridge: M. I. T. Press, 1966.
- Carroll, J. D. Individual differences and multidimensional scaling. In R. N. Shepard, A. K. Romney & S. B. Nerlove (Eds.), Multidimensional scaling: Theory and applications in the behavioral sciences (Vol. 1). New York: Seminar Press, 1972.
- Churchman, S. W. An analysis of the concept of simulation. In A. C. Hoggatt & F. E. Balderston (Eds.), Symposium on simulation models: Methodology and applications to the behavioral sciences. Cincinnati: South-Western, 1963.



- Clarkson, G. P. E. A model of trust investment behavior. In R. M. Cyert & J. G. March, (Eds.), A behavioral theory of the firm. Englewood Cliffs: Prentice-Hall, 1963.
- Cyert, T. M., & March, J. G. The behavioral theory of the firm: A behavioral science-economics amalgam. In W. W. Cooper, H. J. Leavitt & M. W. Shelly (Eds.), New perspectives in organization research. New York: Wiley, 1964.
- Dill, W. R. Desegregation or integration? Comments about contemporary research on organizations. In W. W. Cooper, H. J. Leavitt & M. W. Shelly, New perspectives in organization research. New York: Wiley, 1964.
- Elkind, D. Conservation and concept formation. In D. Elkind & J. Flavell (Eds.), Studies in cognitive development: Essays in honor of Jean Piaget. New York: Oxford University Press, 1969.
- Esland, G. M. Teaching and learning as the organization of knowledge. In M. E. Young (Ed.), Knowledge and control: New directions for sociology of education. London: Collier-Macmillan, 1971.
- Glass, G. V. Two generations of evaluation models. In P. A. Taylor & D. M. Cowley (Eds.), Readings in curriculum evaluation. Dubuque: Wm. C. Brown, 1972.
- Goodlad, J. I. A typology of educational alternatives. In J. I. Goodlad et al (Contributors), The conventional and the alternative in education. Berkeley: McCutchan, 1975.
- Goodlad, J. I. Thought, invention, and research in the advancement of education. In H. J. Thomas and others (Contributors), The schools and the challenge of innovation. New York: McGraw-Hill, 1969.
- Gowin, D. R. Is educational research distinctive. In L. G. Thomas (Ed.), Philosophical redirection of educational research: The Seventy-first yearbook of the National Society for the Study of Education (Part 1). Chicago: University of Chicago Press, 1972..

- Green, T. F. Judging. In C. G. Troost (Ed.), Radical school reform: Critique and alternatives. Boston: Little, Brown & Co., 1973.
- Holton, G. Science, science teaching, and rationality. In S. Hook, P. Kurtz & M. Todorovitch (Eds.), The philosophy of the curriculum. Buffalo: Prometheus, 1975.
- Hook, S. General education: The minimum indispensables. In S. Hook, P. Kurtz & M. Todorovich (Eds.), The philosophy of the curriculum. Buffalo: Prometheus, 1975.
- Hook, S. The teaching of values. In C. J. Troost (Ed.), Radical school reform: Critique and alternatives. Boston: Little, Brown & Co., 1973.
- Houston, T. R. Jr. The behavioral sciences impact-effectiveness model. In P. H. Rossi & W. Williams (Eds.), Evaluating social programs: Theory, practice, and politics. New York: Seminar, 1972.
- Issawi, C. The economist among the social scientists. In S. Hook, P. Kurtz & M. Todorowich (Eds.), The philosophy of the curriculum. Buffalo: Prometheus, 1975.
- Jenkins, J. J. Meaningfulness and concepts: Concepts and meaningfulness. In H. J. Klausmeier & C. W. Harris (Eds.), Analyses of concept learning. New York: Academic Press, 1966.
- Kagan, J. A developmental approach to conceptual growth. In H. J. Klausmeier & C. W. Harris (Eds.), Analyses of concept learning. New York: Academic Press, 1966.
- Kelly, G. A. A brief introduction to personal construct theory. In D. Bannister (Ed.), Perspectives in personal construct theory. London: Academic Press, 1970.
- Kluckhohn, C., & Others. Values and value-orientation in the theory of action: An exploration in definition and classification. In T. Parsons & E. A. Shils (Eds.), Toward a general theory of action. New York: Harper & Row, 1951.

- Leavitt, H. J. Applied organization change in industry: Structural, technical, and human approaches. In W. W. Cooper, H. J. Leavitt & M. W. Shelly (Eds.), New perspectives in organization research. New York: Wiley, 1964.
- Lewin, K. The conflict between Aristotelian and Galileian modes of thought in contemporary psychology. In D. K. Adams & K. E. Zener (Trans.), A dynamic theory of personality (Selected papers). New York: McGraw-Hill, 1935.
- McMurrin, S. M. Innovation and the purposes of education. In H. T. James and Others (Contributors), The schools and the challenge of innovation. New York: McGraw-Hill, 1969.
- Moffet, J. Misbehaviorist English: A position paper. In Maxwell & Tovatt (Eds.), On writing behavioral objectives for English. Champaign, Ill.: National Council of Teachers of English, 1970.
- Rabin, M. The uses and limitations of science teaching. In S. Hook, P. Kurtz & M. Todorovich (Eds.), The philosophy of the curriculum. Buffalo: Prometheus, 1975.
- Rossi, P. H. Testing for success and failure. In P. H. Rossi & W. Williams (Eds.), Evaluating social programs: Theory, practice, and politics. New York: Seminar, 1972.
- Rothe, P. Existential phenomenology as a dimension of evaluation. In T. Aoki (Ed.), Curriculum evaluation in a new key (The monograph series). Vancouver: Centre for the Study of Curriculum and Instruction, Faculty of Education, University of B. C., 1978.
- Schwab, J. J. On reviewing liberal education in the seventies. In S. Hook, P. Kurtz & M. Todorovich (Eds.), The philosophy of the curriculum. Buffalo: Prometheus, 1975.
- Scriven, M. Objectivity and subjectivity in educational research. In L. G. Thomas (Ed.), Philosophical redirection in educational research (71st yearbook of the National Society for the Study of Education, Part 1). Chicago: University of Chicago, 1972.

- Scriven, M. The methodology of evaluation. In American Educational Research Association (AERA), Monograph series on curriculum evaluation (Part 1, Perspectives of curriculum evaluation). Chicago: Rand McNally, 1967.
- Shepard, R. N. Introduction. In R. N. Shepard, A. K. Romney & S. B. Nerlove (Eds.), Multidimensional scaling: Theory and applications in the behavioral sciences. (Vol. 1). New York: Seminar Press, 1972.
- Shepard, R. N. A taxonomy of some principal types of data and of multidimensional methods for their analysis. In R. N. Shepard, A. K. Romney & S. B. Nerlove (Eds.), Multidimensional scaling: Theory and applications in the behavioral sciences (Vol. 1). New York: Seminar Press, 1972.
- Skager, R. Evaluating educational alternatives. In J. I. Goodlad, and Others (Contributors), The conventional and the alternative in education. Berkeley: McCutchan, 1975.
- Stake, R. E. Toward a technology for the evaluation of educational programs. In American Educational Research Association, Monograph series on curriculum evaluation (Part 1, Perspectives of curriculum evaluation). Chicago: Rand McNally, 1967.
- Stake, R. E. The countenance of evaluation. In P. A. Taylor & D. M. Cowley (Eds.), Readings in curriculum evaluation. Dubuque: Wm. C. Brown, 1972.
- Stephenson, J. G., & Sexton, R. G. Experiential education and revitalization of the liberal arts. In S. Hook, P. Kurtz & M. Todorovich (Eds.), The philosophy of the curriculum. Buffalo: Prometheus, 1975.
- Taylor, P. A., & Cowley, D. A. Evaluation models (Editorial comment). In P. A. Taylor & D. A. Cowley (Eds.), Readings in curriculum evaluation. Dubuque: Wm. C. Brown, 1972.
- Taylor, P. A., & Cowley, D. M. New dimensions of evaluation (An overview). In P. A. Taylor & D. M. Cowley (Eds.), Readings in curriculum evaluation. Dubuque: Wm. C. Brown, 1972.

- Taylor, P. A., & Maguire, T. O. A theoretical evaluation model. In P. A. Taylor & D. M. Cowley (Eds.), Readings in curriculum evaluation. Dubuque: Wm. C. Brown, 1972.
- Toffler, A. The future of democracy. In The Winnipeg Centennial symposium, Dilemmas of modern man (Proceedings of the Symposium, Winnipeg, Canada, October 27-30, 1974). Winnipeg: Great-West Life Assurance Co., 1975.
- Tyler, R. W. The problems and possibilities of educational evaluation. In H. J. James and Others (Contributors), The schools and the challenge of innovation. New York: McGraw-Hill, 1969.
- Werner, W. Evaluation: Sense-making of school programs. In T. Aoki (Ed.), Curriculum evaluation in a new key (The monograph series). Vancouver: Center for the Study of Curriculum and Instruction, Faculty of Education, University of B. C., 1978.
- Willems, E. P. Implications of viewing education evaluation as research in the behavioral sciences. In P. A. Taylor & D. M. Cowley, Readings in curriculum evaluation. Dubuque: Wm. C. Brown, 1972.
- Williams, W. The organization of the volume and some key definitions. In P. H. Rossi & W. Williams (Eds.), Evaluation of social programs: Theory, practice, and politics. New York: Seminar, 1972.
- Wilson, D. C. Emic-evaluative inquiry as an approach for evaluating school programs. In T. Aoki (Ed.), Curriculum evaluation in a new key (The monograph series). Vancouver: Centre for the Study of Curriculum and Instruction, Faculty of Education, University of B. C., 1978.
- Woodruff, A. D. Cognitive models of learning and instruction. In L. Siegel, Instruction: Some contemporary viewpoints. San Francisco: Chandler, 1967.
- Young, M. F. D. An approach to the study of curricula as socially organized knowledge. In M. F. D. Young (Ed.), Knowledge and control: New direction for the sociology of education. London: Collier-Macmillan, 1971.

