THE REGIONAL EDUCATIONAL LABORATORIES AS CHANGE AGENTS

Thesis for the Degree of Ph. D. MICHIGAN STATE UNIVERSITY LILBURN P. HOEHN 1967



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This is to certify that the

thesis entitled

THE REGIONAL EDUCATIONAL LABORATORIES

AS CHANCE AGENTS

presented by

Lilburn P. Hoehn

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<u>Charles A. Blackman</u> Major professor

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ABSTRACT

THE REGIONAL EDUCATIONAL LABORATORIES AS CHANGE AGENTS

by Lilburn P. Hoehn

The purpose of this study was to determine if the regional educational laboratories funded under Title IV of Public Law 89-10 accepted the charge to be educational change agents. The population of this study included all twenty regional laboratories funded for development during 1966. The data were collected from interim and final reports produced by the laboratories during their development periods.

A study of the literature and research on change provided a framework for the content analysis of this study. The literature on change, particularly change in education, was studied in order to derive knowledge about methods and activities related to the work of change agents. Ideas from the literature were collated into a number of generalizations concerning change. From these generalizations, thirteen statements, which expressed some change agent functions, were developed. These statements were labeled critical variables and were used as guides for the content analysis of laboratory reports.

Each variable was used to collect data on two levels. The first was recognition which was employed to gather data on whether labora-

tories recognized the importance of the activity expressed in a variable. The second level was <u>commitment</u> which was used to gather data on whether the laboratories had program plans which would fulfill the activity expressed in a variable. Criteria for accepting fulfillment for each variable on each level were developed.

Interim and final reports from the twenty laboratories were content analyzed and statements and activities related to each variable were noted. The criteria were applied to the collected data and judgments were made on fulfillment by level on each variable for each laboratory. To add objectivity to the data, two judges were employed. They were instructed in the meaning of each variable, the criteria for acceptance and the procedures followed in content analysis. The judges studied a twenty percent sample of documents and, using all thirteen variables, made decisions concerning the fulfillment of each variable by level.

The data were analyzed by determining the number and percent of laboratories which fulfilled each variable by level of fulfillment. Percentage comparisons were also drawn between the first twelve laboratories funded for development in 1966 and the latter eight funded later in that same year. Analysis of the data collected in relation to the recognition level revealed that all laboratories fulfilled over half of the variables. The average number fulfilled by each laboratory was 11.25. The same pattern was found in analyzing the data on the commitment level with the average being 10.9 variables fulfilled by each laboratory.

Considering thirteen variables and twenty laboratories, there were 260 decision points on each level - recognition and commitment. On the recognition level the laboratories were judged to have satisfied the criteria on 225 which is 86.5% fulfillment. The corresponding figures on the commitment level were 218 and 83.8% fulfillment.

Individual laboratories varied in the number of variables fulfilled. The range on the <u>recognition</u> level varied from two laboratories meeting the criteria on nine variables to one fulfilling all thirteen variables. At the <u>commitment</u> level the range was from one laboratory meeting the criteria on eight variables while seven fulfilled twelve.

Comparisons of the earlier and later laboratories revealed very slight differences on the <u>recognition</u> level. The earlier laboratories met the criteria on 86.5% of the decision points while for the latter group the figure was 85.5%. On the <u>commitment</u> level the earlier laboratories fulfilled 82% of the decision points and the later group 86.5%.

Based on the data collected on both levels and sub-categories within levels, the major conclusion of this study was that the regional educational laboratories did recognize the importance of functions related to a change agent's role and did plan activities to fulfill such a role. In short, the laboratories responded to the charge to be educational change agents.

THE REGIONAL EDUCATIONAL LABORATORIES

AS CHANGE AGENTS

Ву

Lilburn P? Hoehn

A THESIS

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CHAPTER I

INTRODUCTION TO THE STUDY

Introduction

Among the reasons offered to explain the alleged gap between research and practice are four which seem to be mentioned most frequently. The first is the lack of researcher responsibility for the application of research findings in practical situations. Those who hold this view believe that before research knowledge can affect practice, it must be translated or developed into applications which practitioners can understand and apply. Further, proponents of this view seem to suggest that the researcher is the person who should translate research into practical applications. On the other hand, many college and university researchers do not view themselves as translators. Their responsibility, they believe, is to produce knowledge. Assumption of the role of translator is seen by them as equivalent to the role of practitioner which prevents the white coat of research from fitting quite as well. If, according to the view of some researchers, research knowledge is translated into practice, the responsibility clearly rests with the practitioner.

A second reason, sometimes cited as the cause for the gap, takes the responsibility for translation from the researcher and places it with the practitioner. This stand is justified on the grounds that the practitioner has the closest contact with students and is in the best position to derive practical applications from research findings. He can select what seems to fit his needs best. The practitioner, on the other

hand, does not generally see himself as the translator. He has neither the time nor the ability to study research and translate it into classroom practice and blames the researcher for not having more concern for determining the validity of his research in improving learning.

Another possible cause advanced for the gap is the idea that the structure of education does not lend itself to bringing knowledge to bear on practice. Nationally, the educational structure is extremely loose and most state structures as much the same. Also there is no legal or obligatory connection between the sources of research and the setting of K-12 public education. There is no national coordinating agency for research nor for the dissemination or translation of its findings. Some governmental agencies, such as the Atomic Energy Commission, have developed a type of clearing house to ensure that research results are utilized in practice. Certainly, according to this view, the role distinctions - researcher, engineer or developer and marketer - found in business and industry could apply to education. Those who oppose this view argue that education cannot be structured as an industrial concern is and fear a tighter educational structure would inject undesirable practices and a greater degree of external control upon local education.

A fourth possible cause offered by some relates to the source of research. While they may agree that university researchers have an obligation to translate their own research findings into practice, they argue more strongly for research to be conducted in the natural setting of the school. It is in the school where the problems, which should be researched, arise and it is in the school where the research should be conducted. This practice also tends to help the practitioner to become a

searcher and gives him a better understanding of research, thus, better able to understand and use the findings of research conducted elsewhere.

If the above represent legitimate causes, some possible solutions are implied. Surely the solution does not rest in changing any one causal situation, but more likely rests with solving the problems implied above as well as others. Probably the researcher ought to take more responsibility for knowing how his findings help practitioners. The practitioner certainly has a responsibility to be aware of research that is of value to him. Perhaps communication ought to increase between researcher and practitioner and the problems to be solved ought to arise from the natural setting. National and state level research and development agencies may help to close the knowledge-practice gap.

Whatever the answer, the concern for finding solutions has become national as reflected in the passage of the Elementary and Secondary Education Act of 1965. This Act provided for amending the Cooperative Research Act of 1954 so that funding for public and private research agencies and construction of research facilities could be continued. The Cooperative Research Act became Title IV of Public Law 89-10. Title IV provided for the creation and funding of a number of regional educational laboratories to cover the country geographically. The laboratories were conceived as providing links between practitioners and research and performing translation activities designed to bring research to bear on practice. In short, the laboratories were to be agents of change in education. (see Part II of the Literature Review for more elaborate treatment of this idea). The effectiveness of the twenty presently existing regional educational laboratories in helping to close the gap will be the

subject of much study over the next few years. This research is intended to provide a beginning point for some of that research.

Statement of the Problem

Will the Regional Educational Laboratories funded under Title IV of Public Law 89-10 be effective agents for change in American Education? This research is a study of the development period of the Laboratories to determine the extent to which their plans reflected the role of an educational change agent.

Importance of the Study

Support for the need to study educational change is clearly indicated by the literature on the subject of change. Many say we have a limited knowledge of change. Others say educators have not come to grips with the basic problem of planned change. David Clark says on this point:

...the fact is that, although we talk about change in the literature of education and obviously some change has taken place in education, we evade the real question...whether or not we have a program of planned change or planned innovation in the field of education ...when the term planned change is used in a group of educators, there is some sort of '1984 image' created on the part of the educator. Immediately conjured up is the political scientists' notion of planned change, not the social psychologists' concept of it...Educators have come to view the 'fit and start' pattern of change in this field as the natural order of things...

¹David L. Clark, "The Engineering of Change in Education," <u>Interim</u> Report, Proceedings of the Conference on the Implementation of Educational Innovations (Santa Monica, California, 1964), pp. 33-34. The Regional Educational Laboratories were founded mainly to foster change in education. (see literature review). R. Louis Bright, Assistant U. S. Commissioner of Education for Research said, "The primary purpose of the regional laboratory is to implement beneficial change in the schools in its territory."² The possibility for the education community to advance its knowledge of effective ways of implementing change exists in the regional laboratories. The importance of this study is highlighted by Bright's statement and the following comments.

Have the regional laboratories responded to the charge to implement change - to be change agents in the field of education? Have the regional laboratories responded to the charge to the degree that they have conceptualized about their role as change agents? Have they responded to the degree that they have become aware of some of the methods of operation and some of the functions of change agents? Finally, have they responded to the degree that they have developed strategies for implementing beneficial change in schools?

If the laboratories have accepted the role to be educational change agents, they may represent the best possible vehicle in our present educational society to advance conceptualization about change and move toward building adequate strategies for bringing about educational change. The work of the laboratories may verify or refute some of the factors we know, or think we know, are necessary in a process of change. The laboratories will surely be the subject of a number of studies in years hence. They will likely be studied in relation to

²Richard Louis Bright, The USOE and Research in Education, "Phi Delta Kappa, XIVIII (September, 1966), 2-5.

their efforts to foster change as well as on other characteristics. As a possible beginning point to later studies, it seems imperative that studies be conducted that reflect the laboratories' recognition and acceptance of a change agent's role.

This study is important because it seeks to suggest a framework for future studies of the laboratories by determining if the laboratories accepted their charge to be change agents, the degree to which they accepted their charge and to isolate variables and suggest hypotheses for future studies.

Assumptions of the Study

- That we know enough about the change process to determine some broad activities an educational change agent ought to undertake.
- That the laboratories' planned efforts toward fostering educational change can be reconstructed from their planning documents.
- 3. That future evaluative studies of the laboratories will be undertaken and the basis for such studies should begin with the development period.
- 4. That information gained from laboratory documents concerning plans does not necessarily reflect the actual nature of activities pursued at a later time.

Scope and Delimitation of the Study

The scope of this study is limited in a number of ways.

- 1. Even though a systematic procedure was followed in developing the critical variables, the study in no way purports to indicate that the critical variables reflect the only important activities for change agents, nor that they are exhaustive of all possible activities. They are based on the literature and are offered as some of the important activities of change agents.
- 2. The data gathered in this study will be gathered from printed documents. Personal interviews or questionnaires could have been used. However, these methods could distort the data and a change role should have been important enough to the laboratories that activities to fulfill such a role would appear in documents.
- 3. The data gathering activity is limited to gathering data on two levels in relation to each critical variable. The two levels are <u>recognition</u> and <u>commitment</u>. Recognition assesses whether the laboratories indicated recognition of certain aspects of a change agent's role and commitment assesses whether they made commitments toward fulfilling such a role.
- 4. The statistical analysis performed will be limited to determining the percentage of laboratories that evidenced

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recognition and commitment in relation to each critical variable.

5. The study is limited to the planning period (the period during which plans were being made to operate a laboratory) of twenty regional educational laboratories and no attempt will be made to generalize the results beyond the population.

Definition of Terms

Terms used in this study which have a particular meaning for the study or for which there is more than one meaning are defined as follows: "Change Agent:" A person or agency which seeks to influence the practices of other persons or agencies in a desirable direction.

"Client system or Target systems:" A regional laboratory's constituency which includes teachers and administrators at all levels of education - public and private, state education agency personnel, personnel of agencies interested in and related to education.

"Commitment:" A determination of whether a regional laboratory made plans to fulfill the activity expressed in a critical variable.

"Critical Variable:" A guide for content analysis which was a statement of activity judged to be critical for change agents.

"Earlier Laboratories:" The first twelve of twenty laboratories to be funded for development during 1966.

"Evolutionary or Natural Change:" Change which comes about as a result of responding to environmental changes either external or internal to the social system.

"Homeostatic Change:" Change which comes about as a result of elements, which have been disturbed, seeking to regain balance.

"Later Laboratories:" The last eight of twenty laboratories to be funded for development during 1966.

"Operational Period:" A term used in the early stages of the laboratories program to refer to the implementation of a laboratory program.

"Planned Change:" Change which is deliberate in the sense that it is consciously executed and has a goal of improvement. It can be externally or internally precipitated.

"Planning Period or Development Period:" Terms used in the early stages of the laboratories program to designate the time during which a group was designing governmental and organizational structures and planning a laboratory program.

"Recognition:" A determination of whether a regional laboratory recognized the importance of the activity expressed in a critical variable.

"Social System:" An aggregate of persons engaged in similar activities toward similar goals. Schools and universities are examples of social systems.

The following is a list of the thirteen critical variables used as guides for content analysis in this study. While it is entirely possible that some variables may be more important than others in change agentry, no value or heirarchy is intended within the list.

Critical Variables

 Educational change agents will recognize the need for involvement and will involve the targets of change at some point in the planning of change or innovations.

- 2. Educational change agents will be aware of priority problems and will recognize the need to develop programs to attack priority problems of clients.
- Educational change agents will be aware of and will deal with conditions which impede change.
- 4. Educational change agents will recognize the need for skill development and attitude change and will seek to build these characteristics into programs.
- 5. Educational change agents will not seek to gain adoption of specific innovations but develop programs aimed at developing innovativeness or adaptiveness of clients.
- Educational change agents will recognize the importance of climate for change and will develop programs to improve climate.
- Educational change agents will recognize the need for trials, or field testing of innovations and will build such activities into programs.
- Educational change agents will recognize the importance of being viewed as a credible source of help and will undertake activities to build credibility.
- 9. Educational change agents will recognize the need for bringing resources to bear on improving school programs and will facilitate use of outside personnel.
- 10. Educational change agents will recognize the importance of involving clients in research activity and will develop or assist in developing action research programs.

- 11. Educational change agents will recognize the importance of using basic research results and will undertake development and design activities to make basic research more useful to practitioners.
- 12. Educational change agents will recognize the usefulness of demonstration activities and will provide or make possible, through various programs, demonstrations.
- 13. Educational change agents will recognize the importance of creating awareness of new ideas and innovations and will design dissemination activities as part of their program.

Overview

In Chapter I the framework for the entire study has been developed. The framework included the statement of the problem, the importance of the study, scope and delimitation of the study, assumptions of the study and the critical variables used as guides for content analysis.

In Chapter II a review of the literature is presented. The review is divided into three sections. The first section reviews general literature related to change from which critical variables are drawn. The second section provides a rationale for viewing the laboratories as change agents. The third part reviews a similar study.

The procedures and methodology of the study are presented in Chapter III. Included are a description of the population, the sources of data, a description of the derivation of the critical variables, the procedures followed in content analysis and the procedures for analyzing the data.

In Chapter IV an examination and analysis of the data are presented. Each critical variable is analyzed across the twenty laboratories on two dimensions and the data are summarized.

The summary, conclusion, implications and suggestions for future studies are treated in Chapter V.

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CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

This chapter contains a review of the literature related to this study. The review is divided into three major parts, and the first part is further divided into five sub-sections. The first part is a review of research from which the critical variables, which guided the conduct of the study, were drawn. Its sub-sections are:

- Involving targets in planning. In this section ideas related to the importance of involving those to be changed in the planning of change are reviewed.
- 2. <u>The social system</u>. This section is addressed to the need for possession of accurate knowledge of the social system by change agents if change strategies are to be successful. Such topics as norms, values and the need for knowledge of pressing problems are reviewed.
- 3. <u>Client learning</u>. In this section ideas concerning the need to upgrade skills and change the attitudes of recipients of change are reported.
- <u>Barriers and resistances</u>. This section is addressed to the sources and possible ways of dealing with factors which impede a process of change.
- 5. <u>The utilization process</u>. In this section the steps in a process of utilizing and applying valid knowledge in the solving of problems are treated. The organization

is modeled after one scheme which classifies steps in

a change process.

The second part of the review contains a treatment of the topic, "The Regional Educational Laboratories as Change Agents." It is intended that the information in this section will provide a rationale for viewing the laboratories as change agents. The final part is a review of one minor related study.

Part I

REVIEW OF LITERATURE ON WHICH CRITICAL VARIABLES ARE BASED

The purpose of this portion of the literature review is to report some findings that have relevance for the work of change agents in education. The review will be primarily aimed at material on change generally defined as planned change. Planned change has been defined as,

A deliberate and collaborative process involving change agent and client systems. These systems are brought together to solve a problem or, more generally, to plan and attain an improved state of functioning in the client system by utilizing and applying valid knowledge.

This definition itself provides some leads into the character of the operation of change agents. The process is deliberate on the part of the change agent, yet it is also collaborative between the change agent and client system. The goal is the solving of problems which prevent the client system from functioning as well as it could. The method is the utilization and application of valid knowledge. This section of the review provides more depth into the ideas expressed in the above

^LWarren G. Bennis, Kenneth D. Benne and Robert Chin, <u>The Planning</u> of Change (New York: Holt, Rinehart and Winston, 1966), p. 11.

definition. At the end of this section of the literature review a number of generalizations, which have implications for change agents, will be drawn.

Involving Targets in Planning

Based on the number of times it was reflected in the literature, involving members of a client system in the planning efforts to effect change stands out as an important concern. Some writers seemed to express doubt about the ability of grass roots persons to be involved because of role expectations or lack of experience in such involvement. Most writers, however, pointed out involvement as a necessary activity for change to be successful. The question of who from the client system should be involved was rarely mentioned in the context of educational systems nor was the depth of such involvement discussed.