### Articles from Journals

- Allen, A. F. Perspective on quality education. Educational Horizons, 1971, 49, 100-107.
- Anrig, G. R. What's needed for quality integrated education? School Management, 1972, 16, 24-26.
- Argyris, C. Personality and organizational theory revisited. Administrative Science Quarterly. 1973, 18, 141-167.
- Atkin, J. Some evaluation problems in a course treatment project. Journal in Science Teaching. 1963, 1, p.1.
- Austin, C. G. Honors learning in the seventies. Educational Record. 1975, 56, 160-169.
- Baker, E. L. Parents, teachers, and students as data sources for the selection of instructional goals. American Educational Research Journal, 1972, 9, 403-411.
- Beyer, M. M., & Snipper, R. Objective versus subjective indicators of quality in graduate education. Sociology of Education, 1974, 47, 541-557.
- Boulding, K. E. Quality versus equality: The dilemma of the university. Daedalus, 1975, 104, 298-305.
- Bradley, R. A. Science, statistics, and paired comparisons (An invited paper presented to the Biometric Society as the President's Invited Address, St. Paul, Minnesota, March 25, 1975). Biometrics, 1976, 32, 214-232.
- Bruner, J. S. Inhelder and Piaget's The growth of logical thinking. The British Journal of Psychology, 1959, 50, 363-370.
- Burkhead, J. Economics against education. Teachers College Record, 1973, 75, 193-205.
- Carver, R. R. The Coleman Report: Using inappropriately designed achievement tests. American Educational Research Journal, 1975, 12, 77-86.

- Conklin, K. R. Educational evaluation and intuition. School Research Information Service, 1971, Fall, 19-24.
- Davidson, R. R., & Farquhar, P. H. A bibliography on the method of paired comparisons. Biometrics, 1976, 32, 241-252.
- Day, J. F. Behavioral technology: A negative stand. Intelect, 102 (2355), 304-306.
- Delbecq, A. L., & Van de Ven, A. H. A group process model for problem identification and program planning. Journal of Applied Behavioral Science, 1971, 7, 466-492.
- Eisner, E. W. Educational objective: Help or hindrance? School Review, 1967, 73, p. 3.
- Epstein, J. L., & McPartland, J. M. The concept and measurement of quality of school life. American Educational Research Journal, 1976, 13, 15-30.
- Evanechko, P. O., Armstrong, R. D., & McFetridge, P. A. Semantic space and the development of word meaning. The Alberta Journal of Educational Research, 1974, 20, 305-315.
- Franklin, N. N. The concept and measurement of minimum living standards. The International Labour Review, 1967, 95, 1-28.
- Gerarda, M. Sr., & O'Reilly, R. R. Acceptance of parent volunteers and teacher professionalism. Canadian Journal of Education, 1978, 3, 67-74.
- Goodlad, J. I. Schools can make a difference. Educational Leadership. Washington: Association for Supervision and Curriculum Development (ASCD), 1975, 33, 108-117.
- Green, T. F. Teaching, acting and behaving. Harvard Educational Review, 1964, 34, 507-524.
- Green, T. F. Schools and communities: A look forward. Harvard Educational Review, 1969, 39, 221-252.

- Gridgeman, N. T. Pair comparison, with and without ties. Biometrics, 1959, 15, 382-388.
- Grover, G. H. New York State's new regulations governing physical education. Journal of Physical Education and Recreation, 1975, 46, 29-30.
- Haynes, R. W. Higher education is a chancy business. Educational Researcher, 1974, 3, 13-15.
- Hicks, L. E. Some properties of ipsative, normative, and forced-choice normative measures. Psychological Bulletin, 1970, 74, 167-184.
- Hodgkin, R. The qualitative element. Trends in Education, 1973, No. 29, 9-14.
- Jackson, P. & Belford, E. Educational objectives and the joys of teaching. School Review, 1965, 73, p. 3.
- Kansup, W., Romaniuk, G. & Maguire, T. Student perceptions of occupational characteristics. Canadian Journal of Education, 1978, 3, 43-51.
- Kendall, M. G. Further contributions to the theory of paired comparisons. Biometrics, 1955, 11, 43-62.
- Kendall, M. G., & Babington Smith, B. On the method of paired comparisons. Biometrika, 1940, 31, 324-345.
- Kent, R. The financing of equal educational opportunity. Thrust for Educational Leadership, 1973, 3, 9-10.
- Kerlinger, F. N. Progressivism and traditionalism: Basic factors of educational attitudes. The Journal of Social Psychology, 1958, 48, 111-135.
- Kirst, M. W., & Walker, D. F. An analysis of curriculum policy-making. Review of Educational Research, 1971, 41, 479-509.
- Kohlberg, L. Moral education in the schools: A developmental view. The School Review, 1966, 74, 1-30.
- Kohlberg, L. Early education: A cognitive-developmental view. Child Development, 1968, 39, 1013-1062.



Kohlberg, L., Kaufmann, K., Scharf, P., & Hickey, J. The just community approach to corrections: A theory. Journal of Moral Education, 1975, 4, 243-260.

Levin, M. A., & Simon, R. I. From ideal to real: Understanding the development of new educational settings. Interchange, 1974, 5, 45-54.

Likert, R. The dual function of statistics. The Journal of the American Statistical Association, 1960, 55, 1-7.

Lippincott, W. T. Those poor little mattersmiths who have lost their way. Journal of Chemical Education, 1975, 52, 555-559.

MacKay, A. Evaluation of a school program. Canadian Administrator, 1972, 12, 13-16.

Maguire, T. O. Value components of teachers' judgments of educational objectives. AV Communication Review, 1968, 16, 63-86.

March, J. G. Model bias in social action. Review of Educational Research, 1972, 42, 413-429.

McConaghy, T. W. Editorially speaking: Sense and nonsense in the Worth Report. Alberta Teachers' Association Magazine, 1972, 53, 4-5.

McKnight, R. Q., & Seaton, H. W. Innovation in education, fact or fiction? Reading Improvement, 1975, 12, 242-244.

McPartland, J., & Sprehe, J. T. Racial and regional inequalities in school resources relative to their educational outcomes. Social Science Research, 1973, 2, 321-332.

Meyerson, M. After a decade of the levelers in higher education: Reinforcing quality while maintaining mass education. Daedalus, 1975, 104, 304-321.

Nutt, Paul C. The merits of using experts or consumers as members of planning groups: A field experiment in health planning. Academy of Management Journal, 1976, 19, 378-394.

- Patterson, W. N. After the Coleman Report: What about it? Thrust for Educational Leadership, 1973, 3, 11-12.
- Pipho, C. Minimal competency testing: A look at state standards. Educational Leadership, 1977, 34, 516-520.
- Posner, G. J. The use of construct validation procedures in curriculum research. Curriculum Theory Network, 1973, 11, 34-46.
- Punke, H. H. Popular control, and quality education. The High School Journal, 1974, 58, 47-52.
- Rein, M. Social policy analysis as the interpretation of beliefs. American Institute of Planners Journal, 1971, Sept., 297-310.
- Rosenhaupt, H. Quality education in jeopardy. Educational Record, 1973, 54, 15-23.
- Runkel, P. J. Cognitive similarity in facilitating communication. Sociometry, 1956, 19, 178-191.
- Saylor, G. Three essentials in determining the quality of education. Educational Leadership, 1977, 34, 243-245.
- Schelling, T. C. On the ecology of micromotives. The Public Interest, 1971, No. 25, 59-96.
- Schmidt, L. The process of music education. Music Educators Journal, 1975, 61, 50-51; 79.
- Schudson, M. On the sense of vocation. Daedalus, 1974, 103, 316-325.
- Schwab, J. J. The practical 3: Translation into curriculum. School Review, 1973, 81, 501-522.
- Slater, P. Inconsistencies in a schedule of paired comparisons. Biometrika, 1961, 48, 303-312.
- Subkoviak, M. J. The use of multidimensional scaling in educational research. Review of Educational Research, 1975, 45, 387-423.
- Suppes, P. The place of theory in educational research. Educational Researcher, 1974, 3, 3-10.

Tyler, R. W. New dimensions in curriculum development.  
Phi Delta Kappan, 1966, 48, 25-28.

Tyler, R. W. Have educational reforms since 1950 created  
quality education? Viewpoints, 1975, 51, 35-39.

Weiss, S. Program quality depends on principal-staff re-  
lationship. Business Education Forum, 1973, 27, 42-45.

Winkler, D. R. Unequal achievement and schools. Integrated  
Education, 1976, 14, 24-26.

Wise, J. H. Student deficiency in basic world knowledge.  
Journal of Geography, 1975, 74, 477-488.

Government Publications

Black D., & Kirkaldy, J. S. A feasibility study for the production of a social report for the Province of Ontario (A study of the Commission on Post-Secondary Education in Ontario). Toronto: Queen's Printer, 1971.

Canada Manpower and Immigration (Published by Authority of the Minister). Canadian classification and dictionary of occupations 1971 (1971). Ottawa: Information Canada, 1971.

Committee on the Costs of Education, Government of Ontario. Interim report number one: Report on the education of elementary and secondary teachers in Ontario; facilities, organization, administration. Toronto: Queen's Printer, 1972.

Committee on the Costs of Education, Government of Ontario. Interim report number two: School building programs. Toronto: Queen's Printer, 1972.

Cousin, J., Fortin, J. P., & Wenaas, C. J. Some economic aspects of provincial educational systems (Staff Study No. 27, Economic Council of Canada). Ottawa: Queen's Printer, 1971.

Datta, P. K. Towards a non-parametric ordinal measurement of the quality of life (An occasional paper prepared for the Social and Human Analysis Branch). Ottawa: Department of Regional Economic Expansion, 1972.

Economic Council of Canada. Economic and social indicators: 1974 (A monograph intended as a companion to the 11th Annual Report). Ottawa: Information Canada, 1974.

Economic Council of Canada. Economic targets and social indicators (11th Annual Review). Ottawa: Information Canada, 1974.

Environics Research Group. Quality of education in Ontario: A survey of the parents' perspective (A report prepared for the Ontario Department of Education). Toronto: Author, 1972.

Joint Committee on Educational Goals and Evaluation.  
Education for the people (Vol 1). Sacramento:  
California Legislature, 1972.

Joint Committee on Educational Goals and Evaluation.  
Education for the people (Vol. 2): A resource book for  
school-community decision-making. Sacramento: Cal-  
ifornia Legislature, 1972.

Manitoba Department of Education. Education in Manitoba  
(Annual report for the year ended June 30, 1976).  
Winnipeg: Queen's Printer, 1976(?).

Province of Manitoba. List of electors: Constituency of  
Fort Garry (1973). Winnipeg: Lance Publishing, 1973.

United States Department of Health, Education, and Welfare.  
Toward a social report. Washington D. C.: U. S.  
Government Printing Office, 1969.

Miscellaneous

- Averch, H. A., Carroll, S. J., Donaldson, T. S., Kiesling, H. J., & Pincus, J. How effective is schooling? A critical review and synthesis of research findings (Prepared for the President's Commission on School Finance, contract OEC-71-0908). Santa Monica: Rand, 1972.
- Becker, H. S., & de Brigard, R. Considerations on a framework for community action planning. Middletown, Connecticut: The Institute for the Future, 1970.
- Birch, D. R. Assessing curriculum in the 1970's: What are the core concerns (Conference keynote address). Canadian Association for Curriculum Studies--B. C. Region, Kelowna, B. C., March 3-5, 1977.
- Braham, M. Is educative schooling possible? (A paper presented to the Canadian Association of Professors of Education Annual Meeting). McGill University, Montreal, May, 1972. (Mimeograph)
- Canadian Teachers' Federation. The quality of education (A CTF Conference Report). Ottawa: Author, 1974.
- Center for Improved Education. A survey of educational needs. Columbus, Ohio: Battelle Memorial Institute, 1972.
- Center for Urban Studies. Toward regular public reporting on the quality of life. Detroit: Wayne State University, 1970.
- Drewnowski, J. Measuring social variables in real terms. In J. Drewnowski, Studies in the measurement of levels of living and welfare. Geneva: United Nations Research Institute for Social Development, 1970.
- Drewnowski, J. The level of living index--new versions. In J. Drewnowski, Studies in the measurement of levels of living and welfare. Geneva: United Nations Research Institute for Social Development, 1970.

Educational Policy Research Center. Toward master social indicators (Research memorandum). Stanford: Stanford Research Institute, 1969.

Goodlad, J. I., & Richter, M. N. The development of a conceptual system for dealing with problems of curriculum and instruction. Los Angeles: University of California and Institute for Development of Educational Activities (IDEA), 1966.

Greenfield, T. B. Educational goals for a school system. The Ontario Council for Leadership in Educational Administration (OCLEA). Toronto: OCLEA, 1975, Sept., pp. 16-19.

Lethbridge Public School District N. 51. Educational goals questionnaire. Lethbridge, 1974.

MacKay, D. A., & Maguire, T. O. (Joint authors). Evaluation of instructional programs (A study prepared for the Educational Planning Mission). Edmonton: Alberta Human Resources Council, 1971.

Merriam, I. C. Concepts and measures of welfare. Proceedings of the Social Statistics Section of the American Statistical Association. 1967.

Morrison, T. What you see is what you get: An agenda for the reform of program evaluation. In C. Walley, & B. Levin (Eds.). Report of proceedings: Peter Taylor Memorial Seminar on educational evaluation. Winnipeg: The Manitoba Educational Research Council, 1977.

Northern California Program Development Center. Educational goals and objectives (Administrator's Manual). Phi Delta Kappa, No publication date.

OECD Committee on Educational Statistics and Indicators (Working Group). Indicators of educational performance (A report prepared for the Organization for Economic Co-operation and Development). Washington, D. C.: OECD, 1971.

OECD Committee on Educational Statistics and Indicators (Working group). A goal-oriented framework of educational statistics (A report prepared for the Organization for Economic Co-operation and Development). Washington, D. C.: OECD, 1971.

OECD External Examiners. Report on educational policy in Canada. Toronto: The Canadian Association of Adult Education and the University of Toronto Students' Administrative Council (Joint publishers), 1976. (Newspaper format).

Parlett, M., & Hamilton, D. Evaluation as illumination: A new approach to the study of innovatory programs (Occasional paper). Edinburgh: Centre for Research in the Educational Sciences, University of Edinburgh, 1972. (Mineograph)

Riffel, J. A. Evaluation in education: Toward an alternative for small-scale studies. In C. Walley, & B. Levin (Eds.). Report of proceedings: Peter Taylor Memorial Seminar on educational evaluation. Winnipeg: The Manitoba Educational Research Council, 1977.

Riffel, J. A., Schalm, P., & Hersom, H. and Colleagues. Developing evaluation systems in schools: Organizational strategies (A report on the Interprovincial School Evaluation Project). Winnipeg: ISEP, Faculty of Education, University of Manitoba.

Sandow, S. A. The focus delphi and the cross-purpose matrix: Two aids for institutional policy deliberation. A paper prepared as a working draft for research being carried on at the Educational Policy Research Center, Syracuse, 1971.

St. Vital School Division No. 6, Educational Goals, 1975-77 (A report). Winnipeg: St. Vital Education Goal Committee, 1977.

Stake, R. Nine approaches to educational evaluation (a summary statement). In C. Walley & B. Levin (Eds.), Report of proceedings: Peter Taylor Memorial Seminar on educational evaluation. Winnipeg: Manitoba Educational Research Council, 1977.

Tunstall, D. B. Developing a social statistics publication (Paper prepared for delivery at the annual meeting). American Statistical Association, 1970.

Walley, C., & Levin, B. (Eds.). Report of proceedings: Peter Taylor Memorial Seminar on educational evaluation. Winnipeg: Manitoba Educational Research Council, 1977.



Warren, P. J. Quality & equality in secondary education in Newfoundland. St. John's: Department of Educational Administration, Memorial University of Newfoundland, 1973.

Wilson, K. The development of education in Manitoba. Ph.D. thesis. Michigan State U., East Lansing. 1967.  
(A xerox reprint, education library, University of Manitoba)

## APPENDIXES

### Appendix A

#### A Survey to Generate Stimuli for a Paired Comparisons Protocol

##### Materials Included at the End of the Appendix:

Response sheet (p. 249)

Cover letter (p. 250)

List of 63 selected items arranged by graduate  
students into ten principal groups (p. 251)

Graduate students' reduced list of categories  
of educational concerns (p. 257)

### The Survey

An opinion survey was undertaken of voters in Fort Garry Constituency, Province of Manitoba. The survey was open in form and solicited opinion about quality of education. An open form of survey was chosen with the hope that the responses would provide not only categories of opinion about quality of education, but also some indication of the style with which such opinions are expressed at an informal level of discourse--a matter of considerable importance as a guide to the wording of stimuli that were to be unequivocal. Then too, the range of responses would provide an indication of the range of opinions about quality of education that are of concern to Manitobans as a whole.

The electors of Fort Garry Constituency were selected as representative of the majority of Manitobans for the following reasons. Although an urban community (now part of the City of Winnipeg), Fort Garry maintains strong ties with rural Manitoba, both through the University of Manitoba Faculty of Agriculture, through the concentration of students from rural Manitoba who attend the University, and by virtue of a migration of young adults from rural Manitoba to the rapidly developing sub-divisions that characterize a substantial portion

of the constituency. Some farm lands are included in the constituency, although the actual number of farmers is negligible by comparison with the total of over fifteen thousand registered voters.