Even though he does not indicate that clients should not be involved, Pellegrin expressed some doubt about the ability of teachers to be innovators. He cited recent research on the classroom teacher as related to innovation and decision making which led him to say, "There is a great deal of myth and sentiment surrounding the teachers' role in innovation, with much being neither true nor realistic."² Pellegrin further indicated that role expectations permit teachers very little latitude in the selection of curriculum content, but that the teacher primarily has autonomy with regard to the mode of presentation of material. In a study in which Pellegrin was involved with other researchers, teachers were questioned concerning the role they should play in educational decision making, roles

²Roland J. Pellegrin, <u>An Analysis of Sources and Processes of Inno-</u> vation in Education (Eugene: University of Oregon, 1966), pp. 6-9.

they perceived that other teachers had played and roles they themselves had played in decision making. The results showed that teachers participate almost exclusively in activities pertaining directly to their classrooms. Further, teachers believed these activities were the only ones in which they should establish policy.

Miles also has made comments which highlight problems in involving teachers in a change process. He said,

Local innovative efforts are restricted by the fact that the teacher's role is actually that of a bureaucratic functionary who has little power to initiate system-wide change, but--because of the ideology concerning professionalism...tends to resist innovative demands, like most professionals in bureaucratic organizations.³

Perhaps Miles' comments suggest some reorganization of beliefs about the role of the teacher in educational change decisions. Also, perhaps under present organizational conditions it is extremely difficult to involve teachers in change efforts.

In fact, the shortcoming implied by Miles' statement is rather specifically stated by Ribble.⁴ He points out that the present decision making structure in the schools is an "administrative view" in which the curriculum specialists, superintendent and board make the decisions. He implies that teachers are viewed as technicians rather than professionals and the cause may be due to the nature of the decision making structure. Ribble suggested a reversal in the decision making structure in which the roles of teachers and students determine curricular innovations. This

²Matthew Miles, (ed.) Innovation in Education (New York: Bureau of Publications, Teachers College, Columbia University, 1964), p. 634.

⁴Robert B. Ribble, "The Effect of Planned Change on the Classroom," <u>Theory Into Practice</u>, V (1966), 41-45. new structure is referred to as "the classroom view" and the need for curricular change and innovation emerges in response to the needs which exist in the classroom. Even in calling for a reversal in the decision making structure, the author of the idea expressed some reservation because the classroom teacher has not thought out a point of view concerning curriculum change.

Apparently, according to the considered opinion of a number of writers, involving the targets of a change or innovation in the process has an effect on the results. Gallaher, writing to this point, referred to a number of others, among them Edward Spicer and Kurt Lewin, who supported the need for targets being involved in planning. He indicated,

There is, in fact a large body of research to support the basic assumptions underlying the pragmatic model, that is, that people will more readily accept innovations that they can understand and perceive as relevant and secondly, that they had a hand in planning.⁵

Watson and Glaser⁶ stressed staff involvement and participation in the process of change. It seems noteworthy that this emphasis is given in answering a question related to ways of preserving and enhancing human dignity while implementing change. Worthen⁷ makes a similar point in the context of avoiding debilitating results of homeostatic change. He indicated that staff involvement in inventing and or selecting innovations

⁵Art Gallaher, Jr. "Directed Change in Formal Organizations: The School System," in Change Processes in the Public Schools (Eugene: University of Oregon, 1965), p. 41.

⁶G. Watson and E. M. Glaser, "What We Have Learned About Planning for Change", <u>Management Review</u>, (November, 1965), 34-46.

⁷Blaine Worthen, "The Innovation Dilemna," in <u>The SEC Newsletter</u>, ed. Virgil Blanke, The Ohio State University, I, No. 10 (December, 1966). is a necessary component in avoiding such results. Klein⁸ pointed out that special problems arise when the targets of change are not participants in the process of assessment, goal setting and design of action. These problems are increased resistances to change.

Trump⁹ pointed out the importance of personal involvement. Willower¹⁰ indicated that involving persons in the lower echelons in the planning of change will lessen resistances to the change. Benne said, "The engineering of change and meeting of pressures on a group or organization toward change must be collaborative."¹¹

An example which highlights the idea of involvement is found in the Cooperative Project for Educational Development (COPED). The project is being conducted by eight colleges and universities in five geographic locations. The purpose of the project is to, "Conceptualize about, develop, and study models of planned change in school systems. The goal of COPED is development, within school systems, of self-renewing research and development functions to critically meet change needs."¹² The strategy

⁸Donald Klein, "Some Notes on the Dynamics of Resistance to Change: The Defender Role," in <u>The SEC Newsletter</u>, ed. Virgil Blanke, The Ohio State University, I, No. 7 (May, 1966).

⁹J. Lloyd Trump, "R_x Ingredients of Change," National Association of Secondary School Principals' Bulletin, XLVII (March, 1963), 11-20.

¹⁰Donald J. Willower, "Barriers to Educational Change in Educational Organizations," Theory Into Practice, II (December, 1963), 257-263.

¹¹Kenneth D. Benne, "Democratic Ethics and Human Engineering," <u>The</u> <u>Planning of Change</u>, ed. Warren G. Benis, Kenneth D. Benne and Robert Chin (New York: Holt, Rinehart and Winston, 1966), p. 143.

¹²Charles Jung, "The Cooperative Project in Educational Development," in <u>The SEC Newsletter</u>, ed. Virgil Blanke, The Ohio State University, I, No. 7 (May, 1966).

which underlies this operation is clearly that of collaboration between the change agent and the client system. Part of the COPED operation utilizes a university based team which works with a school based team in a collaborative effort.

The Social System

Some authorities speak of change as consisting of two major types - natural or evolutionary and planned or directed. Natural or evolutionary change is that which comes about in response to evolutionary changes in the social system or society as a whole. It is not deliberate in the sense that a particular process is followed or that the change is for the purpose of solving an identified problem. As in the case of planned change it may or may not be an improvement. On the other hand, planned change as defined earlier, is a deliberate effort toward solving specific problems and it may be initiated inside or outside the target social system. In natural change the need to understand the social system as a variable in the success of a planned change program seems to be partially determined by the extent to which the agent of change has knowledge of the social system which in this case is school systems.

Even though our culture could be termed the American culture, there are numerous sub-cultures existing which view phenomona from a different perspective. Change has a different meaning for different groups and it is important to have some idea of the probable meaning of the change for the receiving group. Perhaps the anthropologists are more aware of this

need than educators. Williams pointed out,

The problem of change in education can be viewed only in the context of the culture in which that education exists...The only efficient means of dealing with change in education would be to proceed with as much knowledge as can be gained of the dimensions and probable meaning of change in American life.13

Rogers¹⁴ presented many examples of innovations which failed because they were not in line with the norms or values of the receiving social system. He described two ideal types of norms - traditional and modern - and further indicated that a social system with modern norms is characterized by being more technologically developed, cosmopolite, literate, rational and empathetic. Innovative individuals seem to relate more to the modern dimension rather than the traditional. Rogers' review and summary of over 500 studies in the field of diffusion has highlighted the importance of knowledge of norms. In suggesting important points in a strategy for change he stated, "A program of change should be tailored to fit cultural values and past experiences."¹⁵

Meierhenry,¹⁶ writing specifically about education, addressed himself to the problem of values. He indicated that when fundamental changes in how people perceive their roles require attitude change, the innovation

¹³Thomas Rhys Williams, "The Study of Change as a Concept in Cultural Anthropology," Theory Into Practice, II (February, 1966), 13-19.

¹⁴Everett M. Rogers, Diffusion of Innovations (New York: The Free Press of Glencoe, 1962), pp. 57-75.

¹⁵<u>Ibid</u>. p. 278.

¹⁶W. C. Meierhenry, "A Criterion Paper on Parameters of Education," Paper presented at the Conference on Strategies for Educational Change, Washington, D. C., November, 8-10, 1965.

proceeds slower. For example, both teaching with television and programmed instruction require a re-evaluation of one's attitudes toward teaching, whereas a change from black to green chalkboards does not. Perhaps too many innovations are introduced into schools which require teachers to perform in a way they do not believe is good teaching. This may be the case with language laboratories where the instructional emphasis is on an audio-lingual approach. Teachers who believe the only way to teach a foreign language is to teach the grammatical structure of that language will have difficulty accepting and using properly the language laboratory.

Not only should an agent of change have an understanding of the sub-culture and the norms of social systems, he should have an awareness of the pressing needs and problems of the social system. Convincing a starving man to have more interest in a world crisis would be difficult until his basic need had been satisfied. Sometimes innovations and new ideas may go beyond what the social system sees as its needs - beyond what it can adequately handle. Basic problems of the social system ought to be attacked as priorities. Business consultants, for example, focus on basic, inhibiting problems, the solving of which allows the system itself to move to other problems. This notion is supported by Sanders¹⁷ who feels it is impossible to deal with all the problems in an educational system simultaneously and attention should be directed to focusing on priority problems. Gallaher in supporting a pragmatic model of change does so because, "It is based on complete and detailed knowledge of the

¹⁷Donald P. Sanders, "The Study of Change as a Concept in National Development," Theory Into Practice, V (February, 1966), 30-33.
target system and in the directed change situation there is no substitute for that."¹⁸ Alexander¹⁹ offers as the first two points in a model of curriculum change the identification of needs and determination of priorities. Many others also suggest identifying and dealing with priority problems as important early steps in a change process.

Client Learning

An educational change agent ought to be concerned with what happens when his influence is withdrawn from the client system. There seems to be some evidence that if his concern is a matter of installing an innovation or idea as a technique of change, without concern for the clients ability to handle the change with respect to both attitudes and skills, his influence is lessened when departing. Not only does the possibility of misuse of an idea exist, but the possibility of discontinuance of the idea exists as well. Included in a process of educating clients, might be concerns for the necessary skills to utilize an idea, attitudes to accept an idea, and the client's ability to evaluate an idea continually in relation to his needs.

A prime example of what happens when a concern for installing innovations is the major concern has been highlighted by a recent study. This study was conducted by the North Central Association of Secondary Schools and Colleges and the Kettering Foundations' Institute for the Development of Educational Activity (I/D/E/A). Implications of the study

¹⁸Gallaher, <u>op. cit</u>.

¹⁹William M. Alexander, "The Acceleration of Curriculum Change." <u>Perspectives on Educational Change</u>, ed. Richard I. Miller (New York: <u>Appleton-Century-Crofts, 1967) p. 356</u>.

which have relevance to this point are:

- The diffusion rate established empirically by Mort at Columbia has been speeded up considerably in recent years...
- 2. Although innovations are being carried on in curriculum, technology and organization, there appears to be little evidence of inquiry into the effects of different treatments on strategies of learning. Current innovations may be motivated as much or more by the bandwagon phenomenon than by theories of instruction and learning...
- 3. The high abandonment rate for innovations such as new science and math curricula, television, programmed instruction and team teaching indicates the need for careful planning before adoption and careful attention while in operation...²⁰

Rogers stated as a point in a strategy for change, "Change agents should be more concerned with improving their clients' competence in evaluating new ideas and less with simply promoting innovations per se."²¹ Lippitt²² spoke to a similar point when he stated that helping

²²Ronald Lippitt, "Value Judgment Problems of The Social Scientists in Action Research," <u>The Planning of Change</u>, ed. Warren G. Bennis, Kenneth D. Benne and Robert Chin (New York: Holt, Rinehart and Winston, 1966) p. 691.

²⁰North Central Association, "Innovations Study of Nation's High Schools Reveals Important Changes in Recent Years" (Chicago: North Central Association, March, 1967).

²¹Rogers, <u>op. cit</u>. p. 280.

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a group or organization apply a scientific outlook and methodology to its problems ought to result in the internalization of the outlook so that application to other problems is possible. In another source Lippitt addressed himself to the dimension of a consultant's task. Two of the concerns expressed have relevance here. First, the consultant needs to seek a terminal relationship or stated another way, work himself out of a task. Secondly, in achieving a terminal relationship, the consultant ought to be concerned with the clients' ability to continue to change and adapt.²³

Hobbs²⁴ indicated that the adoption of educational innovations is related to the characteristics of the innovations. Because many innovations are complex, a change is needed in the orientation, method, knowledge or skills of the adoptor to utilize them properly. Rogers generalized that, "The complexity of an innovation, as perceived by members of a social system, affects its rate of adoption."²⁵ Lippitt stated, "I believe most of the significant changes in practice imply and require changes in the attitudes and skills and values of the practitioner in order for the change to be a successful adoption and adaptation."²⁶

Benne suggested the major goal of the agent of change as that of, "Facilitation of the institutionalization of appropriate methodology for

²⁵Ronald Lippitt, "Dimensions of a Consultants Job," <u>The Planning</u> <u>of Change</u>, ed. Warren G. Bennis, Kenneth D. Benne, Robert Chin (New York: Holt, Rinehart and Winston, 1966) p. 160.

²⁴Daryl J. Hobbs, "The Study of Change as a Concept in Rural Sociology," Theory Into Practice, V (February, 1966), 20-24.

²⁵Rogers, <u>op. cit</u>. p. 130.

²⁶Ronald Lippitt, "Role and Processes in Curriculum Development and Change," <u>Strategy for Curriculum Change</u>, (Washington, D.C.: The Association for Supervision and Curriculum Development, January, 1965), p. 12.

adaptation and adjustment by the client system."²⁷ The role of the change agent in this sense is that of helping the clients learn a technique or methodology for approaching problems. Benne goes on to indicate some specific characteristics of this type of change agent behavior as applied to problem solving. These are:

- 1. Problem solving should be experimental in such a way that learning occurs...
- 2. Problem solving should be collaborative ...
- 3. Problem solving should be task oriented...
- 4. Problem solving should be educational and/or therapeutic for those involved in change...
- 5. Problem solving requires communication within the system that provides relevant data for solving the problem...²⁸

Gardner addressed an entire book to the idea of learning new behavior as a way of solving the problem of change and innovation. He said, "In the ever renewing society what matures is a system or framework within which continuous innovation, renewal and rebirth can occur."²⁹ Sharp³⁰ approached a very similar idea when he likened the need in education to the need of a patient undergoing psychotherapy. Both must unlearn some

²⁷Kenneth D. Benne, "Deliberate Changing as the Facilitation of Growth," <u>The Planning of Change</u>, ed. Warren G. Bennis, Kenneth D. Benne and Robert Chin (New York: Holt, Rinehart and Winston, 1966), pp. 230-234.

²⁸Ibid. pp. 230-234.

²⁹John W. Gardner, <u>Self-Renewal: The Individual and the Innovative</u> <u>Society</u> (New York: Harper and Row, 1963), p. 5.

⁵⁰George Sharp, <u>Curriculum Development As Reeducation of the Teacher</u> (New York: Bureau of Publications, Teachers College, Columbia University, 1951). patterns of behavior before adequately adjusting to a new situation. The general goal of psychotherapy is that the patient learn to develop mechanisms for continually facing and solving his problems. A single problem is not solved, but the patient is approached with the view of helping in such a way that the war must not be won again each time a new problem is faced.

Thelen, Bradford, and Seashore and Von Egmond have all showed concerns for client learning in the change process. Thelen³¹ drew a distinction between changes in overt behavior alone versus change in overt behavior which is rationalized in internal changes of concepts, perception and attitudes. He referred to the latter as genuine change and the former forced and further suggested that resistances will be less if learning precedes change so that change is a spontaneous manifestation of insight. Bradford³² equated learning and change in the sense that learning is to equip persons to develop, adapt and continue to learn. He highlighted the need to provide help to learners in assessing their strengths and weaknesses in terms of support for change and in developing a continuous system of learning. Seashore and Von Egmond³³ viewed the role of the consultant-trainer as that of helping targets with a process rather than a prescription because new and unforeseen problems can be dealt with better.

⁵¹Herbert A. Thelen, "Concept for Collaborative Action - Inquiry," The SEC Newsletter, ed. Virgil Blanke, The Ohio State University, I, No. 7 (May 1966).

³²Leland P. Bradford, "The Teaching Learning Transaction," <u>The</u> <u>Planning of Change</u>, ed. Warren G. Bennis, Kenneth D. Benne and Robert Chin (New York: Holt, Rinehart and Winston, 1966), pp. 493-502.

³³Charles Seashore and Elmer Von Egmond, "The Consultant-Trainer Role," <u>The Planning of Change</u>, ed. Warren G. Bennis, Kenneth D. Benne and Robert Chin (New York: Holt, Rinehart and Winston, 1966), pp. 660-666.

Barriers and Resistances

To the extent that they can be separated, barriers refer to more generalized problems, such as inadequate financing which may encompass the whole educational society. Resistances refer to those conditions which exist within a social system or individual such as traditionalism, insecurity or lack of skills which may impede a process of change.

Carlson³⁴ suggested three major barriers to change in education. They are: (1) The absence of change agents. There is no real counterpart of the county extension agent in our public schools i.e. there is no one whose sole responsibility it is to attempt to influence adoption and change. The school superintendent usually ends up assuming such a role. (2) A weak knowledge base. New educational practices are not backed by research, experimentation and development activities. Further, when an idea is shown to be useful through testing, there is no adequate framework for the spread of the idea. (3) Domestication of public schools. This factor relates to organizational characteristics of schools and especially with the relationship between the school as an organization and its clients. Schools are not free to select their clients nor are the clients free to accept or reject the services of the school. Carlson used the analogy that the schools are protected and cared for in a manner similar to a domesticated animal - they are protected by the society they serve.

Miller³⁵ offered three factors which inhibit change generally and

³⁴Richard Carlson, "Barriers to Change in Public Schools," in <u>Change</u> Processes in the Public Schools (Eugene: University of Oregon, 1965), pp.3-8.