Fort Garry is among those constituencies in Manitoba that exhibit a wide range of occupation and economic well-being. Of the major occupation groups identified by Canada Manpower (1971), all but occupations such as fishing, trapping, forestry, mining, and oil and gas field occupations are represented.

The presence of the University of Manitoba in the constituency provides a focus for concern about education. Of equal interest is the presence of the French speaking portion of St. Norbert, a community which defines the southern boundary of the constituency.

The sample to be surveyed consisted of 100 electors from the Province of Manitoba, randomly selected by occupation, from the List of Electors: Constituency of Fort Garry (1973), including names added at the Court of Revision, for a total of 15,167 electors. Final selection of the sample was done in three stages.

In stage one, nine of the 41 polling sub-divisions were selected on the basis of their representativeness of the constituency as a whole. Table 1 displays those

features of each sub-division which reflect significant aspects of the Fort Garry constituency. The total number of electors included in the nine polling sub-divisions accounted for slightly more than one-fifth of the constituency total.

Table 1

List of Polling Sub-Divisions Selected to Represent  
Fort Garry Constituency

| Polling Sub-Division | Number of Voters | Identifying Features                                                                                                                                    |
|----------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5                    | 355              | Established residences; middle to upper income families; construction is pre 1950's; includes much river front property.                                |
| 12                   | 499              |                                                                                                                                                         |
| 16                   | 167              |                                                                                                                                                         |
| 13                   | 381              | Located between major north-south traffic artery and industrial parks; middle to lower income families.                                                 |
| 15                   | 561              | Apartment dwellers on major north-south traffic artery; singles, including students, newly-weds, with some middle to middle upper income retired.       |
| 22                   | 407              | Mixed townhouse and single family dwelling; many university personnel; middle-middle upper income; upward mobile; recent to new development.            |
| 32                   | 33               |                                                                                                                                                         |
| 35                   | 592              | Nearly equally French language; some farm land; recent to new development of largely non-French; continued attempts to maintain French language school. |
| 36                   | 342              |                                                                                                                                                         |

TOTAL 3,337

In stage two, categories of occupation were identified into which the electors of the nine sub-divisions could be placed before random selection by category was to take place. The major occupational groups listed by Canada Manpower (1971) formed the basis for the identification of the categories. All but those occupations not relevant to job opportunities in the constituency, such as fishing, mining, and oil and gas exploration, were represented in the final list. Occupations in natural sciences, engineering, and mathematics, were combined with occupations in social sciences and related fields, under "professionals". Similarly, occupations in sport and recreation were combined with teaching and related occupations under "teaching". The housewife, student, and retired categories are not included as major occupational groups by Manpower. The frequency of these designations in the list of electors prompted their inclusion.

The final list of 12 categories is displayed in Table 2. Electors in the nine selected polling sub-divisions were reclassified in terms of the 12 categories; proportions for each category were calculated; quotas for the random selection of electors from each category were determined.

Table 2

List of Categories for the Re-classification of  
Electors and the Quota for Random Selection  
of Electors from Each Category

| Category by<br>Occupation | No. of<br>Electors | Percent<br>of Total | Quota |
|---------------------------|--------------------|---------------------|-------|
| 1. Management             | 249                | 7.5                 | 8     |
| 2. Professionals          | 301                | 9.0                 | 9     |
| 3. Teaching               | 157                | 4.7                 | 5     |
| 4. Medical                | 130                | 3.9                 | 4     |
| 5. Artistic               | 55                 | 1.7                 | 2     |
| 6. Clerical               | 343                | 10.3                | 10    |
| 7. Sales                  | 146                | 4.4                 | 4     |
| 8. Service                | 250                | 7.5                 | 8     |
| 9. Housewife              | 829                | 24.8                | 25    |
| 10. Student               | 360                | 10.8                | 10    |
| 11. Construction          | 305                | 9.1                 | 9     |
| 12. Retired               | 212                | 6.3                 | 6     |
| TOTAL                     | 3,337              | 100.0               | 100   |

In stage three, selection of the sample was concluded. Electors were randomly selected from among those in the same category up to the quota for that category.



Preparation of the opinion survey response form.

The response form was the instrument by which a stratified random sample of 100 Fort Garry electors expressed opinions about education in Manitoba. Stimuli for a paired comparison protocol were to be derived from the opinions. Two criteria guided formulation of the response form. 1. Responses should express concern for quality of education. 2. Responses should reflect a wide range of possible concerns.

In conformity with the second criterion, it was decided to use an open form of response, similar in nature to that used in Focus Delphi surveys (Sandow, Note 1). Central to the Focus Delphi response is the idea of requesting the respondents to word the response so that the item dealt with in the response is presented as something of immediate concern; as something that in fact has just occurred. Sandow argues that by encouraging respondents to report on matters that concern them in the form of events that have just taken place, the respondents are more likely to give expression to those things that are thought to be desirable, but which are frequently left unexpressed because of their seeming improbability. In order to give point to his hypothesis, Sandow relates the story of a group of lawyers who were presented with a

case in school law for their opinion. The case was hypothetical since there was no record of it having occurred, nor did there appear to be much chance that it would occur in the near future. The lawyers had no advice to give: There was no precedent. Another group of lawyers were presented with a similar request. On the second occasion the seeker after advice came with a facsimile of a newspaper story in which the details of just such a case were told. The lawyers upon seeing the news story found no difficulty in setting about to debate the relative merits of the two sides to the reported case. By analogy, Sandow concludes that those things which are regarded as desirable are more likely to gain expression when either in fact, or as an act of imagination, they are regarded as matters of the present, or perhaps more correctly, of the immediate past. Respondents for the Fort Garry survey, then, were asked to present their comments as news items of the day.

In conformity with the first criterion, the respondents were asked to compose items that they considered would be seen as good news about education; as items that would make the reader feel that here was evidence that there had been an improvement in the quality of education in Manitoba.

The complete instructions to the respondents were as follows.

Please write 3 brief news items about Education In Manitoba. The news items would be such that if you were to see them in the newspapers, they would make you feel that here was evidence that there had been an improvement in the quality of education in Manitoba.

- the news items might be a report on events that take place as part of current educational practice, and which you see as a good thing.
- the news items might include reference to events you think should be taking place in education in Manitoba.
- the news items you wish to include may cover happenings that are "close to home".

Examples of news items:

1. "School recreation facilities are going to be open to the public after regular school hours."
2. "To-day, it was announced that junior high school students will have to wear school uniforms beginning September 1975."

Space was provided for the responses (see the response sheet and cover letter at the end of this appendix).

The form was vetted among four of the researcher's colleagues at the University of Manitoba to ensure clear wording, and adequacy of space for the responses.

Distribution of the response form and follow-up.

The response forms accompanied by cover letters were

mailed early in June, 1975 so as to coincide with the end of the school year when attention is often being directed to the performance of the schools. There was some concern over the fact that the mailing was two years subsequent to compilation of the list of electors. Since a very large proportion of addresses were for single family dwellings, it was decided that the risk of having an out-of-date address was minimal as compared to the advantage of being able to work from an electors' list.

It is typical of mail surveys that returns are rarely more than one third of the total surveyed. It was therefore decided to plan for a telephone follow-up on the mail survey. In the event of the follow-up, the mailed response form would serve as an introduction.

The anticipated follow-up presented a problem for the researcher since anonymity of response was promised on the mailed survey form. To resolve the problem, a simple code was affixed to the outside of the return addressed envelope that was mailed with the response form. In this way the researcher was able to make a record of the returned responses prior to opening the letter. The return envelope was destroyed immediately after it was opened and the promised anonymity of response was honored.

The follow-up telephone survey was begun two weeks following the initial mailing. The protocol for the conversation was as follows:

This is Professor Walley speaking. I sent a letter about the research I'm doing on Quality of Education. Have you had an opportunity to reply? (If the reply was negative, the conversation continued.) Perhaps you would give me your comments over the phone? I'd like to know what you see happening in education, or what you would like to see happening, that would make you feel that things are getting better.

Notes were kept on each conversation.

Frequency of response from both mail and the telephone follow-up are given in Table 3. The combined total response rate of 78% was regarded as acceptable for purpose of being able to treat the responses as being representative of Fort Garry electors generally, and in turn, of Manitoba residents.

Table 3

Frequency of Response to Mail and Telephone Survey  
With Percentage Response by Category

| Category by<br>Occupation | by<br>Mail | by<br>Phone | Quota by<br>strata | % Responses<br>by Category |
|---------------------------|------------|-------------|--------------------|----------------------------|
| 1. Management             | 4          | 3           | 8                  | 88                         |
| 2. Professional           | 4          | 4           | 9                  | 89                         |
| 3. Teaching               | 2          | 3           | 5                  | 100                        |
| 4. Medical                | 1          | 2           | 4                  | 75                         |
| 5. Artistic               | 0          | 1           | 2                  | 50                         |
| 6. Clerical               | 2          | 6           | 10                 | 80                         |
| 7. Sales                  | 1          | 2           | 4                  | 75                         |
| 8. Service                | 2          | 4           | 8                  | 75                         |
| 9. Housewife              | 5          | 14          | 25                 | 76                         |
| 10. Student               | 4          | 2           | 10                 | 60                         |
| 11. Construction          | 2          | 5           | 9                  | 78                         |
| 12. Retired               | 0          | 3           | 6                  | 50                         |
| TOTALS                    | 27         | 49          | 100                | 76                         |

Fifty-six items stating an opinion on improving the quality of education for Manitoba were received from the 27 mail responses. Fifty-eight items were developed from the 49 telephone interviews. Whereas in the mail survey, there were frequently as many as three items for

each response, as requested in the survey form, it was more typical for respondents to express one item of concern during the telephone interview. The opportunity for respondents to elaborate on a prime concern for quality in education made up for a lack of quantity of items as compared to the mail responses.