³⁵Richard I. Miller, ed. Perspectives on Educational Change (New York: Appleton-Century-Crofts, 1967), pp. 8-19.

seven which specifically inhibit educational change. The general factors are fear, insecurity, traditionalism and laziness. Those specifically related to education are mentioned with an explanatory note. These are: (1) The rut of experience or the idea that there is only one possible view. (2) Administrative reticence or the idea that the administrator can easily kill an idea by not actively supporting it. (3) Educational bureaucracy which can be facilitating or inhibiting depending on the situation. (4) Insufficient finances. Some innovations are costly but it seems doubtful if a definite relationship between cost and innovativeness can be established. (5) Community indifference and resistance which may be real or imagined and may be used as an excuse, but still is inhibiting. Here Miller referred to Brickell's statement that it is not necessary to have the active enthusiasm of the community, but it is necessary to avoid their active opposition. (6) Inadequate knowledge about the process of change. Educators have too long accepted three myths about change. The first myth is that change implies a 1984 image of external control and dictation. The second is that a good product will succeed on its own merits and it needs no help in finding its way into practice. The third assumes that the introduction of new ideas can be final. The myth is that an innovation provides an answer rather than a way to find an answer. Innovations tend to be adopted rather than adapted to local circumstances and conditions. Further, self-correcting mechanisms which provide for periodic review, evaluation and modification are not automatically built in but must be placed there by the user. (7) Inadequate teacher education programs. Colleges are not preparing teacher education students to utilize the ideas and practices in use in elementary and secondary schools.

The social system structure itself may provide a barrier to change.

As institutions mature they become more and more structured and as a consequence changes are more difficult to make said Meierhenry.³⁶ He further stated that schools have assumed the same general pattern for over 100 years. Rogers,³⁷ on the subject of change in large universities, related institutional structure as an inhibiting factor in the rate of adoption of innovations. Griffith³⁸ supported the same notion when he said that the stronger, more strict the structure, the less likely a change is to occur.

Watson³⁹ listed the factors which create resistance in a social system as conformity to norms, interdependence of parts of a social system, vested interests, the special aura surrounding sacrosanct rituals and traditions and suspicion of, and rejection of outsiders. Zander⁴⁰ suggested a number of causes for resistant behavior on the part of targets of change. Among these are: the nature of the change not being clear to the targets, the target of change feeling he is a target because he has done a poor job, the feeling of being caught between opposing forces, ignoring already established institutions and the changee not understanding the need for change.

³⁶W. C. Meierhenry, op. cit.

⁵⁷Everett M. Rogers, "The Communication of Innovations: Strategies for Change in a Complex Institution," A paper presented at the National Conference on Curricular and Instructional Innovation for Large Colleges and Universities, East Lansing, Michigan, November 6-11, 1966.

³⁸Daniel E. Griffith, Administrative Theory and Change in Organizations," <u>Innovation in Education</u>, ed. Matthew Miles, (New York: Bureau of Publications, Teachers College, Columbia University, 1964).

³⁹Goodwin Watson, "Resistance to Change," in <u>The SEC Newsletter</u>, ed. Virgil Blanke, The Ohio State University, I, No. 7 (May, 1966).

⁴⁰Alvin Zander, "Resistance to Change - Its Analysis and Prevention," <u>The Planning of Change</u>, ed. Warren G. Bennis, Kenneth D. Benne and Robert <u>Chin, (New York: Holt</u>, Rinehart and Winston, 1966), pp. 543-547. Willower⁴¹ noted that resistances arise when one's status is threatened, when change promises benefit to one part of the organization at the expense of another and when the user is not involved in planning. Perhaps one of the greatest causes of resistance, alluded to previously, is the idea that teachers resist those ideas most which cause a restructuring of their thinking. Such restructuring may cause a shift in values and may demand new skills which teachers feel they do not possess. Both Meierhenry⁴² and Pellegrin,⁴³ among others, support this viewpoint. The list of causes could go on - it is almost endless, but the foregoing causes seem representative of barriers and resistances and served to highlight this as a problem area to be considered in planning for change. The next question seems to be, what can be done to avoid resistances?

Zander⁴⁴ suggested two ways in which resistances might be reduced, both of which serve to provide support for an area dealt with earlier in the review. He feels that having persons in the target system gather facts which document the need for a change and having them make decisions about how change should be implemented tend to avoid resistances.

Watson⁴⁵ listed twelve points in a strategy for successful change action. They are: (1) encourage participation, (2) start with top offi-

⁴¹ Willower, <u>c</u>	op.	ci	t.
42 Meierhenry,	<u>or</u>) .	cit.

⁴³Roland Pellegrin, "An Analysis of Sources and Processes of Innovation in Education," (Eugene: University of Oregon, 1966), p.16.

⁴⁴Zander, <u>op. cit</u>. p. 546. ⁴⁵Watson, <u>op. cit</u>.

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cials, (3) show how change will reduce rather than increase burdens, (4) connect proposal with traditional values, (5) bring out novel and exciting aspects, (6) give assurance that autonomy will not be threatened, (7) include participants in diagnostic efforts, (8) try for consensual decisions, (9) empathize with resistors and reduce their apprehensions, (10) build feedback mechanisms so officials are aware of difficulties before they become serious, (11) build mutual trust among participants, and (12) keep open to reappraisal and revision.

The Knowledge Utilization Process

The following section is focused upon functions that are associated with educational change. These functions are treated together because they are steps in a process of knowledge utilization. Guba and Clark⁴⁶ have developed a classification scheme of the processes related to and necessary for change in education. The major steps in the scheme are research, development, diffusion and adoption. Research advances knowledge and provides the basis for inventions. Development includes two phases invention and design. Invention is the formulating of new solutions to a problem or class of problems i.e. innovative ideas are invented based on knowledge from research. Design is the constructing of an innovative package or engineering the innovation for use by practitioners. Diffusion also includes two steps - dissemination and demonstration. To create widespread awareness of the invention is the purpose of dissemination while demonstration is to provide an opportunity for practitioners to examine

⁴⁶Egan Guba and David Clark, "An Examination of Potential Change Roles in Education," Paper presented at the National Education Association Conference on Innovation in Planning School Curricula, Airlie House, Warrenton, Virginia, October, 2-4, 1965.

the invention in use. The adoption stage contains three substeps trial - installation and institutionalization. Trial is essentially testing the idea in a situation in which it might be used. Installation is the step of adapting the invention to the characteristics of the institution. Finally, institutionalization is to assimilate the invention as an integral part of the system.

Guba and Clark's classification points up some functions to be considered if one is going to effect change. The following paragraphs contain support for the use of such steps in a process of change.

In the area of research, some say that if research is to affect practice, further steps must be undertaken. These steps deal basically with the setting in which research takes place, the practitioner attitude toward research and the coordination of research activity. Merton and Lewis⁴⁷ mentioned as one of the causes for the gap between research and policy, the idea that research is not adequately focused on practical problems. They further identified the key function of applied research as the testing of assumptions of basic research. Blanke expressed a similar concern when he said, "Research directly related to educational problems and conducted in the naturalistic setting of the school and classroom is scarce."⁴⁸

Benne writing on operations research, which he defines in the same way as action or applied research, indicated that the goal of such research ought to be, "To bring the methods and disciplines of the

⁴⁷Robert K. Merton and Daniel Lewis, "Social Scientists and Research Policy," <u>The Planning of Change</u>, ed. Warren Bennis, Kenneth D. Benne and Robert Chin (New York: Holt, Rinehart and Winston, 1966), pp. 53-68.

⁴⁸Virgil Blanke, ed. <u>The SEC Newsletter</u>, The Ohio State University, I, No. 6 (April, 1966).

scientist into the informing and rendering more valid of processes of common sense judgment in any or all of its phases."⁴⁹ He further says that processes of practical judgment and scientific research involve subprocesses such as those identified by Corey. Corey's processes are: (1) defining the problem, (2) hypothesizing actions and predicting effects, (3) designing a way of testing hypotheses, and (4) collecting evidence and generalizing the results. These steps are mentioned because the setting for the action is the natural setting of the school.

Chin stated that when the research is intended to have an effect on practice, the criterion variables ought to be clearly related to the work of practitioners. He further said, "We need to choose our variables for maximum significance, generality and utility to practitioner. Our criteria should be potentially reachable under other leadership, staff persons or school situations..."⁵⁰

The second concern of research appears to deal with source credibility. Apparently educators do not generally perceive research as valuable in their work and when they do perceive it as valuable it may be as a result of the credibility of the person, institution or science from which it comes. Gouldner⁵¹ offered the idea that research is not deficient, but resistance to use of research knowledge lies in the view the

⁴⁹Kenneth D. Benne, "Operational Research," <u>The Planning of Change</u>, ed. Warren G. Bennis, Kenneth D. Benne and Robert <u>Chin (New York: Holt,</u> Rinehart and Winston, 1966), pp. 676-684.

⁵⁰Robert Chin, "Problems and Prospects of Applied Research," <u>The</u> <u>Planning of Change</u>, ed. Warren G. Bennis, Kenneth D. Benne and Robert Chin (New York: Holt, Rinehart and Winston, 1966), pp. 667-675.

⁵¹Alvin W. Gouldner, "Engineering and Clinical Approaches to Consulting," <u>The Planning of Change</u>, ed. Warren G. Bennis, Kenneth D. Benne and Robert Chin (New York: Holt, Rinehart and Winston, 1966), pp. 643-652. practitioner holds toward research. He suggests that resistance probably goes down as a person's esteem for a science and its practitioner goes up. Rogers⁵² has documented this view in his studies of adoption patterns of farmers. Though neighboring farmers have adopted a practice, others will wait until someone for whom they hold esteem adopts.

A third concern is also highlighted by Rogers in summarizing a group discussion on the process of change. He said,

We expressed a need for a national, and less than national, coordinating agency for educational research, a new agency that would produce syntheses of existing research studies and future research studies, so that one is not faced with a multitude of individual research results which sometimes contradict each other. This would also be an agency that would, hopefully, give advice on implementation of research results at the local level."⁵³

The next step in the schema as outlined by Guba and Clark is development. Little has been written about development per se. Often it seems the comments addressed to the subject are addressed more to the total utilization process which in effect may imply that the steps are somewhat inseparable. It seems logical that diffusion cannot be undertaken without the step of development coming first. Perhaps this is one reason why educational research has had so little effect on practice. Diffusion of research has existed in the form of journal articles, books etc. but not in a form which is usable by practitioners. Following are some thoughts from the literature on development, utilization and dissemination.

⁵²Everett M. Rogers, <u>The Diffusion of Innovation</u> (New York: The Free Press of Glencoe, 1962).

⁵³Everett M. Rogers, in <u>Change Processes in the Public Schools</u> (Eugene: The University of Oregon, 1965), p. 81.

Regarding utilization, Schramm said, "Utilization is sometimes thought of as a process of telling 'people' - writing better pamphlets, drawing better charts, making more and better teaching films, cranking up the transmitter of the mass media. This is clearly an adequate picture."⁵⁴ Blanke stated, "Knowledge transmission (a part of knowledge utilization) is not merely broadcasting a given piece of information from sender to receiver. The information must be changed so that it can be recognized and accepted as something of value to a person or organization which views information differently from the sender."⁵⁵

Blanke⁵⁶ further described an improvement system in which development is the center of the activity. He defined development as the invention and design of better solutions to problems in teaching-learning situations. He further points out that even though teachers and educational administrators equate development with research and even though they have factors in common, there is a distinct difference in research and development. Scientific research is concerned with the production of knowledge. Development is concerned with translating knowledge into solutions to practical problems and it may use research in **so** doing.

Pellegrin made a number of statements related to the need for utilization functions. Some of these are:

⁵⁴Wilbur Schramm, "Utilization of the Behavioral Sciences," A Report of a Planning Review for the Behavioral Sciences Division, Ford Foundation, September, 1954.

⁵⁵Virgil Blanke, ed. <u>The SEC Newsletter</u>, The Ohio State University, I, No. 6 (April, 1966).

⁵⁶Virgil E. Blanke, "Planned Change and the State," (The Ohio State University, an unpublished paper, February, 1967).

- 1. The division of labor that exists is rudimentary and wholly inadequate for the specialized roles that must be performed if we are to make the right kinds of innovations effectively...
- 2. Training programs for students of education...do not prepare students for a wide variety of specialized roles,...a major consequence is that relatively few specialists are prepared especially in research, development, and dissemination...
- 3. There is a lack of opportunity, resources and settings for introducing innovations on an experimental basis and for evaluating them objectively through research...
- 4. There are grave weaknesses of channels and procedures for dissemination... 57

Meierhenry,⁵⁸ as well as others, has pointed to lack of a system of dissemination in education. He further indicated that somehow educators have believed that if we accumulate more and more research, it will quickly find its way into practice. Education lacks a professional network of communicators. Such a network exists in some other enterprises. Taylor⁵⁹ described the process which has been effective in agriculture in the State of California. This process involves specially trained personnel to perform the bridging functions between research and application. The technical specialist is both researcher and applied specialist. He translates findings into manageable form for county agents who further translate findings for the farmers who implement the ideas.

⁵⁸Meierhenry, <u>op. cit</u>.

⁵⁹Calvin W. Taylor et al. Development of a Theory of Education from Psychological and Other Basic Research Findings (Salt Lake City, Cooperative Research Project No. 621, University of Utah, 1964).

⁵⁷Roland Pellegrin, <u>An Analysis of Sources and Processes of Innova-</u> tion in Education (Eugene: University of Oregon, 1966), pp. 22-25.

Demonstration is an integral part of the diffusion process according to Guba and Clark's scheme. The role of demonstrator, as in the case of disseminator, is just coming alive in education. The need for such a role seems clear, but the method of conduct seems rather unclear. Demonstration has been confused with trial or pilot testing to some extent and perhaps has been misused because of such confusion. Perhaps the need for demonstration can best be shown by citing examples of what is being done or what has been done. Brickell's plan for change in New York State was essentially a plan to effect educational change through use of demonstration centers. The Kettering Foundation's I/D/E/A program is basically a plan to diffuse ideas and effect change using schools as demonstration centers. Title III of Public Law 89-10 was designed primarily to provide exemplary and innovative programs for demonstration purposes.

The trial and installation stages are for the purpose of trying out and adapting the characteristics of the invention or innovation to the particular characteristics of an institution. These seem to be logical and necessary characteristics. Little, however, has been written about the concept of trial. In a sense the earlier section on the social system supports the need for fitting the invention to the needs of the adopting system. Rogers⁶⁰ suggested trial activities as one of five major steps in an adoption process. He said that the individual is more likely to adopt if he has had personal experience with the new idea. Rogers' data deal with individual decisions but seems closely enough related on this point to support Guba and Clark's idea.

⁶⁰Everett M. Rogers, <u>The Diffusion of Innovation</u> (New York: The Free Press of Glencoe, 1962), p. 84.

One other point should be mentioned on the subject of knowledge utilization. A number of writers imply and some mention specifically that resources outside the situation must come to bear on effecting change in social systems. The need for outside resources to assist in change efforts seems to be based on either the lack of knowledge or skills within the social system or the lack of effective mobilization and use of knowledge and skills which exist within the social system. A prime example is the use made of consultants in business and industry. Consultants are called to answer the need for someone who knows what to look for and who can take a broader view than those occupied in the day to day operations of the business. Hollander⁶¹ offers some specifics on the work of consultants. Some of these are: (1) heuristic stimulation, (2) temporary use of technical skills, (3) objectivity in evaluation, and (4) reservoir of experience. The extension agent performs a similar task in agriculture. The role of the outside consultant in education is likely to be different to the extent that comparisons cannot be drawn between education and industry or agriculture. The use made of consultants in business and industry is mentioned here to indicate that other enterprises do not limit themselves to solving their problems using only internal resources.

Harris⁶² indicated the need for mobilization and use of resources to cultivate change in education. Again the Cooperative Project for

⁶¹Stanley C. Hollander, <u>Business Consultants and Clients</u> (East Lansing: Michigan State University - Business Studies, 1963).

⁶²Ben M. Harris, "Strategies for Instructional Change--Promising Ideas and Perplexing Problems," A paper presented at the 11th annual ASCD Curriculum Research Institute, Washington, D.C., November, 7-9, 1965.

Educational Development provides an example of resource utilization. University based personnel make up outside teams which work closely with inside school based teams. The process is actually one of making human resources available to help school people fulfill their needs better and is conducted over a long period of time. The nature of help needed by schools, as evidenced throughout this review, is such that outside help is important, but it must continue for a long enough period of time that problems can be dealt with in depth. The consultant who goes in for two or three days is not likely to be very helpful in dealing with a process of change.

Generalizations

- 1. Involvement of targets in planning of change facilitates changing.
- 2. Organizational structure may inhibit involving teachers in change.
- 3. Involving targets in planning of change reduces resistances to change.
- 4. Involving targets in planning of change allows them to maintain dignity.
- Collaborative efforts provide support to both change agents and clients during a process of change.
- 6. Knowledge of the social system facilitates the planning of change.
- Change which does not interfere with norms and values is more easily introduced.
- 8. For proper utilization, some innovations and changes require development of new skills.
- 9. Simple innovations are easier to introduce than are complex ones.
- 10. Identification and solving of inhibiting problems facilitates change.
- 11. Change efforts vary in developing continued innovativeness or adaptiveness.

- 12. Gaining adoption of innovations per se may not facilitate adaptiveness or innovativeness.
- 13. Targets of change ought to gain new learnings from being exposed to a process of change.
- 14. Change as a spontaneous manifestation of insight is more desirable.
- 15. Observing an idea or innovation in practice serves to convince targets of its worth.
- 16. Institutional and individual resistances impede a change process.
- 17. Individual resistances may cause misuse of an innovation.
- 18. Changes in school programs may arouse community opposition.
- 19. Change is sometimes viewed as having overtones of control or subjection.
- 20. Strict, closed, organizational or administrative structures impede change.
- 21. Relating the need for change to institutional or individual failure will create resistances.
- 22. Relating change to existing trends or organizational characteristics reduces resistances.
- 23. Indicating clearly the advantages possible through using a new idea or innovation facilitates change.
- 24. Change which threatens individual or institutional autonomy will be resisted.
- 25. Knowledge gained from research forms the basis for new ideas and innovations.
- 26. Research done in the natural setting of the school to identify and solve problems facilitates change.
- 27. Awareness of new ideas is created through dissemination activities.
- 28. Awareness alone does not necessarily facilitate change.

- 29. Adaptability of an innovation to identified problems facilitates change.
- 30. Involvement with an innovation on a trial basis serves to facilitate adaptability to identified problems.
- 31. Targets may base acceptance of research or innovation on the source.
- 32. Education generally is lacking in viable action research.
- 33. Education generally lacks the framework for making new ideas visable.
- 34. Education generally lacks specialists roles of disseminator and demonstrator for making ideas visable.
- 35. Contact with outside sources especially those in the related disciplines sociology, psychology, anthropology facilitates change.
- 36. Feedback on change efforts facilitates change.
- 37. Good organizational climate or health facilitates change.
- 38. Open interpersonal relationships facilitate change.

Part II

THE REGIONAL EDUCATIONAL LABORATORIES AS CHANGE AGENTS

The purpose in this section of the literature review is to provide support for viewing the regional laboratories as change agents and for applying the critical variables to their plans.

The Guidelines for developing a laboratory state the following:

The National Program of Educational Laboratories is designed to identify educational problems, to create new institutions to conduct educational research and researchrelated activities, to train individuals for leadership in such activities, and to assure educational improvements by implementing that research.⁶³

Elsewhere the Guidelines state:

Laboratories will conduct a wide range of research, development and dissemination programs including basic and applied research, curriculum development and evaluation, development of promising innovations, demonstrations of noteworthy programs and practices, training and dissemination activities, research information centers, and consultation services to assist schools in the implementation of educational improvements developed through research.⁶⁴

And

The purposes of the laboratory program require an emphasis on cooperation much beyond that of project research programs. In particular, local school systems of the region must participate in the planning and operation of the laboratory. In developing plans for a laboratory, the first question ought not to be "who gets the laboratory," but rather how the constituent elements will be organized to:

- (1) define the regional membership,
- (2) identify the particular problem areas to be explored,
- (3) include the available and appropriate resources,
- (4) carry out the laboratory's function and purpose and
- (5) allow for orderly future change⁶⁵

President Johnson, in a letter to the Secretary of Health, Education and

Welfare, John Gardner, expressed very well the purpose of the laboratories.

He said:

I look to these laboratories:

To stress putting into practice what we already know. The increase of knowledge through research must proceed at a rapid pace. But we have an even greater

⁶³Guidelines for a National Program of Educational Laboratories, Public Law 89-10, Title IV (Washington, D.C., U.S. Department of Health, Education and Welfare). (undated)

65 Ibid.

obligation to overcome the lag between discovery and use, and to convert the results of years of research into application in the classroom. This process will be speeded by establishment of extensive experimental schools and pilot projects showing educational innovation in real situations that can be seen and understood by administrators, teachers, and school boards.

To deal with the highest priority common problems of education with which every community struggles and in doing so to contribute to a general elevation of the quality of education everywhere. Each laboratory, with unique talents, resources, and focal points, should, therefore, be broadly concerned with education in the whole Nation.

To involve outstanding scholars, experts, and artists in the development of new educational programs so as to assure that better methods of instruction are accompanied by improved content.

To be a part of community life, drawing out public support and involvement in innovation in education and calling on the resources of the community and industry for planning and operation.

To build links with other Federal programs so that every approach to educational improvement is explored and enhanced. Thus the laboratories should be related to the supplementary centers, provided for in the Elementary and Secondary Education Act of 1965, to the teacher training programs of the Office of Education and the National Science Foundation to appropriate activities of the Office of Economic Opportunity and the National Institutes of Health...⁶⁶

Gideonse⁶⁷ of the U.S. Office of Education, in an article on the Laboratories, seemed to indicate rather clearly that the purpose of the laboratories was that of change agent. He began by pointing out that little of what has been discovered in educational research has even been

⁶⁷Hendrik D. Gideonse, "The National Program of Educational Laboratories," Phi Delta Kappa, XLVII (November, 1965), 130-133.

⁶⁶Letter from the President to the Secretary of Health, Education and Welfare (San Antonio, Texas, July 5, 1966).

made operational. He sees education as having failed to adapt quickly and in an orderly fashion to the changing demands of society. Gideonse further suggested that the establishment of a national program of laboratories could mark the beginning of an era of dynamic change in schools of a magnitude comparable to such developments in the fields of health and natural science. The assumption of the laboratories is that new institutions are needed to foster educational innovation and improvement. He suggested the role of the U. S. Office of Education as that of mediator through stimulating and encouraging dialogue, discussion and debate.

Gideonse indicated the concerns of the laboratories as conducting basic research related to the field of education, developmental activities and applied research, effective dissemination, trial, evaluation, demonstration and persuasion activities. Much of the remainder of the article is concerned with dissemination which, in his viewpoint is a type of knowledge utilization process - more than simply transmitting information.

Two other significant points appeared in this article. The author suggested that the laboratories should strive from the very beginning to create themselves as institutions of highest prestige so that schools and other educational agencies will want to seek help from them. In creating these new institutions care must be taken to avoid injuring any of the participating institutions according to Gideonse.

Bright, Associate Commissioner for Research in the U.S. Office of Education said of the laboratories:

The primary purpose of the regional laboratory is to implement beneficial change in the schools in its territory. The laboratory will identify what it believes are the one or two major educational problems in a region and mount a program to solve the problems. To widen the use of innovations throughout a region

the laboratory will, where, necessary, utilize research components, demonstrations in local schools, dissemination activities and so forth.⁶⁰

Elsewhere Bright stated that the laboratories

...will be a necessary link in the chain of progress that leads from basic research to widespread classroom practice...Perhaps the most important feature of the web of associations that a lab will comprise is the classrooms, the schools that will participate in it. For research without development - ideas that are not translated into action - is meaningless.⁶⁹

Bruce⁷⁰ saw the laboratories as a vehicle for bringing together already existing ideas and talent. The point here is that much talent exists in schools and colleges, but goes unnoticed because no vehicle exists for discovering and using such talent. He sees the laboratories as idea havens through which the effectiveness of ideas can be tested. The author further indicated that there is great strength in the fact that the laboratories will cooperate in their efforts to disseminate and implement what we have already learned from research, to increase our knowledge through research and provide avenues of cooperation between agencies.

Gilchrist and Marcus viewed the laboratories as an opportunity for school and college educators to establish new interchanges of creative experience and cooperative endeavors. They also addressed themselves to the conditions for success of the laboratories. They felt the labora-

⁶⁸Richard Louis Bright, "The USOE and Research in Education," <u>Phi</u> Delta Kappa, XIVIII (September, 1966), 2-5.

⁶⁹Richard Louis Bright, "Back to the Drawing Boards," <u>American</u> <u>Education</u>, II (May, 1966), 15.

⁷⁰Ray E. Bruce, "A Look at Regional Educational Laboratories," Educational Leadership, XXIV (November, 1966), 185-191.

tories...

will succeed only to the extent that teachers, professors and administrators change in their aspirations, insights, attitudes and skills. Human beings learn most when they perceive the importance of what they are doing, when they set goals for themselves, and when they work hard to achieve results. Strengthening education occurs when people sense that changes are necessary and then utilize the best of current practice and related research to bring about the needed improvement. Three conditions for success are essential involvement; availability of sound research and promising practices; and cooperation.⁷¹

The activities suggested by the Guidelines and by various U. S. Office of Education personnel, as well as others, seem to suggest clearly that the laboratories were created to assume a role of change agent in the field of education.

Part III

REVIEW OF RELATED STUDIES

One previous study of the regional laboratories has been reported in the literature. Miller⁷² content analyzed the development period documents of all twenty laboratories as well as operational documents for twelve of the laboratories. His report covered a number of aspects of laboratory operation including types of programs planned, relationship to other programs, patterns of control and the influence of control bodies.

⁷¹Robert S. Gilchrist and Frank W. Marcus, "The Regional Educational Laboratory: Implications for the Future," <u>Educational Leadership</u>, XXIV (October, 1966), 28-32.

⁷²Richard I. Miller, "Regional Educational Laboratories," <u>Phi Delta</u> <u>Kappa, XLVIII</u> (December, 1966), 144-149. A few of his comments are related to this study - one of which is the following statement:

Most lab programs express some interest in dissemination and the process of educational change, but few writeups reveal much sophistication. Almost every report mentions the importance of developing channels and procedures for communication and dissemination; three of the operational labs show high comprehension of the problems, and two have projects directly related to implementation.

Miller seemed to question the process of needs analysis undertaken by most of the laboratories. The common pattern was that some type of survey was conducted in which teachers, administrators and professors were questioned as to what the laboratory should do. Miller believes this type procedure has some value but he said, "The poll's value lies in providing verification of grass-root needs."⁷³

In the section on influence of control bodies Miller drew some interesting conclusions. Some of these are:

- 1. College deans and secondary school superintendents played an important role in developing the laboratories...
- 2. All categories of teaching are poorly represented in the governing bodies of the laboratories...
- 3. Staffing patterns for the labs indicate some reliance on college personnel...
- 4. Second generation laboratories seem to have broader representation on their governing bodies than did the earlier ones.⁷⁴

In looking at the future, Miller raised some important questions such as: (1) Are the laboratories administratively top heavy? (2) Will

the laboratories, with their highly structured organizational models, be able to keep pace with external changes? (3) Will the laboratories be able to attract exciting and intellectually agressive individuals?⁷⁵

Summary

Studies which offered information on educational change generally and change agent behavior specifically were reviewed for this study. The literature review provided much information on methods change agents might use and activities they might undertake in fostering educational change. Information on change and change agent behavior allowed the derivation of a number of generalizations about change from which were drawn thirteen variables as stated in Chapter I, thought to be critical for the activities of change agents. The variables served to represent the nature of data to be collected.

A review of the literature specifically related to the regional laboratories served to provide a rationale for viewing the regional laboratories as change agents. Literature about the laboratories was also helpful in gaining a broader perspective of the total program and the purposes and potential of the program.

75_{Ibid}.

CHAPTER III

PROCEDURES

This chapter contains a description of the population studied, the sources of data, the method of deriving critical variables, the procedures followed in content analysis, expanded definitions of critical variables and procedures followed in data analysis.

Description of the Population

The population of this study included all twenty existing regional educational laboratories funded for development under Title IV of Public Law 89-10 during 1966. A short historical description of the population follows.

The regional laboratories program is administered by the Division of Laboratories and Research Development of the Bureau of Research of the U. S. Office of Education. After the passage of the Elementary and Secondary Education Act of 1965, the U. S. Office of Education issued guidelines for securing funds to develop a laboratory. Educators throughout the country gathered in small groups to discuss what a regional laboratory might do for and in their areas. These groups included representatives from colleges, universities, state departments of education, public schools and other agencies and they represented not only institutions, but also states or portions of states. Groups which jelled began gearing ^{up} for an October 15, 1965, prospectus submission deadline.

Development Procedures

During the summer of 1965 consortiums began the tasks of determining educational needs and problems in their intended geographic service area, resources available to assist in solving those problems, preliminary ideas on program activity, what a governmental and organizational structure might be like and level of funding necessary to develop a full blown proposal for a laboratory. From the prospecti submitted during the fall of 1965, the U. S. Office of Education initially chose twelve groups to receive planning grant funds. Grants were announced on February 15, 1966, for development periods of approximately seventy-five days.

The period between October 15, 1965, and February 15, 1966, was an active one for U. S. Office of Education officials connected with the laboratories program. In some cases additional data were needed on which to base funding decisions. In other cases two or more groups were near enough geographically that combinations were feasible. These and other similar situations prompted active field coordination by U. S. Office of Education officials. Combinations were effected in at least two geographic areas. Two groups on the West coast combined and two groups in the Rocky Mountains combined to form laboratories for those areas.

For the initial twelve developing laboratories, a rather definite, though not strictly followed procedure was outlined. Forty-five days after funding an interim report was due in the U. S. Office of Education. The interim report contained a report on the major educational needs and problems of a region, available resources, decision making structures and

¹The source of much of the information in this section was gained through personal interviews with Dr. Lauren Woodby, former Director of the Laboratories Branch in the U. S. Office of Education and now professor of mathematics education at Michigan State University.

some ideas on program. (Laboratories varied greatly on the last point. Some reported well detailed program activities while others presented only general ideas) In most cases operational funding was determined on the basis of the interim report. Generally the interim report did not constitute total decision making input for the U. S. Office of Education. The interim report was complemented by site visits which were conducted by U. S. Office of Education appointed teams of outstanding scholars and leaders in education, sociology, psychology and other disciplines along with one or more Office representatives. These visits were for the purpose of reviewing proposed programs and suggesting ways a laboratory might be strengthened by altering its program, and organizational or governmental structure.

Thirty days after the interim report a non-technical report, which was to be used to inform the regional constituency about a laboratory as well as provide a final report for the U. S. Office of Education, was due. Thus, in approximately seventy-five days, twelve regional educational laboratories were ready to begin operation. These were located in New York City, St. Louis, San Francisco, Kansas City, Portland, Philadelphia, Denver, Los Angeles, Atlanta, Minneapolis, Charleston, W. Va., and Albuquerque.

A somewhat different procedure was followed with the remaining eight laboratories. For the majority of these, a proposal or a letter of intent to develop a proposal was also filed in the fall of 1965. The U. S. Office of Education, however, for various reasons, delayed decisions to fund additional consortiums until the spring of 1966. Again in a few cases, decisions had to be made on which of two or three groups in the

same geographic area should be funded. U. S. Office of Education officials, viewing the totality of existing proposals and the geographic spread, again visited groups and suggested mergers. Even though this process caused some delay, by late April decisions were made to fund seven more groups for developing a laboratory program. Contracts were negotiated in May and planning began in late May or early June 1966. The one remaining laboratory was funded for development in August 1966. These laboratories were located in Chicago, Austin, Durham, N. C., Little Rock, Syracuse, Washington, Detroit, and Boston.

Rather than a whirlwind seventy-five day development period, the laboratories in the second group were given six month development contracts to run from June through November 1966. A progress report was due in the U. S. Office September 1, 1966. This was a critical report in view of the escalation clause available to these laboratories. This clause essentially provided for increased funding in September 1966, if U. S. Office of Education officials felt a laboratory was well enough developed. Funding for the earlier laboratories was generally based on the first progress report, however, in the later seven laboratories, the U. S. Office of Education apparently wished to avoid having to make a decision on the basis of the first progress report unless officials were strongly convinced a laboratory program was well developed. In order to create the possibility of funding on the first progress report but also make it possible for a laboratory to continue developing, the escalation clause was included. Two of the seven received increased funding.

The remaining five also submitted progress reports in September 1966 and were reviewed by a review committee and U. S. Office of Education

personnel. For various reasons - inadequate program development, inappropriate governmental or organizational structure - these laboratories were instructed to continue planning and prepare another progress report in preparation for a review later in the fall. Progress reports were submitted in late October or early November in preparation for operational funding on December 1, 1966. However, an unforeseen turn of events interferred with the plan.

During the early fall of 1966, due to concern expressed about the functions and value of the laboratories, John Gardner, Secretary of Health, Education and Welfare, appointed a National Advisory Committee of twelve members to study the total laboratory program and make general policy recommendations on future development. Francis S. Chase, Professor of Education at the University of Chicago, was retained to head this committee. (See appendix A for the Chase reports) During the period of Advisory Committee study, it seemed advisable to hold a static position on further funding decisions for all laboratories. Therefore, a moratorium was placed on funding and laboratories were held to a monthly expenditure level based on disbursements of previous months. The temporary spending limit was to be in effect from December 1, 1966, until February 28, 1967.

For some laboratories this meant a continuation of development efforts and another progress report during February. Actually, distinctions between development and operation became more difficult during the fall of 1966. U. S. Office of Education officials began to eschew the use of the terms development and operation as descriptive of a stage of progress. Whether they saw all laboratories as continuing to develop or saw all of them as operational by December 1, 1966, is quite unclear. It seems

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reasonable to assume that the latter six laboratories were still considered in a state of development since their level of funding was generally too low to implement a program. Whatever the case, reviews were conducted during February and all six remaining laboratories were approved for higher levels of funding with varying lengths in contract periods. In fact, new funding levels and new contract periods were announced for nineteen laboratories during late February. (The one exception was a laboratory on which a decision was deferred temporarily because of a merger with an existing institution, however this decision was made within a few weeks.) Contract periods varied from nine months to twenty-one months and funding levels varied from \$300,000 to approximately \$1,800,000 for nine months.

Eight of the twenty - Los Angeles, Syracuse, Austin, New York, Charleston, Portland, Philadelphia and San Francisco received twenty-one month contracts. Kansas City, Albuquerque, Little Rock, Atlanta, St.Paul, Denver, St. Louis, Boston and Washington received fifteen month contracts. The remaining three - Detroit, Chicago and Durham received nine month contracts. Five laboratories received over \$1,000,000 for nine months while nine received between \$500,000 and \$1,000,000. Six laboratories were funded at \$455,000 or less. The laboratories will undergo another contract negotiation during the fall of 1967 at which time decisions will be made on length and level of funding. Only three laboratories have contracts which expire December 1, 1967, however, funding levels for all are subject to change.

Other Data on the Laboratories

Looking at the population from a different viewpoint - geography -
an interesting picture, which enhances cooperation across state lines, among universities, state departments of education and individuals, emerges. In only one case (New York) does a laboratory exist within the borders of a single state. This case is peculiar in that the laboratory first existed as a consortium of eight institutions of higher education cooperating to solve problems of education in New York City. This group applied for funding as a Research and Development Center but later, after passage of Public Law 89-10, proposed to become a laboratory. All other laboratories include at least two states or major portions of two states. One laboratory extends into eight states, but five of those states are also affiliated with other laboratories. In two cases individual states are affiliated with three different laboratories. Twentytwo states have affiliations with more than one laboratory while twentyseven are totally contained within one laboratory. (Hawaii is still uncertain) The largest laboratory covers approximately 830,000 square miles while the smallest covers approximately 200 square miles.