Examples of mailed responses are given as an indication of the tone of immediacy that prevailed throughout the responses, as well as to give some indication of the range of concerns expressed. Recall that the items were given in response to the instruction:

Please write three brief news items about Education in Manitoba. The news items should be such that if you were to see them in the newspaper, they would make you feel that there had been improvement in the quality of education in Manitoba.

Examples of responses:

Manitoba schools scrap open area classrooms.

Manitoba schools eliminate all examinations

The school program is to be organized to make maximum use of a student's time while at school.

European visit by high school students very educational.

At last! Emphasis again placed on spelling and English grammar.

Mandatory home economics for boys and shops for girls.

The individual's rights are questioned! Youths' dress and actions and attitudes reviewed in school.

There was much overlap in the response items. The overlap pointed to the feasibility of being able to reduce the 114 items to the ten stimuli intended for the paired comparison protocol.

#### Categorization of Responses

The 114 items were edited as a first step toward eventual formulation of ten stimuli. Three guidelines were followed during the editing. Items were re-written to place all statements in a present time frame; to see that each statement dealt with a single concern; to place all statements at a comparable level of specificity.

After editing, 63 items were selected from the original 114 to eliminate obvious cases of redundancy among the items (see Appendix E for complete list of 63 selected items).

It was clear that further categorization was required if the items were to be reduced to the ten stimuli intended for the paired comparison protocol. A class of eight graduate students enrolled in a curriculum design and evaluation course were given the task of categorizing the 63 items into ten categories of educational concern. After each student had completed the task,



individually, they met as a group in order to reach consensus on final choice of categories.

The students were able to agree that all but four of the items could be categorized as follows: Five items indicated that quality of education would be enhanced if teachers were to receive professional status within the community.

#### Examples

There is a noticeable increase in reports about the accomplishments of teachers in the daily papers.

Teachers gain pay parity with dentists: minds matter as much as molars.

Nine items dealt with the need to orient educational practice to the needs of individual students, diverse though the needs may be.

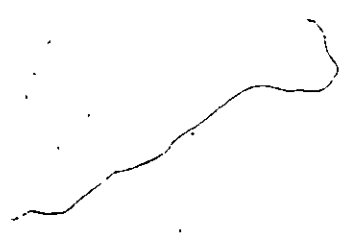
#### Examples

Board hires more personnel for child guidance clinic.

The local school has evolved programs in individualized instruction with a bent toward experiential learning.

A student interest survey has just been completed in Manitoba.

Six items dealt with community use of schools and involvement in education.



Examples

Parents attend goals setting meetings at their local school.

All parents respond to their children's reports and attend parent-teacher conferences.

School shops to be used in community recreation programs.

Four items indicated a concern for the basics in education.

Examples

At last! Emphasis again placed on spelling and English grammar.

School boards to reduce spending on cosmetic features of school design.

Seven items dealt with establishing uniform standards combined with a no-nonsense approach to preparing students for the job market.

Examples

Provincially organized achievement tests are to begin in September, 1975.

Work at school is to be practically oriented so that a kid would know A from Z when he gets a job.

Up-to-date figures on future demand for occupations to be made known to students prior to making course selections.

Eight items had to do with control of student behavior.

Examples

Individual rights are questioned. Youths' dress and actions and attitudes reviewed in schools.

Schools exercise the authority given them in law.

Eleven items indicated support for the present system as the way to assure improvement in education.

Examples

Handicapped children will be taught in schools in their own area whenever possible.

Europe visit by high school students rated very educational.

Increasing amount of visual aids being used in the teaching of courses.

Students have some say on their education at the same time they show respect for their teachers.

Ten items were distributed among three categories dealing with nutrition, fitness, and the professional development of teachers.

It was decided by the graduate students that four of the 63 items could not be fitted into the categories they finally agreed upon either because the concerns expressed were too peripheral or they dealt with subject matter that was confused by issues such as bilingualism that went well beyond a provincial educational context (see the graduate students' reduced list of categories of educational concerns at the end of this appendix).

Once the concerns for quality of education, as expressed by representative electors from Fort Garry had been reduced to ten categories, these categories could

then be translated into the slogans that were to comprise the paired comparisons stimuli.

Trial wordings for slogans that had as their referents the ten categories of concern were prepared and vetted through several rounds of critical review by the researcher's colleagues. Only when there was agreement among the reviewers that the wording of the slogans had as a referent a state of affairs unequivocally identifiable by residents of Manitoba were the slogans accepted in their final wording. That is, there had to be a demonstrated congruence between what each reviewer said came to mind upon presentation of each slogan and the category of concern hypothesized by the researcher to be the respective referents. The reviewers were also asked to comment upon whether or not the slogans taken as a group were a matched set in terms of strength of presentation. Perceived advantages of one slogan over another, because of what might be regarded as the cosmetic effects of language, had to be eliminated as much as possible. The final wordings for each slogan, which in turn became the stimuli for the paired comparisons, have been displayed along with the graduate students' reduced list of categories found at the end of this appendix.

References

Canada Manpower and Immigration (Published by Authority of the Minister). Canadian classification and dictionary of occupations 1971 (1971). Ottawa: Information Canada, 1971.

Province of Manitoba. List of electors: Constituency of Fort Garry (1973). Winnipeg: Lance Publishing, 1973.

Sadow, S. A. The focus delphi and the cross-purpose matrix: Two aids for institutional policy deliberation. A paper prepared as a working draft for research being carried on at the Educational Policy Research Center, Syracuse, 1971.

## RESPONSE SHEET

249

Directions for Completing the Response Sheet: (Feel free to leave your responses unsigned--that way they would remain anonymous.)

Please write 3 brief news items about Education In Manitoba. The news items should be such that if you were to see them in the newspapers, they would make you feel that here was evidence that there had been an improvement in the quality of education in Manitoba.

- the news items might be a report on events that take place as part of current educational practice, and which you see as a good thing.
- the news items might include reference to events you think should be taking place in education in Manitoba.
- the news items you wish to include may cover happenings that are 'close to home'.

Examples of news items:

1. "School recreation facilities are going to be open to the public after regular school hours."
2. "To-day, it was announced that junior high school students will have to wear school uniforms beginning September 1974."

News items that you would most like to see reported:

News Item #1. \_\_\_\_\_  
\_\_\_\_\_

News Item #2. \_\_\_\_\_  
\_\_\_\_\_

News Item #3. \_\_\_\_\_  
\_\_\_\_\_

THANK YOU FOR YOUR HELP. I HOPE YOU FIND THE ENCLOSED STAMPED AND ADDRESSED ENVELOPE, ENCOURAGEMENT FOR AN EARLY RETURN OF YOUR RESPONSES.



The University of Manitoba  
Faculty of Education

Department of Curriculum  
Humanities and Social Sciences

Winnipeg, Manitoba  
Canada R3T 2N2

June 4, 1975

Dear Constituent of Fort Garry,

I am conducting a study that I hope will contribute to improving the quality of education in Manitoba. It is essential that I take into account the opinions of a representative group of citizens. You are one of a group of 100 constituents of Fort Garry, selected at random from the voters' list for the provincial election of June 1973.

I frequently hear friends and neighbors making comments about education. The comments are usually casual--"off the cuff". Even though the words may not be carefully chosen, I think that the ideas expressed in these words are valuable. The words should be listened to, and the ideas that are expressed should be taken into account when decisions are being made about education.

I would like to know about some of the ideas that you might have for the improvement of education in Manitoba.

Would you please complete the enclosed response sheet and return it within the week? You may feel that you have no more than a moment to give to the task of completing the sheet. Be assured that your comments, no matter how brief, or "off the top of your head", will be of value.

Sincerely,

Colin S. Walley  
Associate Professor

List of 63 Selected Items Arranged by Graduate Students  
into Ten Principal Groups

Professional status of teachers: items 1-5.

1. There is a noticeable increase in reports about the accomplishments of teachers in the daily papers.
2. Teachers gain pay parity with dentists: minds matter as much as molars.
3. New provincial grants raise teacher salaries to parity with other professions.
4. Teachers are given a greater say in provincial certification procedures.
5. A report from Banff puts as many teachers on the ski slopes during winter vacation as there are doctors and lawyers.

Orienting educational practice to students' needs: items 6-14.

6. Board hires more personnel for child guidance clinic.
7. The local school has evolved programmes in individualized instruction with a bent toward experiential learning.
8. A student interest survey has just been completed in Manitoba.
9. Province wide hiring practices give priority to teachers trained to identify needs of individual children.
10. Junior/senior high schools initiate plans for parents, children, and teachers to hold discussions on sex, birth control, V. D., etc.
11. Department of Education issues directive that curriculum planning at all levels include student representation.