Some interesting variance exists with regard to funding level. Of the first twelve laboratories the development period funding ranged from \$65,000 to \$106,000 for the seventy-five day period while the latter eight ranged from \$110,000 (for one with approximately a four month development period) to \$220,000. Considering a two and one-half month planning period for the first twelve and a six month period for seven of the remaining eight, the lowest funded of the first group received approximately \$26,000 per month while the lowest funded in the second group received approximately \$23,000 per month. The respective ranges at the top were \$42,000 and \$36,000. Operational funding levels for March 1967 through November 1967, ranged from \$33,000 per month to approximately \$200,000 per month.

Regarding governmental structure, the laboratories were directed to develop a broadbased body to control their activities. Miller reported information on controlling bodies in the early stages of the laboratory program. He analyzed governing body membership in May 1966 on six laboratories and again in October on all twenty. He separated the twelve operational and eight developing laboratories in his October analysis. From this study Miller drew the following conclusions:

- The labs were dominated in the beginning by deans of colleges of education, an action-oriented group with organizational and administrative skills.
- 2. Secondary school superintendents continue to play a prominent role in the laboratories and this fact may help account for the administrative orientation of the regional educational laboratories.
- 3. The prominent representation by college presidents and deans outside of education is not particularly prominent in the direction or operation of the regional educational laboratories, generally speaking.
- 4. All categories of teaching (elementary, secondary, college) are very poorly represented in the governing bodies of the regional educational laboratories.
- 5. College and university professors outside education are almost totally excluded from governing bodies. The same is true of professors of education.
- 6. The second generation laboratories broadened the

base of support by including individuals affiliated with labor, state political structures, educational foundations and other categories.²

Most of the laboratories had a board of directors consisting of from twelve to fifty or more members. This body was generally the decision making body but a few laboratories had a smaller six or eight man group which acted on major issues. However, it seems the U. S. Office of Education took a dim view of these small decision making bodies. A number of the regional educational laboratories had a corporate body larger than the board of directors from which, in some cases, the board of directors was elected. Through the larger bodies, which were variously called regional advisory councils, general membership, membership assembly, area council, advisory committee etc., the laboratories were able to secure broader based involvement. Generally the larger groups were planned as advisory rather than decision making bodies.

The organizational structures through which laboratories operated did not vary greatly across the twenty. As stated earlier most had some type of regional council at the top of the structure followed by a board of directors and staff. Each laboratory has an executive director responsible to the board or executive committee. Following the executive director is a deputy director or one or more associate or assistant directors who are in charge of various facets of the laboratory operation. The organizational structures become too complicated at the next level to generalize about here. It is generally at the point of second or third

Richard I. Miller, "Regional Educational Laboratories," Phi Delta Kappa, XLVIII (December, 1966), 144-149.

echelon directors where the structure begins to change from a pyramid type to a flat structure, although some laboratories have horizontal extensions at the level of executive director. Suffice it to say that the organizational structures generally can be called a mixture of vertical and horizontal decision making patterns.

Sources of Data

As stated earlier, each laboratory was required to make periodic progress reports to the U. S. Office of Education. The first generation laboratories (the first twelve) prepared progress reports approximately forty-five days after the onset of development and in another thirty days submitted a final report on developmental activities. The interim progress reports formed the basis for funding decisions and were the documents from which the bulk of data for this study were drawn. Final reports provided some additional data and occasionally a prospectus was studied to clarify a particular point.

The second generation laboratories, (the latter eight) because of the different type development contract available to them, reported progress in a somewhat different manner. Seven of the eight submitted progress reports in September 1966 and again in October or November. These were to have been the development period documents and were analyzed for data for this study. However, because of the activities of the Chase Committee, the U. S. Office of Education failed to clarify whether these laboratories were in an operational state or a developmental state between December 1, 1966 and March 1, 1967. Because these laboratories were to continue developing and submit another progress report in February, a decision was made to include these reports as part of the data documents for this study. Data on the last laboratory was drawn from its January Final Report.

Derivation of Critical Variables

Much preliminary work preceded the development of the critical variables for this study. A partial review of the literature on change in education, in agriculture, and in business and industry was conducted in 1965 in an effort to develop some generalizations about change which might be useful to educational change agents. Later in the same year another partial review of literature on change was undertaken. From these two investigations, ideas began to develop which might give purpose and direction to change agents in the field of education.

The critical variables which form the basis for content analysis in this study were derived in a similar manner. Knowledge gained from previous reviews served to suggest researchers and writers who had addressed themselves to the subject of educational change. Further reading identified some critical variables which continued to appear in the literature and became the base items for further search. If a new variable were discovered in the literature, it was noted and further information sought about it.

Following the search of the literature, a number of generalizations about change were drawn. The number of generalizations was reduced by grouping those together which seemed to represent the same variable. These generalizations were then analyzed for appropriateness and reasonableness in regard to the regional educational laboratories. For example, the laboratories cover large areas and are new institutions. Much of the literature on change points to the idea that change is best facilitated through close individual relationships. It would seem unreasonable to assume that laboratories could operate with schools or school systems at least in the early stages of development, in a manner similar to the way a principal or curriculum worker would operate within a school or school system.

From the generalizations, thirteen critical variables which became the guides for content analysis were developed. To gain latitude within variables, it was felt that two types or levels of activity could be sought within each variable. One level of activity was recognizing that the function expressed in a variable was important and would be mentioned as one of the functions of a laboratory. This level was entitled the <u>recognition level</u>. The second level of activity reflected a stronger indication of importance to a laboratory in that specific activities would be planned to fulfill the function. This level was entitled the <u>commitment</u> <u>level</u>. Each level has two sub-categories which are explained on succeeding pages.

The usefulness of the variables as guidelines for content analysis was checked by discussing them with persons who are knowledgable about educational change. The variables were felt to be demonstrable and workable and while they did not represent the total realm of possible activity for change agents, they were sufficient for the present analysis. The content analysis was conducted using thirteen variables as guides. The

variables appear in the next section along with an expanded definition and criteria for accepting fulfillment.

Critical Variables, Expanded Definition of Critical Variables and Criteria for

Fulfillment

The purpose in this section is to state the critical variables used as guides for content analysis, explain more fully the meaning of each and indicate the criteria used to determine fulfillment of a variable. The format of this section is as follows: A variable will be stated followed by the expanded definition and then followed by criteria for fulfillment. Since each variable deals with two levels of activity, <u>recognition</u> and <u>commitment</u>, criteria will be stated for each. Further in each level, there are two categories. At the recognition level two methods of recognition have been used. The first is a <u>direct statement</u> <u>recognition</u> which means that a statement was found which indicated that the activity expressed in a variable was important and would be undertaken. The second is <u>inferred recognition</u> which indicated that the activity expressed in a variable was clearly planned or had been accomplished, but there was no direct statement highlighting its importance.

At the commitment level two degrees of commitment have been used. The first was <u>definite commitment</u> which indicated that there were clear, definite plans to accomplish the activity expressed in a variable or that it had already been accomplished and the procedures used were reported. The second level was possible commitment which indicated that there was

some evidence that the variable would be fulfilled or had been fulfilled, but the plans were unclear or the procedures were sketchy.

In the following section only the criteria for <u>direct statement</u> <u>recognition</u> and <u>definite commitment</u> are given. The criterion for fulfillment at the inferred recognition level will not be given since it is the same for all variables. Likewise, the criterion for possible commitment will not be given since it is a lesser degree of fulfillment and is constant over all thirteen variables.

Critical Variable 1. Educational change agents will recognize the need for involvement and will involve the targets of change at some point in the planning of change or innovations.

The literature on change clearly documents the idea that change is more easily facilitated, less resisted and more lasting if those to be changed are involved in some way in the planning and/or implementation of programs designed to effect change. Even though the laboratories could not be expected to involve participants in the same way they might be involved in change in an individual school building, there are still many available methods for participation of constituents in a laboratory program. The laboratories were directed to conduct an assessment of educational needs and problems of the region, an activity which afforded an excellent opportunity to involve teachers, administrators, college and university personnel, state education agency personnel and lay citizens as recipients of questionnaires, interviewees, interviewers or in some other way assisting in determining needs. Other ways which participants could have been involved are as temporary staff member, as disseminators, in program planning activities, conducting program activities in a school

situation, as liaison persons, in conducting demonstrations, as members of task forces or as members of a governing body.

Criteria for fulfillment:

- A. Recognition A statement explicitly stating that persons in the region will be involved in laboratory activities.
- B. Commitment A report on how constituents were involved in cases where the activity had already been conducted or a plan for involvement telling at least who and in what manner persons were to be involved.
- Critical Variable 2. Educational change agents will be aware of priority problems and will recognize the need to develop programs to attack priority problems of clients.

The U. S. Office of Education Guidelines³ indicated that laboratories should develop programs in response to the major educational problems and needs of a region. Obviously, this implied a knowledge of the priority educational needs prior to program development. Content analysis on this variable included study of the documents for material on needs assessment, study of program activities and relating the needs to programs.

Criteria for fulfillment:

- A. Recognition A statement indicating that programs will be developed to respond to the major educational needs of the region and a succinct statement of those needs.
- B. Commitment Goal statements or procedures within program activities which clearly related to identified needs.

⁹Guidelines for a National Program of Educational Laboratories, Public Law 89-10, Title IV (Washington, D.C., U.S. Department of Health, Education and Welfare). (undated)

Critical Variable 3. Educational change agents will be aware of and will deal with conditions which impede change.

This variable was intended to cover two general conditions which might impede change - barriers and resistances. Barriers were defined to mean conditions which may be characteristic of a geographic area or education in general. Examples are inadequate financing, cultural isolation or tradition. Resistances were defined to mean conditions more directly related to individual school systems and educational personnel. Examples are institutional norms, individual values or beliefs and lack of skills. Inclusion of this variable was based on ideas from the literature which highlighted the need to overcome impediments if change is to be successful.

Criteria for fulfillment:

- A. Recognition A statement indicating the need to overcome impediments to change or narrative pointing out what the barriers or resistances were in a particular region.
- B. Commitment A program activity designed to overcome barriers with clear goal statements and procedures or program activities designed to study the sociology of change, what happens in a school when an innovation is introduced or involvement of persons to be changed in the process. In each case procedural detail must have been included.

Critical Variable 4. Educational change agents will recognize the need for skill development and attitude change and will seek to build these characteristics into programs.

Evidence is available which indicates that innovations have died or have not brought desired results because the user did not have the

necessary attitudes or skills to accept and maintain the innovation. Skills and attitudes are treated together because they were often mentioned in the same context in the literature. The belief seems to be that if the proper attitude is present, gaining the necessary skills is easier. The reverse may not be true, however, it is possible that adequate skills, overtime, may lead to positive attitudes. It was believed that fulfillment of this variable would have been especially important to laboratories seeking to gain adoption of specific innovations.

Criteria for fulfillment:

- A. Recognition The existence of statements which highlighted the importance of skill and/or attitude development.
- B. Commitment Program activities which included plans to upgrade skills through teaching or training practitioners in new techniques or fostering attitudes necessary to accept an innovation. Plans must have included goals, methods and the receiver.
- Critical Variable 5. Educational change agents will not seek to gain adoption of specific innovations but develop programs aimed at developing innovativeness or adaptiveness of clients.

The purpose of this variable was to collect data on a point of view laboratories had toward their role. Did laboratories see their role as securing adoption of specific curricular innovations or methods or did they view their role as that of developing programs to help clients make their own decisions concerning what innovation or new technique best suited their peculiar needs? Some evidence in the literature points to the idea that change agents will be most successful over a period of time if they are concerned with activities which help clients to help themselves. This route is not an easy one nor does it result in quick payoff.

Criteria for fulfillment:

- A. Recognition Existence of statements which indicated concern for the clients' ability to be better able to help themselves - to become adaptive or innovative.
- B. Commitment Evidence of activities with clear goals and procedures aimed at better self-understanding. Such activities might include sensitivity training programs directed toward helping teachers define and develop better solutions to their problems, programs aimed at better knowledge and resources utilization and programs designed to help teachers become better researchers.
- Critical Variable 6. Educational change agents will recognize the importance of climate for change and will develop programs to improve climate.

Not only is it important that individuals have the necessary skills and attitudes for innovating and that they learn better how to solve their own problems, but it is also important that the atmosphere which surrounds them be conducive to change. Authorities on change in education have pointed out the importance of good interpersonal relations in an institutional setting as a facilitator of change. Others mentioned organizational openness - an experimental and searching posture - as conducive to change. Other factors included in this variable related to community acceptance, concern for institutional power structures, the psychological or sociological settings necessary for growth and change and risk-taking atmospheres. Criteria for fulfillment:

- A. Recognition A statement clearly directed at the issue of climate as it is defined by the above.
- B. Commitment Program activities with clear goal statements and procedures directed at developing programs to improve organizational health, study settings appropriate to change, improve community understanding and acceptance of change, increase risk-taking behaviors and study environmental attitudes toward change.
- Critical Variable 7. Educational change agents will recognize the need for trials, or field testing of innovations and will build such activities into programs.

Some strongly believe that trial activities are essential to a process of change. The purpose of tryout of new ideas or new programs is to test adequacy in an actual teaching-learning situation. Trial activities further serve to convince and provide easier access to schools because they are understood to be temporary. A trial run provides the opportunity for further development and for relating an innovation to the needs of the receiving institution. Thus trial activities were crucial for laboratories because of the need to fit programs to the needs and peculiar characteristics of schools.

Criteria for fulfillment:

- A. Recognition A statement which indicated that trial or field testing of ideas and programs would be an essential part of the overall laboratory program.
- B. Commitment Clear procedures within the context of program activities which described how and where an idea

would be field tested or a separate section describing trial activities for the total laboratory program.

Critical Variable 8. Educational change agents will recognize the importance of being viewed as a credible source of help and will undertake activities to build credibility.

The purpose of this variable was to determine what, if anything, laboratories had attempted in order to be accepted as organizations capable of making a difference in regional education. This variable was important because the laboratories are federally funded and their purposes and intentions might have been misconstrued. Secondly, it was important because any new institution must take steps to build credibility, especially since some evidence exists which indicates that ideas and help are often accepted more readily because of the source than because of the idea.

Criteria for fulfillment:

- A. Recognition A statement which indicated that a laboratory will take steps to communicate its purpose and potential.
- B. Commitment Evidence of activities or clear plans to inform constituents and gain their acceptance through newsletters, meetings, dissemination procedures, a public relations program, a regional communications network, building liaison with institutions or employing persons with high regional credibility.
- Critical Variable 9. Educational change agents will recognize the need for bringing resources to bear on improving school programs and will facilitate use of outside personnel.

The U. S. Office of Education Guidelines⁴ for developing a labora-

4Ibid.

tory clearly indicated that bringing resources to bear on the solving of regional educational problems was a prime function of laboratories. This obviously implies that knowledge of adequate available resources exists. This variable was included because considered opinion suggests that practitioners need help in solving their problems, that they do not know adequate ways to secure help and are not fully aware of benefits accrued from resource utilization. Resources were defined to include individuals, agencies and institutions.

Criteria for fulfillment:

- A. Recognition A statement which highlighted the importance of locating and using resources in solving regional educational problems.
- B. Commitment A report on resources or some evidence that effort had been made to locate resources was one type commitment. Additional commitment could have been indicated by activities which used resources in needs assessment, program development, materials development, communication activities, dissemination or demonstration activities, action research or other plans which made resources available to a laboratory and area schools.
- Critical Variable 10. Educational change agents will recognize the importance of involving clients in research activity and will develop or assist in developing action research programs.

The purpose of this variable was to collect data on the efforts of laboratories to stimulate or undertake action research activity. It was included because of the belief of many educators that enough research is not conducted in relation to specifically identified school problems and in the setting in which those problems occur. Action research was defined to mean systematic study or research necessary to build adequate projects to solve problems found in schools or systematic study directed toward identifying problems to be solved.

Criteria for fulfillment:

- A. Recognition A statement which indicated the importance of doing research on school identified problems or in helping practitioners learn how to do their own research.
- B. Commitment A clear indication through goal statements and procedures that research was planned in relation to school identified problems or contemplated program activities directed at improving practitioner skills to use research as a means of finding solutions to their problems.
- Critical Variable 11. Educational change agents will recognize the importance of using basic research results and will undertake development and design activities to make basic research more useful to practitioners.

One of the prime reasons the laboratories were founded was to attempt to close the gap between knowledge and practice. This variable was addressed toward determining whether laboratory plans included activities intended to help close that gap. Such activities have been defined to include the functions of development of materials, projects, techniques or approaches designed to utilize existing research knowledge or considered opinion. Basically this variable was directed toward the "D" of research and development.

Criteria for fulfillment:

A. Recognition - A statement which communicated the importance of closing the gap between knowledge and practice or which indicated that laboratory program activities would utilize present knowledge.

- B. Commitment An awareness of information and studies related to the problems a laboratory intended to solve was one type of commitment. Other types were program activities which clearly drew upon existing knowledge to develop materials, techniques, research, self-help projects, or other translation activities to make research more useful.
- Critical Variable 12. Educational change agents will recognize the usefulness of demonstration activities and will provide or make possible, through various programs, demonstrations.

The bulk of programs directed at educational change seems to have demonstration activities included as part of the process. Demonstrations are intended not only to familiarize persons with new ideas and techniques, but also to build conviction for using those ideas. This variable was included because it was felt that all laboratories could make use of demonstrations, but most especially those laboratories that were concerned with the adoption of new materials - hardware and software - or instructional media.

Criteria for fulfillment:

- A. Recognition A statement which highlighted the value of demonstration activities and/or that a laboratory would demonstrate new ideas to practitioners.
- B. Commitment Clearly defined procedures on what was to be demonstrated, to whom and how, were either included in each program activity or in a separate section relating to total programs. Also accepted as fulfillment

was the existence of a demonstration center with defined activities and/or personnel with responsibility for demonstrating.

Critical Variable 13. Educational change agents will recognize the importance of creating awareness of new ideas and innovations and will design dissemination activities as part of their program.

Another major reason the laboratories were created was to conduct dissemination activities. Those responsible for the laboratories apparently viewed dissemination as one of the primary steps in a system to close the gap between research and practice. Dissemination was defined in this study to include any activity designed to inform regional constituents about educational research, development, materials, programs, techniques and other ideas.

Criteria for fulfillment:

- A. Recognition Statements which indicated that dissemination was one of the purposes of a laboratory or statements highlighting the importance of dissemination.
- B. Commitment Clearly defined procedures pointing out what was to be disseminated, to whom, and how, either as a part of individual program activities or in a section dealing with the total program, was one type of commitment accepted. Another was the existence of a dissemination and/or communications division with designated role responsibilities in terms of dissemination activities.

Procedures for Data Collection

Meaningful content analysis must proceed within a framework broad enough that relevant data are not omitted, yet specific enough that results can be communicated. In an attempt (1) to order the data collected, (2) to provide for some differences in degree and (3) to keep researcher judgment to a minimum, a framework was sought. The critical variables derived from literature provided the broadness for the framework. To get specificity, a number of methods were developed which, when tried failed to meet the three needs expressed above. The framework decided upon seemed to best meet the criteria.

The variables were written to imply that two levels of activity were sought. These were a <u>recognition level</u> and a <u>commitment level</u> and were described in the previous section. Also described earlier were the two types of recognition - <u>direct</u> and <u>inferred</u> as well as the two degrees of commitment - <u>definite</u> and <u>possible</u>. The criteria on which judgments of fulfillment were made appear in the previous section with the variables and an explanation of each.

Using the above framework, data collection sheets were developed and the content analysis begun. Each data sheet was constructed so that notes and direct statements could be taken from the documents on each variable. The documents of each laboratory were then carefully read and statements which indicated a recognition of the importance of a variable were extracted including the activity and any procedural detail accompanying it. Sheer numbers of recognition statements and specific activities were not sought even though more than one activity or statement was

recorded in many cases.

The notes were then carefully studied to determine if the statements clearly indicated recognition or if it could be inferred from the nature of program activity. An appropriate entry was then made on a chart for the recognition level of each variable for each laboratory. Three types of decisions were possible. A blank space on the chart indicated no recognition either by direct statement or inference. An "I" in the appropriate space indicated recognition, but inferred from the nature of activity, whereas an "S" indicated recognition by a direct statement.

The notes taken in connection with the commitment level were studied and recorded in a similar manner. The three decision possibilities were a blank space for no evidence of commitment, a "P" in the appropriate space for evidence which indicated possible commitment and a "D" for evidence indicating a definite commitment. The nature of the decision making process was, however, somewhat different as indicated by the earlier section on criteria for acceptance. At both levels, especially the commitment level, there were points at which the decision, even with the criteria in mind, seemed too arbitrary. These decision points were noted and the data documents were studied again.

Because a great breadth of data was sought and because the data were drawn from a number of different documents, it was felt the same data collection procedure should be repeated.

The second study was conducted in a similar manner. This study of the documents revealed data which had been overlooked on the first study and served to clarify most of the difficult decision points. Again

the notes in connection with both levels were studied and the results recorded on charts in the same manner as with the first content analysis. The second set of charts was developed without reference to the first set. Comparisons were made after results had been recorded the second time. Points of disagreement were noted and the documents were searched for data that would clarify the points of difference.

Objectivity of Data

In order to provide some degree of objectivity to the data collected, two advanced graduates were used as judges. A twenty percent sample (documents from four laboratories) was selected at random and all thirteen variables were applied to the sample by each judge. The judges were given the following information and instructions:

- 1. A list of the critical variables
- 2. An explanation of what each variable meant
- 3. The criteria for accepting fulfillment
- 4. An explanation of the difference between the levels and the sub-categories in each
- 5. A rating scheme of (0) for no recognition or commitment,(1) for inferred recognition and possible commitmentand (2) for direct recognition and definite commitment

The ratings of the judges were then compared to the researcher's judgments. The comparisons are reported in Appendix B.

Analysis of the Data

Analysis of the data first included the development of charts

and tables in order to communicate the results in an orderly fashion. The charts and tables developed for this purpose are as follows:

- Charts which showed fulfillment on the recognition and commitment levels by sub-categories for all laboratories on each variable. This was reported in one chart each for each variable.
- 2. Tables which showed the number and percent of laboratories fulfilling the recognition and commitment levels by sub-categories; the number and percent of the first twelve laboratories (the first twelve funded for development) fulfilling the recognition and commitment levels by sub-categories; the number and percent of the latter eight laboratories (the last eight funded for development) fulfilling the recognition and commitment levels by sub-categories. The above was reported in one table each for each variable.
- 3. A summary chart which showed fulfillment on the recognition level by sub-categories for all laboratories on all variables.
- 4. A summary chart which showed fulfillment on the commitment level by sub-categories for all laboratories on all variables.
- 5. A summary table which showed the number of laboratories fulfilling the recognition level by sub-categories and also broken down by the first twelve and latter eight.

6. A summary table which showed the number of laboratories fulfilling the commitment level by sub-category and also broken down by the first twelve and latter eight.

The data were analyzed by determining the percentage of laboratories which fulfilled each variable by each level and sub-categories within each level. Comparisons were drawn between the first twelve and latter eight laboratories by calculating the number and percent fulfilling each variable by level and sub-categories within each level. The data were also analyzed to present a total picture of the number of variables fulfilled by level for each laboratory, for the total group of laboratories, for the first twelve and for the latter eight.

Summary

In this chapter the design, methodology and procedures used to develop and conduct this study from its inception have been described. In order to inform the reader about the National Laboratories Program, a short history which included the procedures for developing a laboratory, funding levels, locations of laboratories and some information on organizational and governmental structure was provided. The study included the total population of regional laboratories in existence during 1966.

This study was conducted by studying the literature on change generally and educational change specifically in order to derive knowledge about methods and activities related to the work of change agents. What seemed to be the most frequently mentioned methods and activities were determined to be some of the critical variables in the work of change agents and guided the nature of data to be collected through

content analysis of laboratory development period documents. Approximately fifty documents were content analyzed twice by the researcher. Judgments were made concerning fulfillment of each critical variable on two levels of fulfillment - recognition and commitment. Two judges also rated fulfillment on each variable with a twenty percent sample of documents. The data were presented in charts and tables and analyzed to determine the percentage of laboratories fulfilling each variable at each level as well as comparing the earlier and later laboratories by variables and levels within variables.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Introduction

In this chapter the data collected in relation to the thirteen variables are presented. An attempt is made to analyze and interpret the most meaningful aspects of the data. The format of the chapter is as follows: For each variable two data summaries will be presented. In order to avoid confusion the first is called a chart and the second is called a table. Thus Chart I and Table I will relate to variable one; Chart II and Table II will relate to variable two etc. The charts will show whether a laboratory fulfilled a variable on the recognition and commitment levels by the sub-categories. For example, if laboratory A explicitly stated that it recognized the importance of involving constituents in planning activities it would receive an "S" in the block representing the intersection of laboratory A and variable one on the recognition level. The "S" represents direct statement recognition. If laboratory A were judged to have a possible commitment on variable one, it would receive the letter "P" in the intersection of laboratory A and the commitment level. The "P" represents possible commitment. The key will be given at the end of this section.

The Tables will show by number and percent, total laboratories, first twelve and latter eight fulfilling a variable by both levels and

sub-categories within each level. Following the chart and table on each variable a summary of highlights will be presented in narrative form. Two summary charts and two summary tables are presented at the end of the chapter. The charts summarize the fulfillment of all laboratories by level and sub-categories within level for all variables. One chart is used for the recognition level and one for the commitment level. The tables summarize by number and percent the fulfillment for all laboratories, first twelve and latter eight. One table is used for the recognition level and one for the commitment level.

The key to be used in interpreting all fifteen charts in this chapter is as follows. The key is not shown with each separate chart.

Recognition level

"S" - recognition by direct statement

"I" - recognition by inference

Commitment level

"D" - definite commitment

- "P" possible commitment

Critical Variable 1. Educational change agents will recognize the need for involvement and will involve the targets of change at some point in the planning of change or innovations.

CHART 1 - Laboratories fulfilling variable one by level and sub-categories

Laboratories

	A	В	С	D	E	F	G	H	I	J	K	L	М	N	0	Ρ	ନ୍	R	S	Т
Recognition	S	s	I	I	I	I	I	S	I	s	s	I	I	S	S	I	I	I	I	S
		r	.																	
Commitment	D	D	Р	D	D	Р	D	D	D	D	D	D	D	Ρ	D	Ρ	Ρ	D	D	Ρ

TABLE 1 - Number and percentage of laboratories fulfilling variable one by level and sub-categories distributed by total, first twelve and latter eight.

Laboratories

		Tot	al	Firs Twel	st Lve	Lat Eig	ter ht
		N	%	N	%	N	%
Recognition	Direct Statement	8	40	4	33	4	50
	mition Direct Statement Inference Definite itment	12	60	8	67	4	50
Commitment	Definite	14	70	- 7	58	7	87.5
	Possible	6	30	5	42	l	12.5

.

Chart and Table 1 show that all laboratories recognized the need to involve constituents in planning and implementing programs. All laboratories also indicated some degree of fulfillment of each variable. Of the eight laboratories which recognized the need by direct statement, six (75%) followed with a definite commitment. Of the twelve for which recognition was inferred seven (58%) followed with a definite commitment. A higher percentage is noted when the activity was recognized in definite terms. Only one laboratory clearly stated the need but did not follow with a clear cut commitment.

A difference existed between the earlier and latter laboratories on both levels of fulfillment of this variable. Only a slight difference was noted regarding directness of recognition, however, seven of the latter eight laboratories (88%) showed a definite commitment while (58%) of the earlier laboratories had a definite commitment.

In the majority of cases those laboratories which were judged to have less than a definite commitment were judged so because of lack of clarity concerning how constituents had been involved or how they would be involved. The most common ways of involving constituents were: (1) in needs assessment, (2) in program development (3) on committees or councils advising on governmental or organizational matters (4) as disseminators and demonstrators and (5) on governing bodies. There seemed to be least clarity on the involvement of participants, especially classroom teacher, in program development operations. That teachers would be involved in program development functions was mentioned many times, but few laboratories clearly indicated how. The greatest clarity was found in procedures for utilizing constituents in needs assessment procedures.

Critical Variable 2. Educational change agents will be aware of priority problems and will recognize the need to develop programs to attack priority problems of clients.

CHART 2 - Laboratories fulfilling variable two by level and sub-categories

Laboratories

	А	В	С	D	Ε	F	G	Η	Ι	J	Κ	\mathbf{L}	М	N	0	Ρ	ବ	R	S	Т
Recognition	s	I	s	s	I	s	s	ន	S	s	s	s	s	I	ន	ន	S	I	S	ន
Commitment	D	D	D	D	Р	Р	D	Р	Р	D	D	Р	D	Р	D	D	Ρ	Р	Р	D

TABLE 2 - Number and percentage of laboratories fulfilling variable two by level and sub-categories distributed by total, first twelve and latter eight.

Laboratories

		To	tal	First Twelve	e	Latt Eigh	er It
		N	%	N	%	N	%
Recognition	Direct Statement	16	80	10	83	6	75
	Inference	4	20	2	17	2	25
Commitment	Definite	11	55	6	50	5	62.5
	Possible	9	45	6	50	3	37•5

The percentage of laboratories which recognized the need to attack priority problems was high with 80% of them stating it as a direct need and 20% for which it could be inferred. Also, all laboratories showed some degree of commitment to fulfill the variable. The basic reason why more laboratories were not judged to have a definite commitment related to failure to report needs assessment procedures and to state priority educational problems of the region. Of the nine laboratories judged to have a possible commitment, seven of them failed to state needs analysis procedures and/or state the problems identified as a result of needs assessment. In the other two cases it was not clear how the planned program was directed toward solving priority problems.

In ten cases direct recognition was followed by definite commitment while in six, direct recognition was followed by possible commitment. Three of the four laboratories for which recognition was inferred were judged to have a possible commitment.

Differences were found between the early and later laboratories. The early laboratories had a higher percentage of direct statements indicating need - 83% as compared to 75% for the latter group. However, at the commitment level the early laboratories were split (50% each) between definite and possible while the latter group showed 62.5% with a definite commitment. In three cases laboratories seemed to have developed program ideas and then sought approval of the need for such programs from the region.

The most common method of needs assessment was the convening of groups of educators to discuss priority problems and educational needs. Other methods included collection and analysis of demographic data, questionnaires to regional persons and interviews with area educators and others.

- Critical Variable 3. Educational change agents will be aware of and will deal with conditions which impede change.
- CHART 3 Laboratories fulfilling variable three by level and subcategories

Laboratories

	Α	В	С	D	E	F	G	Η	I	J	K	L	М	N	0	Ρ	ହ	R	S	Т
Recognition	S	I	I			ន		I	S		I				I	I	S	I	I	S
Commitment	D	Ρ	Ρ			D			Р		Р				Ρ	P	P	Р	Р	

TABLE 3 - Number and percentage of laboratories fulfilling variable three by level and sub-categories distributed by total, first twelve and latter eight.

Laboratories

		Tota	al	First Twelv	е	Latte Eight	er ;
		N	%	N	%	N	%
Recognition	Direct Statement	5	25	4	33	1	12.5
C	Inference	8	40	4	33	4	50
Commitment	Definite	2	10	1	8	1	12.5
	Possible	9	45	6	50	3	37.5

Analysis of Chart 3 and Table 3 indicated that thirteen laboratories showed recognition of the need to deal with impediments to change even though for eight of these it was inferred from program activity or a statement interpretable as a concern. Only two laboratories included definite plans in their program activities to attempt to learn more about conditions which impede change or to include procedural steps designed to overcome impediments to change. There was, however, an indication that nine other laboratories would conduct some related activity.

Only one (13%) of the later laboratories showed a direct recognition of such need while four (33%) of the earlier laboratories made statements indicating the importance of dealing with impediments. At the level of possible commitment, the earlier laboratories also showed a greater tendency toward fulfillment.

Considerable consistency was found in a study of Chart 3. Seven laboratories made no statments related to the recognition of the importance of this variable. Neither did these seven show any program goals or procedures which could have been interpreted as some degree of commitment. Two laboratories recognized the need to deal with barriers or resistances, but failed to follow with a commitment. For seven recognition was inferred and commitment was judged as possible. For two laboratories the recognition was quite clear and these two also were judged to have definite plans for fulfillment. There was some indication in this variable as in the other two, that definite commitment followed a direct statement rather than inferred recognition.

Critical Variable 4. Educational change agents will recognize the need for skill development and attitude change and will seek to build these characteristics into programs.

CHART 4 - Laboratories fulfilling variable four by level and sub-categories

Laboratories

	А	В	С	D	Ε	F	G	Η	I	J	K	\mathbf{L}	М	N	0	Ρ	ର୍	R	S	T
Recognition		I	I	I	I	I	ន	S	I	I	I	Ì	ន	I	I	I	S	S	I	s
Commitment		D	D	D	Ρ	P	D	D	Ρ	P	D	D	D	P	P	Р	D	P	D	D

TABLE 4 - Number and percentage of laboratories fulfilling variable four by level and sub-categories distributed by total, first twelve and latter eight.

Laboratories

		Tota	al	First Twelv	e	Latte Eight	er ;
		N	%	N	%	N	%
Recognition	Direct Statement	6	30	3	25	3	37•5
	Inference	13	65	7	58	5	62.5
Commitment	Definite	11	55	7	58	4	50
	Possible	8	40	4	33	4	50

Even though laboratories were not directed to develop such programs, it is clear through study of Chart 4 and Table 4 that laboratories realized the importance of raising skill levels to handle new ideas and techniques as well as directing attention toward attitudes about those ideas. The bulk of attention, however, was directed at skill levels rather than attitude change. A larger number of laboratories showed a definite commitment to upgrade skill levels than the number which stated it as an important factor. Eleven were judged to be commited while only six clearly indicated recognition. Five of the six which clearly stated a concern on this variable showed a definite commitment to fulfill it.

Comparisons between the first and second generation laboratories revealed some differences with the second generation laboratories being slightly ahead of the earlier laboratories on recognition as well as commitment to action.

Even though risky, it was possible to characterize approximately eight laboratories as having concerns for securing adoption of innovations in area school systems. Seven of these eight showed a definite commitment toward changing skill levels and attitudes of those persons who were to use the innovations.

The most frequent activity was related to improving skill levels in using new materials, media or techniques with ten laboratories having programs in that arena. Five laboratories planned programs directed toward helping teachers develop skills to improve their ability to study and solve their own problems.

- Critical Variable 5. Educational change agents will not seek to gain adoption of specific innovations but develop programs aimed at developing innovativeness or adaptiveness of clients.
- CHART 5 Laboratories fulfilling variable five by level and subcategories

Laboratories

	А	В	С	D	Ε	F	G	Η	Ι	J	Κ	\mathbf{L}	М	Ν	0	Ρ	ରୁ	R	S	Т
Recognition	ន		I	I	I	s	I	ន	ន	I	I	ន	s		I	I		I		ន
Commitment	P		Ρ	D	Ρ	D	D	P	D	D	Р	P	D		D	Р		Р		P

TABLE 5 - Number and percentage of laboratories fulfilling variable five by level and sub-categories distributed by total, first twelve and latter eight.

Laboratories

		Tota	l	First Twelv	; re	Latt Eigh	er t
		N	%	N	%	N	%
Recognition	Direct Statement	7	35	4	33	3	37•5
	Inference	9	45	5	42	4	50
Commitment	Definite	7	35	2	17	5	62.5
	Possible	9	40	7	58	2	25
Approximately seventy-five percent of the laboratories recognized and had some degree of commitment to program activity designed to help persons become more able to be continually adaptive and innovative. While seven laboratories made statements judged as recognition of the importance of this variable, only three of these seven followed with a definite commitment. The remaining four showed at least possible commitment. Five for which recognition was inferred, followed with possible commitments while four with inferred recognition were judged to have definite commitments. Four laboratories apparently did not view adaptiveness or innovativeness as important since they fulfilled neither the recognition nor the commitment level.