12. Government implements recommendations of study group to remove sexism from school texts and curriculum plans.
13. School principals agree to give priority to the need to obtain positive suggestions from students in the coming year.
14. School administrators agree to a proposal that student representatives attend staff meetings.

Community use of schools and involvement in education:  
items 15-20.

15. Parents attend goal setting meetings at their local school.
16. All parents respond to their children's reports and attend parent-teacher conferences.
17. School shops to be used in community recreation programmes.
18. Schools are to remain open year round for community use.
19. School superintendents agree to give priority to the encouragement of rural/urban student exchange programmes.
20. Service clubs announce plans for funding one overseas trip for each high school student in Manitoba.

Back to the basics: items 21-24.

21. At last! Emphasis again placed on spelling and English grammar.
22. School boards to reduce spending on cosmetic features of school designs.
23. Schools return to offering a limited number of subjects.
24. All junior/senior high teachers are required to attend regional conferences on development of reading skills.

Uniform standards and a no nonsense approach to preparing students for the job market: items 25-31.

25. Provincially organized achievement tests are to begin in September, 1975.
26. Work at school is to be practically oriented so that a kid would know A from Z when he gets a job.
27. Up-to-date figures on future demand for occupations to be made known to students prior to making course selections.
28. Schools announce an increase in the number of compulsory courses for high school students.
29. Year end Department of Education exams are to be reintroduced into Manitoba high schools.
30. Schools announce an end to student projects as part of regular school work.
31. School administrators decide percentage marks work best in reporting to parents.

Control of student behaviour: items 32-39.

32. Individual rights are questioned. Youths' dress and actions and attitudes reviewed in schools.
33. Schools exercise the authority given them in law.
34. Manitoba teachers strongly favour control of student behaviour on school grounds during school hours.
35. Student attendance at in school study periods is to be enforced in Manitoba schools.
36. School principals give high priority to activities that appear to foster school spirit.
37. Elementary principals agree to institute organized recesses on a province wide basis.

38. Teachers are now required to demonstrate skill at training children in steady work habits.

39. The provincial government now provides special grants to cover the cost of putting up walls in open area schools.

Support the present school system: items 40-50.

40. Handicapped children will be taught in schools in their own areas wherever possible.

41. Increasing amounts of visual aids are being used in the teaching of courses.

42. Students have some say in their education at the same time they show respect for teachers.

43. Teachers plan most courses under guidelines from superintendents.

44. Field trips for elementary students are now commonplace.

45. Principals confirm that prizes are given to high achievers at graduation exercises.

46. Superintendents announce that non teacher support staff personnel is not to increase.

47. A parent survey shows that satisfactory academic standards are being maintained in the schools.

48. There is to be no increase in the number of elective courses offered in high schools.

49. Most elementary schools are now using some form of continuous progress.

50. The Minister of Education declares Manitoba has always emphasized the basics.

Concern for nutrition: items 51, 52.

51. All junk foods have been banned from school cafeterias and dispensing machines.

52. Boards of education actively develop lunch hour and after four meal programmes for children not adequately fed at home.

Concern for fitness: items 53-55.

53. School administrators are to schedule more time for vigorous physical activities during the school day.
54. Physical education teachers announce a marked increase in the proportion of students taking part in sports activities.
55. Schools adopt a policy of regular daily exercise periods for children ages 8-15.

Professional development of teachers: items 56-59.

56. All teachers attend professional development study sessions on improving skills for conducting teacher-parent interviews.
57. There is a steady increase in the proportion of teachers taking professional development courses.
58. Elementary teachers are taking courses in subject areas where they feel inadequate.
59. The number of teachers taking research/study leaves has increased 20% over the last three years.

Concerns that did not fit into any one of the above groups: items 60-63.

60. Provinces adopt a system of "out of home province" boarding schools for high school students with lottery style allotment.
61. Provincial premiers sign agreement establishing national system of primary and secondary schools.
62. Manitoba schools will make all French programmes available K-12 at parents' request.

63. Manitoba music educators endorse a recommendation that pipe bands become part of school band programs.

Graduate Students' Reduced List of Categories  
of Educational Concerns and the Corresponding  
Stimuli Statements (Slogans)

| Category                                                                                                                          | Contributing<br>Statements |
|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| 1. Professional status for teachers.<br>TEACHERS, DOCTORS, LAWYERS: EQUAL<br>PAY IF EQUAL TRAINING!                               | 5                          |
| 2. Orientation to students' needs.<br>KNOW STUDENTS' SOCIAL/EMOTIONAL NEEDS!                                                      | 9                          |
| 3. Community involvement in the schools.<br>MORE COMMUNITY USE OF SCHOOLS!                                                        | 6                          |
| 4. Keep to the basics of schooling.<br>ACCURACY IN SPELLING AND COMPUTATION!                                                      | 4                          |
| 5. Maintenance of provincial standards:<br>University admissions; job preparation.<br>PROVINCIAL FINAL EXAMS FOR XI-XII STUDENTS! | 7                          |
| 6. Control students: maintain authority.<br>CONTROL STUDENT BEHAVIOR!                                                             | 8                          |
| 7. Support the present system.<br>SUPPORT OUR PRESENT SCHOOL SYSTEM!                                                              | 11                         |
| 8. Nutrition for school children.<br>NUTRITIOUS SNACK FOODS FOR SCHOOLS!                                                          | 2                          |
| 9. Fitness for school children.<br>COMPULSORY FITNESS PROGRAM FOR STUDENTS!                                                       | 3                          |
| 10. Professional development of teachers.<br>CONTINUING ON-THE-JOB TRAINING FOR<br>TEACHERS!                                      | 4                          |
| TOTAL                                                                                                                             | 59                         |

Appendix B

Photo-reduced Copy of the Paired Comparisons Protocol  
(with details of the manner of preparation)

### Preparation of the Protocol

The ten selected stimuli were paired in random order both in terms of the order in which each stimulus was to be presented within the pairs and in terms of the sequencing of the pairs themselves.

Decisions were made regarding the design of the protocol. Priority was given to a design which displayed the paired stimuli so that there would be no mistaking the comparisons to be made. A double horizontal line was used to separate the paired stimuli. The separation was emphasized by the addition of cartoon sketches.

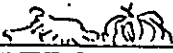
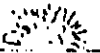
As well, the cartoon sketches were expected to suggest the front row of a group of spectators who are being confronted with the placards of groups who are competing for their attention, such as might occur at a political convention. The design is thought to be consistent with the use of slogans as stimuli. Slogans, by previous definition, evoke affective responses. The presence of the cartoons was expected to heighten those responses.

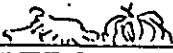
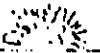
The design of the protocol was vetted through the researcher's colleagues before a final form was adopted.

The original protocol was printed on 14" x 8" bond. The number of items per page is as shown.



1. **KNOW STUDENTS' SOCIAL/EMOTIONAL NEEDS!** **COMPULSORY FITNESS PROGRAM FOR STUDENTS!**

A.   

B.  

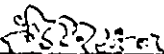
2. **ACCURACY IN SPELLING AND COMPUTATION!** **SUPPORT OUR PRESENT SCHOOL SYSTEM!**

A.   

B. 

3. **CONTROL STUDENT BEHAVIOR!** **MORE COMMUNITY USE OF SCHOOLS!**

A. 

B.   

4. **SUPPORT OUR PRESENT SCHOOL SYSTEM!** **NUTRITIOUS SNACK FOODS FOR SCHOOLS!**

A.   

B.   

5. **NUTRITIOUS SNACK FOODS FOR SCHOOLS!** **CONTROL STUDENT BEHAVIOR!**

A.   

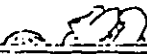
B.  

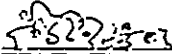
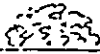
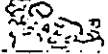
6. **PROVINCIAL FINAL EXAMS FOR XI-XII STUDENTS!** **CONTROL STUDENT BEHAVIOR!**

A.   

B. 

7. **NUTRITIOUS SNACK FOODS FOR SCHOOLS!** **KNOW STUDENTS' SOCIAL/EMOTIONAL NEEDS!**

A. 

B.   

8. **CONTROL STUDENT BEHAVIOR!** **SUPPORT OUR PRESENT SCHOOL SYSTEM!**

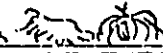
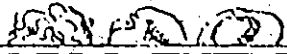
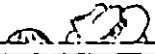
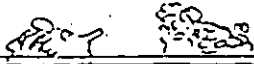
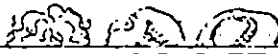
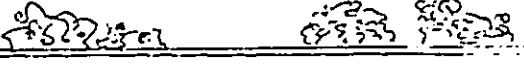
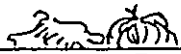
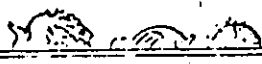
A. 

B.  

9. **COMPULSORY FITNESS PROGRAM FOR STUDENTS!** **CONTINUING ON-THE-JOB TRAINING FOR TEACHERS!**

A.   