At the recognition level the first and second generation laboratories had approximately the same percentage fulfilling with the later laboratories being slightly ahead on both direct statements and inferences. However, at the level of definite commitment a much higher percentage of the later laboratories fulfilled the variable and dropped considerably below the first twelve laboratories at the possible commitment level.

Six laboratories expressed commitment to this variable through developing programs to help persons become more innovative, open to change, experimental or flexible. Five laboratories labeled such activity as self-improvement, a change in teacher behavior, or self-sustaining programs. Staff development activities was the terminology used by other laboratories.

- Critical Variable 6. Educational change agents will recognize the importance of climate for change and will develop programs to improve climate.
- CHART 6 Laboratories fulfilling variable six by level and subcategories

Laboratories

	Α	В	С	D	Е	F	G	Η	I	J	K	L	М	N	0	Ρ	ହ	R	S	Т
Recognition	I			s	I	I	I	I	I			I					I	I	I	I
Commitment	Р			D	Ρ	P	Ρ		D			Р					Ρ	D	Ρ	P

TABLE 6 - Number and percentage of laboratories fulfilling variable six by level and sub-categories distributed by total, first twelve and latter eight.

Laboratories

		Tot	al	First Twelv	re	Latt Eigh	er t
		N	%	N	%	N	%
Recomition	Direct Statement	1	5	0	0	l	12.5
Recognition	Inference	11	55	8	67	3	37•5
Commitment	Definite	3	15	1	8	2	25
	Possible	8	40	7	58	l	12.5

Variable six was the least fulfilled of any of the thirteen. Only one laboratory fulfilled recognition by direct statement, however, it was inferred for an additional eleven. Three laboratories had program activities accepted as a definite commitment. Again the relationship between inferred recognition and less than a definite commitment was evident. Of the eleven for which recognition was inferred, eight had a possible commitment while two were judged to have a definite commitment. Differences between the two groups of laboratories were present. The one laboratory showing the direct recognition was a second generation laboratory as were two of the three with definite commitments. More notable differences were apparent at the inferred recognition level and the possible commitment level. Recognition was inferred in eleven cases and eight of these were followed with possible commitments.

Three program activities were designed to study the facilitative setting (psychological and sociological conditions) for change. Another program investigated the differences between open and closed systems with regard to acceptance of new ideas. Two other programs were designed to build receptivity to change on the part of lay citizens.

It seems that most laboratories directed their attention toward the individual rather than the system or institutional setting. The degree to which one is more important than the other probably is unknown, but it is likely that one enhances the other. The direction of efforts toward the individual may explain the lack of effort toward the institutional setting and climate for change.

- Critical Variable 7. Educational change agents will recognize the need for trials, or field testing of innovations and will build such activities into programs.
- CHART 7. Laboratories fulfilling variable seven by level and subcategories

Laboratories

	A	В	С	D	Е	F	G	Η	Ι	J	K	L	М	Ν	0	Р	ରୁ	R	S	Т
Recognition	I	s	I	I	I	I	s	I	I	I	I	s	I	I	I		I	I	I	ຘ
															_					
Commitment	Р	Р	Р	D	Р	P	Р	D	D	P	D	D	P	Ρ	D		P	P	D	

TABLE 7 - Number and percentage of laboratories fulfilling variable seven by level and sub-categories distributed by total, first twelve and latter eight.

		Tota	al	Fir Twe	st lve	Latt Eigh	ter nt
		N	%	N	%	N	%
Recognition	Direct Statement	4	20	3	25	1	12.5
	Inference	15	75	8	66.7	7	87.5
Commitment	Definite	7	35	4	33	3	37•5
	Possible	11	55	6	50	5	62.5

A study of Chart 7 and Table 7 revealed much concern for trial and field testing of ideas and programs. Trial activities were recognized by nineteen of the twenty laboratories and the same number showed some degree of commitment even though only seven were judged to have a definite commitment. The carryover from stated recognition to definite commitment was poor with only one of four following that pattern. In some cases the total laboratory program was a trial program, especially for those laboratories which were working with already developed ideas. In other cases laboratories seeking quick payoff developed or adapted materials or techniques with a definite view toward field testing and installation. Those laboratories not definitely commited to trial activities had either planned long range development activities for which trial was too far away to rate more than passing mention or were planning programs which were already known to be successful.

Some differences were noted between the earlier and later laboratories. The early group had a higher percentage stating a need for trial activities but a smaller percentage for which it was inferred. The later laboratories had a slight edge on the commitment level. The one laboratory which had not stated concern was one of the first twelve.

The most common type trial activity was the testing of developed materials. Seven programs contained this type trial with some testing single ideas while others were to test a concept or a package. Three laboratories indicated that special centers would be set up for tryout of ideas. At least four laboratories planned to arrange with schools for trial activities. Four laboratories had plans to use Title III centers for field testing of programs and materials.

- Critical Variable 8. Educational change agents will recognize the importance of being viewed as a credible source of help and will undertake activities to build credibility.
- CHART 8 Laboratories fulfilling variable eight by level and subcategories

Laboratories

	Α	В	С	D	Е	F	G	Η	Ι	J	Κ	L	М	N	0	Ρ	ବୃ	R	ន	т
Recognition	s	I	I	I	s	S	ຘ	I		I	I	I		I	I	I			I	
			-																	
Commitment	D	D	Р	Р	Р	Р		D		D	D	D		Р	₽	₽			Р	

TABLE 8 - Number and percentage of laboratories fulfilling variable eight by level and sub-categories distributed by total, first twelve and latter eight.

		Tota	al	Firs Twel	t ve	Lat Eigl	ter nt
		N	%	N	%	N	%
Recognition	Direct Statement	4	20	3	25	1	12.5
neoognioion	Inference	11	55	6	50	5	62.5
Commitment	Definite	6	30	3	25	3	37•5
	Possible	8	40	4	33	4	50

Laboratories

A study of Chart 8 and Table 8 revealed a larger number of laboratories undertaking activities to help them be viewed as credible institutions than one might suspect. Even though only four laboratories made direct statements recognizing credibility as important, eleven more undertook activities from which recognition could be inferred. Six laboratories had already conducted or planned to conduct activities clearly designed to build credibility. Eight others had activities which seemed to have a purpose of building credibility but were in a different context or were not clear on procedures. Of the four laboratories which made explicit statements on the importance of credibility, only one was judged to have a definite commitment.

The later laboratories may have gained some knowledge from the experiences of the first twelve in that they had a slightly better fulfillment percentage at all levels except recognition by direct statement. The greatest difference existed between the two groups at the possible commitment level. A judgment that the more recent laboratories were more concerned with credibility might relate to the nature of programs they planned. More of the latter group planned activities in the area of teacher behavior. Since programs of this nature could be more threatening, laboratories may have felt a greater need for being viewed as a credible organization.

Most of the laboratories fulfilled this variable by written communications such as newsletters, articles or news releases. Two had well planned public information programs. A number valued the face to face personal contact and held conferences and seminars with leading educators to communicate the purpose and intent of the laboratory.

Critical Variable 9. Educational change agents will recognize the need for bringing resources to bear on improving school programs and will facilitate use of outside personnel.

CHART 9 - Laboratories fulfilling variable nine by level and sub-categories

Laboratories

	А	В	С	D	Е	F	G	Η	Ι	J	K	L	М	N	0	Р	ରୁ	R	S	Т
Recognition	ន	I	I	ន	I	I	ន	ន	I	S	S	S		ន	I	ន	ຘ	S	s	ຘ
Commitment	D	Ρ	D	D	D	D	D	D	D	D	D	D		Р	D	D	Р	D	P	₽

TABLE 9 - Number and percentage of laboratories fulfilling variable nine by level and sub-categories distributed by total, first twelve and latter eight.

.

Laboratories

		Tot	al	Firs Twel	t ve	Lat [.] Eigl	ter ht
		N	%	N	%	N	%
Recognition	Direct Statement	13	65	9	75	4	50
	Inference	6	30	3	25	3	37•5
Commitment	Definite	16	80	10	83	6	75
	Possible	3	15	2	17	1	12.5

One of the procedures stated in the <u>Guidelines</u> of a laboratory directed groups to inventory talents, resources, personnel, institutions, agencies, associations and industries. With this type direction, the number of laboratories which fulfilled variable nine is not surprising. Eleven of the thirteen given recognition by direct statement were judged to have a definite commitment. Only one laboratory with a clear recognition statement failed to indicate clear usage of area resources. The one laboratory judged to have no recognition or commitment mentioned involvement of educational leaders at one point but the reference was quite unclear.

The majority of laboratories were definite about how resources had been utilized or how they would be used. The most common resource utilization efforts were in program development, advice on organizational structure, research design, needs assessment and developing communications systems. One of the influential factors in judging a definite commitment on this variable was the existence of evidence that showed an awareness of resources. Three laboratories developed large documents listing agency, institutional, project and individual resources. A majority of the remaining ones had similar listings, but smaller in size.

Table 9 indicates that the earlier laboratories had a higher percentage of fulfillment than the latter eight with the exception of inferred recognition. The two notable differences existed at the level of definite commitment and stated recognition. Nine (75%) of the early laboratories clearly recognized the need while this was true with only 50% of the later laboratories. Eighty-three percent of the early laboratories and seventy-five percent of the later laboratories definitely fulfilled the variable.

- Critical Variable 10. Educational change agents will recognize the importance of involving clients in research activity and will develop or assist in developing action research programs.
- CHART 10 Laboratories fulfilling variable ten by level and subcategories

Laboratories

	А	В	С	D	Е	F	G	Η	Ι	J	Κ	L	М	N	0	Ρ	ବ	R	S	<u> </u>
Recognition			I	I	S		s	S	I	I	I		I		I	I	I	ន		ន
				-																
Commitment			Р	D	D		Р	P	Р	Р	D		D		D	Р	Р	Р		Ρ

TABLE 10 - Number and percentage of laboratories fulfilling variable ten by level and sub-categories distributed by total, first twelve and latter eight.

т (-		•	
La	por	ato	rı	es

		Tot	al	Firs Twel	t .ve	Lat Eig	ter ht
		N	%	N	%	N	%
Pocomition	Direct Statement	5	25	3	25	2	25
Recognition	Inference	9	45	5	42	4	50
Commitment	Definite	5	25	2	17	3	37.5
Commit Chieffe	Possible	9	45	6	50	3	37.5

The majority of laboratories were concerned with conducting research. In only a few cases, however, were there clear, definite commitments to conduct or assist in conducting research on problems identified in individual schools, or groups of school systems. Five laboratories made direct statements concerning the need for action research and five also planned such programs. However, only one of the five which stated the need followed with a definite commitment. The most consistent were the six which neither recognized the need nor planned programs to fulfill such a need. The fulfillment on this variable was generally in the fringe area with the greatest degree being shown on inferred recognition and possible commitment. Those laboratories with definite commitments planned programs to provide consultative services to schools doing their own research, to study school conditions which limit teaching effectiveness, train school persons to conduct action research, help school personnel learn how to study their problems and to study school organizational problems.

The later laboratories showed a slightly higher fulfillment at both levels than did the first twelve. The one exception was at the level of possible commitment. However, both levels of commitment taken together revealed a slightly higher percentage for the recent laboratories.

- Critical Variable 11. Educational change agents will recognize the importance of using basic research results and will undertake activities, through development and design activities, to make basic research more useful to practitioners.
- CHART 11 Laboratories fulfilling variable eleven by level and subcategories

Laboratories

	Α	В	С	D	Ε	F	G	Η	Ι	J	K	L	М	Ν	0	Р	ରୁ	R	S	T
Recognition	I	S	I	ន	ន	I	ន	I	I	ន	I		ន	ន	I	I	ន	S	ន	S
Commitment	Р	D	D	D	D	D	D	Ρ	Ρ	D	D		Р		D	Ρ	D	D	D	Ρ

TABLE 11 - Number and percentage of laboratories fulfilling variable eleven by level and sub-categories distributed by total, first twelve and latter eight.

Labo	rato	ries	
2000			

		Tot	al	Firs Twel	t ve	Lat Eig	ter ht
		N	%	N	%	N	%
Recognition	Direct Statement	11	55	6	50	5	62.5
	Inference	8	40	5	42	3	37•5
Commitment	Definite	12	60	6	50	6	75
Commit Cineff C	Possible	6	30	4	33	2	25

This variable was designed to gather data on the development activities of the laboratories. Chart ll and Table ll revealed that most of the laboratories seriously accepted the development function. Development was also an activity which was suggested in directives from the U. S. Office of Education. Eight of the eleven laboratories which received recognition by direct statement were judged to have a definite commitment in the area of development. Four of those receiving inferred recognition followed with possible commitment. In three cases laboratories judged to have direct recognition were judged to have a possible commitment. In one case direct recognition was followed with no commitment.

Table 11 showed the more recent laboratories to have a higher percentage of fulfillment at the direct statement recognition and definite commitment levels and lower percentages at the inferred recognition and possible commitment levels than the earlier laboratories. At the definite commitment level the difference (25 percentage points greater for the later laboratories) seemed great enough to indicate an important gap between the two groups with regard to development activities.

Development of special materials to meet specialized needs was the most common development activity with approximately ten programs fitting this pattern. Eight development activities were directed at developing total programs for specialized needs. Other types of development were conducted on special programs for teachers, individualization of instruction and building evaluative techniques and instruments.

- Critical Variable 12. Educational change agents will recognize the usefulness of demonstration activities and will provide or make possible, through various programs, demonstrations.
- CHART 12 Laboratories fulfilling variable twelve by level and subcategories

Laboratories

	Α	В	С	D	Е	F	G	Η	I	J	K	L	М	N	0	Р	ລ	R	S	Τ
Recognition	I	I	I	I	ន		I	I	I	S	I	I	I	s	I	s	s	S	I	s
Commitment	Р	Р	D	Р	D		Р	Р	D	Р	Р	D	D	Р	D	Р		D	P	Ð

- TABLE 12 Number and percentage of laboratories fulfilling variable twelve by level and sub-categories distributed by total, first twelve and latter eight.
 - Laboratories

		Tot	al	Firs Twel	t ve	Lat [.] Eig	ter nt
		N	%	N	%	N	%
Pagamitian	Direct Statement	7	35	5	42	2	25
Recognition	Inference	11	55	7	58	5	62.5
Commitment	Definite	8	40	5	42	3	37•5
	Possible	10	50	6	50	4	50

Even though demonstration was a function explicitly mentioned in Washington directives, the laboratories did not respond to such activity particularly well. Only seven laboratories directly stated a need to use demonstration techniques or set up demonstration centers. The importance of such activity was, however, inferred for eleven other laboratories. Eight laboratories were concerned enough about demonstration that they developed definite plans to conduct such activities. Only three of the seven with direct recognition followed with definite commitment. One laboratory directly recognized demonstration as important but showed no commitment. One laboratory made it clear that it did not intend to demonstrate because the nature of its program was such that it must be tried in an actual setting on a total implementation basis.

Slight differences existed between the early and recent laboratories. The first twelve showed a higher degree of concern for demonstration as indicated by the greater fulfillment on recognition, but the difference On the commitment level was very slight.

Six programs had provisions for setting up demonstration centers. It was unclear whether these were to be specially constructed centers or placed in existing facilities. Schools were specifically mentioned as centers in five cases and mobile centers were mentioned in two cases. Other laboratories planned to make visits to existing programs possible. One laboratory was particularly concerned that demonstration centers not simply be a place where teachers viewed materials or a program in action but that teachers be able to be a part of the demonstration by using the materials and participating in the activity.

- Critical Variable 13. Educational change agents will recognize the importance of creating awareness of new ideas and innovations and will design dissemination activities as part of their program.
- CHART 13 Laboratories fulfilling variable thirteen by level and subcategories

Laboratories

.	Α	В	С	D	Ε	F	G	Η	I	J	Κ	L	М	N	0	Ρ	ନ୍	R	S	Т
Recognition	ន	ន	I	ន	ន	ន	I	I	ន	ន	I	S	ន	I	ន	I	S	ន	s	ន
Commitment	D	Ρ	Р	D	P	P	D	Ρ	D	P	D	D	D	D	D	Р	D	Р	₽	P

TABLE 13 - Number and percentage of laboratories fulfilling variable thirteen by level and sub-categories distributed by total, first twelve and latter eight.

		Tot	al	First Twelv	; re	Latt Eigh	er t
		N	%	N	%	N	%
Recognition	Direct Statement	14	70	7	58	7	87.5
	Inference	6	30	5	42	1	12.5
Commitment	Definite	10	50	6	50	4	50
Comme omeri o	Possible	10	50	4	33	5	62.5

Dissemination has probably been the most common descriptive term for the regional laboratories. The term has been associated with the laboratories so often that they have been accused of doing nothing more than disseminating. In fact this type labeling was one of the main causes for the founding of the Chase Committee discussed earlier. Dissemination was recognized by all laboratories as being an important activity. Also all twenty showed some degree of commitment to disseminate. Of the fourteen with a direct statement indicating the importance only seven were judged to have clear definite plans to conduct dissemination. The other three laboratories did not mention dissemination as an important activity but developed clear plans to conduct such activity.

The more recent laboratories showed a higher percentage recognizing the importance of dissemination in a direct manner. However, the later laboratories had the same percentage on the definite commitment level as the earlier group.

The dissemination functions of the laboratories are too detailed to mention here. Suffice it to say that they ranged from newsletters and monographs to book length studies, from informal contact to seminars and conferences and from use of Titles I and III projects to universities as vehicles of dissemination. The content ranged from a single idea to a concept or an educational process or educational system design.