B.   

|     |                                                                                                                                                          |                                                                                                                                                         |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10. | <p><b>SUPPORT OUR PRESENT SCHOOL SYSTEM!</b></p> <p>A.</p>              | <p><b>PROVINCIAL FINAL EXAMS FOR XI-XII STUDENTS!</b></p> <p>B.</p>    |
| 11. | <p><b>CONTINUING ON-THE-JOB TRAINING FOR TEACHERS!</b></p> <p>A.</p>    | <p><b>PROVINCIAL FINAL EXAMS FOR XI-XII STUDENTS!</b></p> <p>B.</p>  |
| 12. | <p><b>CONTINUING ON-THE-JOB TRAINING FOR TEACHERS!</b></p> <p>A.</p>    | <p><b>KNOW STUDENTS' SOCIAL/EMOTIONAL NEEDS!</b></p> <p>B.</p>        |
| 13. | <p><b>MORE COMMUNITY USE OF SCHOOLS!</b></p> <p>A.</p>                  | <p><b>KNOW STUDENTS' SOCIAL/EMOTIONAL NEEDS!</b></p> <p>B.</p>        |
| 14. | <p><b>CONTINUING ON-THE-JOB TRAINING FOR TEACHERS!</b></p> <p>A.</p>  | <p><b>SUPPORT OUR PRESENT SCHOOL SYSTEM!</b></p> <p>B.</p>          |
| 15. | <p><b>COMPULSORY FITNESS PROGRAM FOR STUDENTS!</b></p> <p>A.</p>      | <p><b>MORE COMMUNITY USE OF SCHOOLS!</b></p> <p>B.</p>             |
| 16. | <p><b>CONTINUING ON-THE-JOB TRAINING FOR TEACHERS!</b></p> <p>A.</p>  | <p><b>CONTROL STUDENT BEHAVIOR!</b></p> <p>B.</p>                   |
| 17. | <p><b>COMPULSORY FITNESS PROGRAM FOR STUDENTS!</b></p> <p>A.</p>      | <p><b>CONTROL STUDENT BEHAVIOR!</b></p> <p>B.</p>                   |
| 18. | <p><b>MORE COMMUNITY USE OF SCHOOLS!</b></p> <p>A.</p>                | <p><b>SUPPORT OUR PRESENT SCHOOL SYSTEM!</b></p> <p>B.</p>          |

19. **NUTRITIOUS SNACK FOODS FOR SCHOOLS!** **COMPULSORY FITNESS PROGRAM FOR STUDENTS!**  
A. B.
20. **ACCURACY IN SPELLING AND COMPUTATION!** **CONTROL STUDENT BEHAVIOR!**  
A. B.
21. **ACCURACY IN SPELLING AND COMPUTATION!** **NUTRITIOUS SNACK FOODS FOR SCHOOLS!**  
A. B.
22. **COMPULSORY FITNESS PROGRAM FOR STUDENTS!** **SUPPORT OUR PRESENT SCHOOL SYSTEM!**  
A. B.
23. **PROVINCIAL FINAL EXAMS FOR XI-XII STUDENTS!** **NUTRITIOUS SNACK FOODS FOR SCHOOLS!**  
A. B.
24. **SUPPORT OUR PRESENT SCHOOL SYSTEM!** **KNOW STUDENTS' SOCIAL/EMOTIONAL NEEDS!**  
A. B.
25. **KNOW STUDENTS' SOCIAL/EMOTIONAL NEEDS!** **PROVINCIAL FINAL EXAMS FOR XI-XII STUDENTS!**  
A. B.
26. **ACCURACY IN SPELLING AND COMPUTATION!** **CONTINUING ON-THE-JOB TRAINING FOR TEACHERS!**  
A. B.
27. **TEACHERS, DOCTORS, LAWYERS: EQUAL PAY IF EQUAL TRAINING!** **CONTROL STUDENT BEHAVIOR!**  
A. B.

28. **TEACHERS, DOCTORS, LAWYERS:  
EQUAL PAY IF EQUAL TRAINING!**

A.

**ACCURACY IN SPELLING AND  
COMPUTATION!**

B.

**KNOW STUDENTS' SOCIAL/EMO-  
TIONAL NEEDS!**

A.

**ACCURACY IN SPELLING AND  
COMPUTATION!**

B.

**TEACHERS, DOCTORS, LAWYERS:  
EQUAL PAY IF EQUAL TRAINING!**

A.

**NUTRITIOUS SNACK FOODS FOR  
SCHOOLS!**

B.

**TEACHERS, DOCTORS, LAWYERS:  
EQUAL PAY IF EQUAL TRAINING!**

A.

**COMPULSORY FITNESS PROGRAM  
FOR STUDENTS!**

B.

**TEACHERS, DOCTORS, LAWYERS:  
EQUAL PAY IF EQUAL TRAINING!**

A.

**SUPPORT OUR PRESENT SCHOOL  
SYSTEM!**

B.

**CONTROL STUDENT BEHAVIOR!**

A.

**KNOW STUDENTS' SOCIAL/EMO-  
TIONAL NEEDS!**

B.

**ACCURACY IN SPELLING AND  
COMPUTATION!**

A.

**MORE COMMUNITY USE OF  
SCHOOLS!**

B.

**PROVINCIAL FINAL EXAMS FOR  
XI-XII STUDENTS!**

A.

**ACCURACY IN SPELLING AND  
COMPUTATION!**

B.

**MORE COMMUNITY USE OF  
SCHOOLS!**

A.

**CONTINUING ON-THE-JOB TRAIN-  
ING FOR TEACHERS!**

B.

37. **KNOW STUDENTS' SOCIAL/EMOTIONAL NEEDS!**

**TEACHERS, DOCTORS, LAWYERS:  
EQUAL PAY IF EQUAL TRAINING!**

38. **CONTINUING ON-THE-JOB TRAINING FOR TEACHERS!**

**NUTRITIOUS SNACK FOODS FOR SCHOOLS!**

39. **NUTRITIOUS SNACK FOODS FOR SCHOOLS!**

**MORE COMMUNITY USE OF SCHOOLS!**

40. **COMPULSORY FITNESS PROGRAM FOR STUDENTS!**

**ACCURACY IN SPELLING AND COMPUTATION!**

41. **PROVINCIAL FINAL EXAMS FOR XI-XII STUDENTS!**

**TEACHERS, DOCTORS, LAWYERS:  
EQUAL PAY IF EQUAL TRAINING!**

42. **PROVINCIAL FINAL EXAMS FOR XI-XII STUDENTS!**

**COMPULSORY FITNESS PROGRAM FOR STUDENTS!**

43. **CONTINUING ON-THE-JOB TRAINING FOR TEACHERS!**

**TEACHERS, DOCTORS, LAWYERS:  
EQUAL PAY IF EQUAL TRAINING!**

44. **MORE COMMUNITY USE OF SCHOOLS!**

**PROVINCIAL FINAL EXAMS FOR XI-XII STUDENTS!**

45. **TEACHERS, DOCTORS, LAWYERS:  
EQUAL PAY IF EQUAL TRAINING!**

**MORE COMMUNITY USE OF SCHOOLS!**

Appendix C

Cover Letters to Parents and Teachers and Instructions for  
the Paired Comparisons Survey

May 6, 1976

Dear Parent,

Professor Colin Walley, Faculty of Education, University of Manitoba, is conducting research into one aspect of Quality Education in Manitoba. Your Superintendent of Schools is supporting Professor Walley's research, and asks for your co-operation.

You are one of 50 parents of the local school division who has been selected to complete the accompanying paired-comperison survey. Completion of the survey should take no more than 10-15 minutes.

Parents, teachers, and students, often appear to have different points of view about education. This survey should provide information on two matters: 1. What are the points of view of parents, teachers, and students?, 2. To what extent is there an overlap?

Answers to these questions would provide useful information on whether there is mutual support for our schools, or whether the groups who have an interest in education are "pulling in different directions". If the information suggests that parents, teachers, and students, are "pulling in different directions", steps could then be taken to bring about a greater sharing of points of view and a likely improvement in quality of education.

Improving the quality of education is of great importance to all interested in education. Your co-operation in completing this survey is much needed and appreciated.

The results of the survey will be made available to your school superintendent.

Sincerely,

*Colin S. Walley*  
Colin S. Walley  
Associate Professor

May 6, 1976

Dear Teacher,

Professor Colin Welley, Faculty of Education, University of Manitoba, is conducting research into one aspect of Quality Education in Manitoba. Your Superintendent of Schools is supporting Professor Walley's research, and asks for your co-operation.

You are one of the teachers of X-XII students in your division who has been selected to complete the accompanying paired-comparison survey. Completion of the survey should take no more than 10-15 minutes.

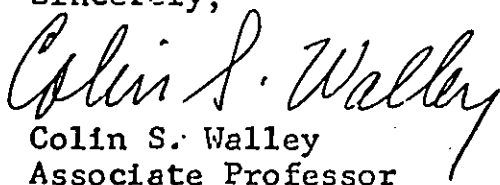
Teachers, parents, and students, often appear to have different points of view about education. This survey should provide information on two matters: 1. What are the points of view of teachers, parents, and students?, 2. To what extent is there an overlap?

Answers to these questions would provide useful information on whether there is mutual support for our schools, or whether the groups who have an interest in education are "pulling in different directions". If the information suggests that teachers, parents, and students, are "pulling in different directions", steps could then be taken to bring about a greater sharing of points of view and a likely improvement in quality of education.

Improving the quality of education is of great importance to all interested in education. Your co-operation in completing this survey is much needed and appreciated.

The results of the survey will be made available to your school superintendent.

Sincerely,

  
Colin S. Walley  
Associate Professor



## INSTRUCTIONS FOR COMPLETING THE PAIRED-COMPARISON SURVEY

Prior to this survey, selected Manitobans were asked to prepare statements about what they thought would be good for education in Manitoba. The 10 statements used in the paired-comparison survey cover much of what came out of that prior survey. Each of the 10 statements has been paired with all the remaining, to yield 45 survey items.

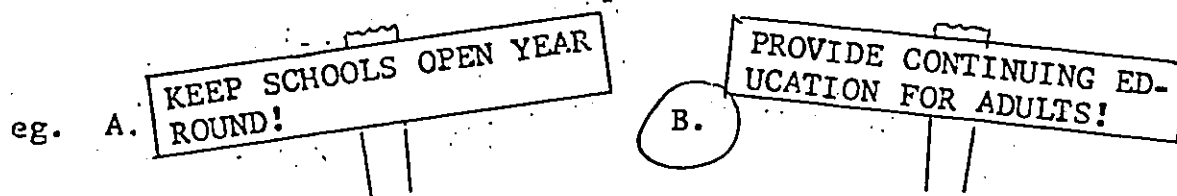
Your response to the survey is confidential. The code number at the top of this sheet simply identifies you as belonging to a group and does not identify you as an individual.

### Please Do The Following:

1. Look carefully at each survey item or set of paired-statements in turn.
2. Circle the letter of the statement in each pair (A. or B.) that refers to something--given the choice--that you feel you would support as having the better chance of improving the quality of education in Manitoba.

PLEASE MAKE A CHOICE, EVEN THOUGH YOU MIGHT FEEL THE CHOICE IS BETWEEN STATEMENTS TOWARD WHICH YOU COULD BE EQUALLY INTERESTED OR DISINTERESTED.

If your choice is for statement A., then circle A. If your choice is for statement B., then circle B.



The circle around B. indicates that the responder, given the choice between A. or B., felt that it would be better in the long run to support continuing education for adults, than to support the idea of keeping schools open year round.

Please note that in a paired-comparison survey, it is not necessary to know why a particular choice is made so long as a choice has been made for each of the pairs.

3. Proceed with marking your choices. Try to think of each pair as providing a separate choice from all the rest. Try to avoid thinking back to previous choices.

Thankyou for completing the survey.

Appendix D

Values for the Stimulus Vectors (Figures 5a-8) and the  
Subject Vectors (Figures 9-12)

# Stimulus Vectors (Figures 5a-8)

## Hanover S. D. (Figure 5a)

| Stimuli |          |          |          |
|---------|----------|----------|----------|
| 1.      | -0.24026 | -0.39222 | -0.00887 |
| 2.      | 0.44390  | 0.26164  | -0.70053 |
| 3.      | -0.07063 | 0.34215  | -0.18724 |
| 4.      | 0.43422  | 0.10839  | -0.02962 |
| 5.      | -0.17991 | -0.57073 | -0.21005 |
| 6.      | 0.32694  | -0.05452 | 0.29634  |
| 7.      | -0.31498 | -0.00930 | 0.36118  |
| 8.      | -0.42262 | 0.30406  | 0.28438  |
| 9.      | -0.24750 | 0.44401  | -0.13847 |
| 10.     | 0.27085  | 0.17463  | 0.33288  |

## Interlake S. D. (Figure 6)

| Stimuli |          |          |          |
|---------|----------|----------|----------|
| 1.      | -0.43369 | 0.20162  | -0.14879 |
| 2.      | 0.54699  | -0.57422 | 0.18713  |
| 3.      | 0.28674  | 0.06143  | 0.05991  |
| 4.      | 0.23132  | -0.14029 | -0.50774 |
| 5.      | -0.22264 | -0.16705 | 0.01972  |
| 6.      | -0.12885 | -0.19040 | -0.15747 |
| 7.      | -0.27734 | 0.50205  | 0.16107  |
| 8.      | -0.32304 | 0.37103  | 0.75085  |
| 9.      | 0.35798  | 0.24198  | -0.17692 |
| 10.     | -0.03746 | -0.30616 | -0.18777 |

## Midland S. D. (Figure 6a)

| Stimuli |          |          |          |
|---------|----------|----------|----------|
| 1.      | -0.11764 | -0.40107 | -0.21424 |
| 2.      | -0.52880 | 0.34785  | 0.70696  |
| 3.      | 0.08092  | 0.40433  | 0.21736  |
| 4.      | -0.35147 | 0.05883  | -0.29214 |
| 5.      | 0.15697  | -0.62662 | 0.26710  |
| 6.      | -0.18832 | -0.10812 | 0.02680  |
| 7.      | 0.21799  | 0.07424  | -0.35443 |
| 8.      | 0.63771  | -0.07718 | -0.06418 |
| 9.      | 0.21641  | -0.03822 | 0.04952  |
| 10.     | -0.12377 | 0.36596  | -0.34274 |

## St. Boniface S. D. (Figure 7)

## Stimuli

|     |          |          |          |
|-----|----------|----------|----------|
| 1.  | -0.22927 | -0.45441 | -0.08891 |
| 2.  | 0.42770  | 0.44750  | -0.61865 |
| 3.  | -0.10716 | 0.40541  | 0.12532  |
| 4.  | 0.28663  | 0.14310  | -0.19703 |
| 5.  | -0.05173 | -0.36821 | -0.38747 |
| 6.  | 0.22548  | -0.28088 | 0.04608  |
| 7.  | -0.31072 | -0.12594 | 0.25405  |
| 8.  | -0.65534 | -0.18622 | 0.26761  |
| 9.  | 0.15496  | 0.37619  | 0.09093  |
| 10. | 0.25946  | 0.04346  | 0.50809  |

## St. Vital S. D. (Figure 7a)

## Stimuli

|     |          |          |          |
|-----|----------|----------|----------|
| 1.  | -0.36169 | -0.50729 | -0.05471 |
| 2.  | 0.47527  | 0.28637  | -0.43797 |
| 3.  | 0.20166  | 0.11130  | -0.11374 |
| 4.  | 0.33489  | 0.05364  | -0.43556 |
| 5.  | -0.29133 | 0.12009  | -0.19467 |
| 6.  | -0.35666 | 0.37752  | 0.20153  |
| 7.  | -0.23309 | -0.46262 | 0.15067  |
| 8.  | -0.29385 | -0.40530 | 0.51414  |
| 9.  | 0.26393  | 0.31134  | -0.10504 |
| 10. | 0.26087  | 0.11497  | 0.47535  |

## All Divisions (Figure 8)

## Stimuli

|     |          |          |          |
|-----|----------|----------|----------|
| 1.  | 0.19576  | 0.16617  | -0.42709 |
| 2.  | -0.50598 | -0.69219 | 0.04066  |
| 3.  | 0.06502  | -0.31379 | 0.31224  |
| 4.  | -0.36648 | -0.02132 | 0.21301  |
| 5.  | 0.08574  | -0.11694 | -0.60228 |
| 6.  | -0.23063 | 0.28376  | -0.19347 |
| 7.  | 0.39341  | 0.27247  | 0.03067  |
| 8.  | 0.55910  | 0.30788  | -0.08463 |
| 9.  | 0.00206  | -0.19264 | 0.27766  |
| 10. | -0.19800 | 0.30660  | 0.43325  |

Subject Vectors (Figures 9-12)

Students/Parents/Teachers: Hanover S. D. (Figure 9)

|    |         |         |         |
|----|---------|---------|---------|
| 1. | 0.00090 | 0.75384 | 0.46746 |
| 2. | 0.75624 | 0.18408 | 0.12372 |
| 3. | 0.53706 | 0.22652 | 0.46948 |

Students/Parents/Teachers: Interlake S. D. (Figure 9a)

|    |         |         |         |
|----|---------|---------|---------|
| 1. | 0.79633 | 0.03089 | 0.06642 |
| 2. | 0.53937 | 0.47605 | 0.09980 |
| 3. | 0.04975 | 0.67611 | 0.50072 |

Students/Parents/Teachers: Midland S. D. (Figure 10)

|    |         |         |         |
|----|---------|---------|---------|
| 1. | 0.15053 | 0.62200 | 0.51952 |
| 2. | 0.49575 | 0.47411 | 0.32365 |
| 3. | 0.71782 | 0.14665 | 0.30363 |

Students/Parents/Teachers: St. Boniface S. D. (Figure 10a)

|    |         |         |         |
|----|---------|---------|---------|
| 1. | 0.12149 | 0.65666 | 0.45256 |
| 2. | 0.59173 | 0.26421 | 0.32245 |
| 3. | 0.73906 | 0.02435 | 0.36570 |

Students/Parents/Teachers: St. Vital S. D. (Figure 11)

|    |         |         |         |
|----|---------|---------|---------|
| 1. | 0.78921 | 0.09044 | 0.37468 |
| 2. | 0.21010 | 0.68312 | 0.33732 |
| 3. | 0.77864 | 0.21943 | 0.23167 |

Students/Parents/Teachers: All Divisions (Figure 12)

|    |         |         |         |
|----|---------|---------|---------|
| 1. | 0.12765 | 0.66164 | 0.58029 |
| 2. | 0.70794 | 0.15648 | 0.29599 |
| 3. | 0.78150 | 0.22561 | 0.11251 |