CHART 14 -	Fulfillment	of all	variables	by	all	laboratories	on	the
	recognition	level	by sub-cate	egoi	ries	•		

VARIABLES

		1	2	z	4	5	6	7	8	a	10	11	12	13	Vari Tota	able ls
		<u></u>	2		т		U	(Ŭ		10	**		1	S	I
	A	S	S	S		S	I	I	ន	S		I	I	S	7	4
	В	S	I	I	I			S	I	I		S	I	S	4	6
	c	I	S	I	I	I		I	I	I	I	I	I	I	1	11
	D	I	S		I	I	S	I	I	S	I	S	I	S	5	7
	Е	I	I		I	I	I	I	S	I	S	S	S	S	5	7
	F	I	S	S	I	S	I	I	S	I		I		S	5	6
	G	I	S		S	I	I	s	S	S	S	S	I	I	7	5
	H	ន	ន	I	S	S	I	I	I	S	S	I	I	I	6	7
L	I	I	S	S	I	S	I	I		I	I	I	I	S	4	8
A B	J	s	S		I	I		I	I	s	I	ន	S	S	6	5
S	K	S	s	I	I	I		I	I	S	I	I	I	I	3	9
	L	I	s		I	S	I	S	I	S			I	s	5	5
	М	I	S		S	S		I			I	S	I	S	5	4
	N	S	I		I			I	I	S		S	S	I	4	5
	0	s	S	I	I	I		I	I	I	I	I	I	S	3	9
	P	I	S	I	I	I			I	ន	I	I	S	I	3	8
	ନ୍	I	S	ន	S		I	I		ន	I	ន	S	s	7	4
	R	I	I	I	S	I	I	I		S	S	ន	S	S	6	6
	S	I	S	I	I		I	I	I	S		ន	I	s	4	7
	Т	S	ន	S	S	S	I	S		S	S	S	S	S	11	1
Lab	S	8	16	5	6	7	l	4	4	13	5	11	7	14		
Total	s I	12	4	8	13	9	11	15	11	6	9	8	12	6	I	

KEY:

S - Recognition by direct statement I - Recognition by inference

Chart 14 shows the number of variables recognized as important by all laboratories. This was also shown by the charts summarizing each variable. More important, Chart 14 shows the number of variables which each laboratory recognized as important by the two methods of recognition. The variability of recognition across laboratories was very slight with the range running from two laboratories fulfilling nine variables to one laboratory fulfilling thirteen variables. The breakdown of fulfillment at the recognition level was as follows: Two laboratories fulfilled nine variables; two fulfilled ten variables; six fulfilled eleven variables; nine fulfilled twelve variables; and one fulfilled thirteen variables. The mode was twelve and the average was ll.25 variables fulfilled for each laboratory.

Greater differences were noted in variability of recognition through study of the two types of recognition. The range of laboratories which were judged to have recognized variables by direct statement was from one to eleven. The range at the inference level was also one to eleven. These two extremes were represented by the same two laboratories but were reversed with eleven being inferred for laboratory C and eleven by direct statement for laboratory T. The mode for fulfilling by direct statement was five laboratories each having five direct types of recognition and the average was also five. The range at the inferred level of recognition was from one to eleven. The distribution was bimodal with five laboratories fulfilling four times by inference and seven laboratories fulfilling four times by inference. The average was 6.25.

Considering thirteen variables and twenty laboratories, if each laboratory had given recognition to each variable, 260 points of fulfill-

ment were possible. The actual number of points of fulfillment was 224 which is 86.5% of the total possible. The same number of points of fulfillment existed for the two types - direct statement and inference within the recognition level. Chart 14 reveals that out of a possible of 260, 101 points or 38.8% of the total were fulfilled by direct statement while 124 points or 47.7% of the total were fulfilled by inference. CHART 15 - Fulfillment of all variables by all laboratories on the commitment level by sub-categories.

VARIABLES

			_													
		1	2	3	4	5	6	7	8	9	10	11	12	13	Vari. Tota	able ls
															D	P
	_ <u>A</u>	D	D	D		P	Р	Р	D	D		Р	Р	D	6	5
	B	D	D	P	D	ļ		Р	D	Р		D	P	Р	5	5
	_ <u>C</u> _	P		P	D	P		P	P	D	Р	D	D	Р	5	7
	D	D			D	D	D	D	P	D	D	D	Р	D	10	2
	<u> </u>	D	P		P	P	Р	Р	P	D	D	D	D	Р	5	7
	_ <u>F</u>	Р	P_	D	P		P_	Р	Р	D		П		Р	4	7
	<u> </u>	D	D		D	D	Р	P		D	P	D	Р	D	.7	4
т	<u>H</u>	D	Р	ļ	D	Р		D	D	D	Р	Р	Р	Р	5	6
L A	_ I _	D	<u>P</u>	Р	Р	D	D	D		D	Р	Р	D	D	7	5
В	_J	D	D		Р	D		Р	D	D	Р	D	Р	Р	6	5
S	K	D	D	Р	D	Р		D	D	D	D	D	Р	D	9	3
	<u> </u>	D	Р		D	Р	Р	D	D	D			D	D	7	3
	M	D	D		D	D		Р			D	Р	D	D	7	2
	N	Р	P	ļ	Р			Р	Р	Р			P	D	1	7
	0	D	D	Р	Р	D		D	Р	D	D	D	D	D	9	3
	<u>Р</u>	P	D	Р	Р	Р			Р	D	Р	Р	Р	Р	2	9
	ହ	P	Р	Р	D		Р	Р		Р	Р	D		D	3	7
	R	D	Р	Р	Р	Р	D	Р		D	P	D	D	Р	5	7
-	S	D	Р	Р	D		Р	D	Р	D		D	Р	Р	5	6
	т	Р	D		D	Р	Р			D	Р	Р	D	Р	4	6
Lab	D	14	11	2	11	7	3	7	6	16	5	12	8	10		
Totals	Р	6	9	9	8	9	8	11	8	3	9	6	10	10		

KEY:

D - Definite commitment

P - Possible commitment

Chart 15 was designed to provide the same type data summary as Chart 14, but at the commitment level of fulfillment. The variability of commitment across the laboratories was again slight with the range running from one laboratory fulfilling eight variables to seven laboratories fulfilling twelve variables. The breakdown at the commitment level was as follows: One laboratory fulfilled eight variables; one fulfilled nine variables; four fulfilled ten variables; seven fulfilled eleven variables; and seven fulfilled twelve variables. The mode was eleven and twelve and the average was 10.9 variables fulfilled by each laboratory.

Greater differences were again detected by studying the two degrees of fulfillment within the commitment level. Studying first, the definite commitments, Chart 15 reveals that the range can be expressed from one to ten with one laboratory having only one definite commitment and one laboratory having ten definite commitments. The mode was five and the average was 5.6 variables fulfilled by each laboratory. The range of possible commitments was from two to nine with two being judged to have only two possible commitments and one being judged to have nine possible commitments. The mode was seven and the average was 5.3 variables possibly being fulfilled by each laboratory.

Again if each laboratory had fulfilled each variable, 260 points of fulfillment were possible. The number fulfilled for both types of commitment was 218 or 83.8% of the total possible. The number of definite commitments total 112 of a possible of 260 which is 43% of the total having definite commitments. The possible commitments tallied 106 of a

possible 260 which is 40.8% of the total.

Comparing the relationship of direct statement recognitions and definite commitments some distinctions are noted. Of the 101 direct statement recognitions in Chart 14, 58 were followed by definite commitments and 36 were followed by possible commitments. This means that seven were followed by no commitment at either the possible or definite category. From this it seems that when the laboratories were explicit about what they recognized as important activities or needs, they were more likely to make plans to conduct those activities.

Comparing the inferred type recognition to the type of commitments, of the 124 points inferred 69 were followed by possible commitments and 52 by definite commitments. This leaves three with no commitment. Considering the inferred recognition as more unclear about what a laboratory recognized as important, it seems likely that this type recognition would be followed by fewer definite commitments.

Studying the charts for follow through of individual laboratories from direct statement recognition to definite commitment, four laboratories (C, D, K, O) had definite commitments on the same variables on which they had direct recognition. Four laboratories (A, E, M, P) lost one on the follow through, six (B, H, I, J, L, S) lost two, three (F, G, R) lost three, two (N, Q) lost four and one (T) lost seven. The laboratory with the highest number on direct recognition had the poorest carryover. The laboratories which recognized the fewest number in a direct manner seemed to follow through with a higher percentage of definite commitments.

Comparing the inferred recognition with possible commitment, four

laboratories (A, P, Q, T) followed with possible commitments on the same variable on which they were judged to have an inferred recognition. One laboratory lost one on follow through, four lost two, four lost three, two lost four, two lost five, and three lost six. The fact that the laboratories had a poorer follow through from inferred recognition to possible commitment would seem to be an indication that their plans to be change agents were more definite than their outright or stated recognition of the role of change agent. TABLE 14 - Number and percentage of all laboratories fulfilling variables on the recognition level by sub-categories distributed by total, first twelve and latter eight.

		TOT	PAL		F.	IRST I	WELVE		L	ATTER	EIGHT	
	2	3	I		2	S		I		3		I
	N	%	N	%	N	%	N	%	N	%	N	%
1	8	40	12	60	4	33	8	67	4	50	4	50
2	16	80	4	25	10	83	2	17	6	75	2	25
3	5	25	7	35	4	33	3	25	l	12.5	4	50
4	6	30	13	65	3	25	8	67	3	37•5	5	62.5
5	7	35	9	45	4	33	5	42	3	37•5	4	50
6	1	5	11	55	0	0	8	67	l	12.5	3	37•5
7	4	20	15	75	3	25	8	67	1	12.5	7	87.5
8	4	20	11	55	3	25	7	58	1	12.5	4	50
9	13	65	6	30	9	75	3	25	4	50	3	37•5
10	5	25	9	45	3	25	5	42	2	25	4	50
11	_11	55	8	40	6	50	5	42	5	62.5	3	37•5
12	7	35	12	60	5	42	7	58	2	25	5	62.5
13	14	70	6	30	7	58	5	42	7	87.5	1	12.5
Totals	101		124		61		74		40		49	

LABORATORIES

KEY:

S - Recognition by direct statement

I - Recognition by inference

Tables 14 and 15 were designed for the purpose of comparing data on the first twelve laboratories with the latter eight. In Table 14 data in relation to the recognition level are summarized and data on the commitment level are summarized in Table 15.

A study of Table 14 on the recognition level revealed 156 possible fulfillment points for each type recognition for the first twelve laboratories. On the direct statement type recognition the first twelve laboratories tallied 61 out of 156 which is 39.1% fulfillment. The corresponding figures for the inferred type recognition were 74 of 156 or 47.4 percent. The combined types of recognition totaled 135 fulfillment points out of a possible 156 which is 86.5% fulfillment at the recognition level for the first twelve laboratories. The comparable data for the latter eight laboratories was 104 possible fulfillment points for each type recognition. On the direct statement type the more recent laboratories totaled 40 points fulfilled of a possible 104 which is 38.4% fulfillment. The figures for the inferred type recognition were 49 points fulfilled out of a possible 104 which was 47.1% fulfillment. This is 85.5% fulfillment on recognition for the latter eight laboratories.

A one percent difference was found on the recognition level between the early and later funded laboratories with the earlier ones showing the highest percentage. Similar differences in the same direction existed on the two types of recognition with the earlier laboratories having .07% edge on direct recognition and .06% edge on inferred recognition. These differences, however, were not great enough to be significant.

TABLE 15 - Number and percentage of all laboratories fulfilling variables on the commitment level by sub-categories distributed by total, first twelve and latter eight.

		TOTAL				FIRST TWELVE				LATTER EIGHT			
		D		Р		D		Р		D		Р	
		N	%	N	%	N	%	N	%	N	%	N	%
	1	14	70	6	30	7	58	5	42	7	87.5	1	12.5
	2	11	55	9	45	6	50	6	50	5	62.5	3	37•5
	3	2	10	9	45	1	8	6	50	l	12.5	3	37•5
	_4	11	55	8	40	_7	58	4	33	4	50	4	50
	5	7	35	9	45	2	17	7	58	5	62.5	2	25
	6	3	15	8	40	1	8	7	58	2	25	1	12.5
	_7	7	35	11	55	4	33	6	50	3	37.5	5	62.5
	8	6	30	8	40	3	25	4	33	3	37•5	4	50
	9	16	80	3	15	10	83	2	17	6	75	1	12.5
	10	5	25	9	45	2	17	6	50	3	37•5	3	37•5
	11	12	60	6	30	6	50	4	33	6	75	2	25
	12	8	40	10	50	5	42	6	50	3	37.5	4	50
	13	10	50	10	50	6	50	5	42	4	50	5	62.5
Totals		112		106		60		68		52		38	

LABORATORIES

L E S

V A R I A B

KEY:

D - Definite commitment

P - Possible commitment

Data from Table 15 indicated that the early laboratories were judged to have 60 definite commitments out of a possible of 156. This number represents 38.4% fulfillment. Sixty-eight possible commitments were judged to be present out of a possible of 156 which is a fulfillment percentage of 43.9. The total number of points fulfilled for both degrees was 128 out of a possible of 156 which is an 82% fulfillment.

Study of Table 15 with regard to the later laboratories revealed 104 possible points of fulfillment. At the definite commitment level 52 were fulfilled which is 50% of the total possible. At the less commited level the figures were 38 out of 104 which represents 36.5% of the total possible. The two degrees taken together showed 90 points of fulfillment out of a possible 104 and the corresponding percentage is 86.5 for the later laboratories at the commitment level.

Summarizing the differences the later laboratories showed a 4.5% better level of fulfillment. This does not seem to be a notable difference. However, the differences between the two groups on the percentage of definite commitments does seem notable. The later laboratories showed a 11.6% greater fulfillment. Likewise, the later group showed 7.6% less possible commitments.

Summary

In this chapter, the data collected in this study were presented and analyzed. The data were analyzed in accordance with the data collection structure previously determined. This structure permitted analyzing the data for each variable on two levels and two sub-categories within each level. On the first level, <u>recognition</u>, it was found that the number of variables recognized as important by the laboratories varied from a low of nine to a high of thirteen. No variable was fulfilled less than twelve times and no laboratory fulfilled less than nine variables. However, studying the two sub-categories, direct statement and inference, within recognition, the laboratories were not particularly explicit concerning recognition of a change agent's role. The laboratories indicated clear recognition of a change agent's role, taken by statements from the documents, 101 of a possible 260 points of recognition. Recognition was inferred 126 of a possible 260 points.

On the second level, <u>commitment</u>, the number of variables fulfilled by the laboratories ranged from a low of eight to a high of twelve. No variable was fulfilled less than eleven times and no laboratory fulfilled less than eight variables. The two sub-categories, definite and possible, within commitment indicated different degrees of fulfillment. Studying the definite commitments, 112 of a possible 260 points of fulfillment were judged to be satisfied. The number of definite commitments exceeded the possible commitments by six. The latter was 106 of a possible 260. Even though the laboratories were not particularly explicit in recognition of a change agent's role, their plans to fulfill such a role were clear in 43%

of the cases. Plans, though less clear, were evident in 40.8% of the cases.

It should be noted in summarizing this chapter that data were presented and analyzed on an existence or quantity dimension rather than a quality dimension. The emphasis was on determining the number and percent of laboratories which fulfilled each variable on two levels. An investigation of the quality of plans or strategies to achieve a goal is treated more fully in the next chapter in the framework of recommendations for future studies.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

In this chapter a summary of the study from its beginning to the analysis of data is given. Conclusions based on the data collected and recommendations for future studies will also be presented.

Summary

This study was designed to determine if the regional educational laboratories accepted the charge to be change agents. It was believed that some of the characteristics of a change agent's role could be determined through a study of the literature related to change - specifically that literature written in the context of education and that literature which defined or described the work of an agent of change. A review of the literature served to identify a number of the characteristics related to the role of change agents. Literature was found which not only identified possible activities for change agents, but also methods or approaches thought to be related to their success.

From the review of literature a number of generalizations were drawn which were used as guides to develop activity and method statements thought to be critical for planning to foster change in education. Thirteen of these statements were developed to be used as the

guides for content analysis of regional educational laboratory development documents. The statements were labeled critical variables and were written to indicate two levels of activity. The first level was <u>recognition</u> which was used to determine if laboratories made statements which indicated the importance of the activity expressed in a variable. The second was <u>commitment</u> which was used to determine if the laboratories had plans to perform the activity expressed in a variable.

The literature review also served to provide additional information concerning the purposes and potential of the National Laboratories Program. Official documents from the U. S. Office of Education, articles by U. S. Office of Education personnel and others were valuable in determining whether the laboratories could be expected to perform activities stated in the critical variables. Such literature supported the belief that the laboratories were conceived as change agents. Finding support for viewing the laboratories as change agents led to the assumption that if a change agent were serious about his role, he would secure whatever knowledge existed about change strategies, processes and the role of change agents. Thus, the literature provided a rationale for viewing the laboratories through a framework of change agent activities.

Using the thirteen variables as guides, a content analysis of interim and final reports of the development periods of twenty laboratories was undertaken. Criteria for determining acceptance of fulfillment at both levels were developed for each variable. Statements which seemed to recognize the importance of a variable and

activities which seemed to fulfill a variable were noted. The criteria were applied to the statements and activities to make a judgment concerning fulfillment or lack of it. Some decisions were difficult to make, therefore, the content analysis was undertaken again, with special attention to those points where the decision was unclear.

In order to build some objectivity into the content analysis, two judges were used with all variables and a twenty percent sample of documents. The judges were instructed in the meaning of each variable and the criteria for accepting fulfillment at both levels. Judges recorded their decisions which were compared with the researchers to determine percent of agreement.

Analysis of the data in this study consisted of determining the percentage of laboratories which fulfilled each variable on each level. Percentage comparisons were also drawn between the earlier and later laboratories. The analysis indicated that the laboratories as a group fulfilled 11.25 of the thirteen variables at the recognition level. Of 260 possible decision points on recognition the laboratories fulfilled 225 of these. At the other level, commitment, the laboratories as a group fulfilled 10.9 of the thirteen variables. Again, 260 decision points were available of which 218 were fulfilled.

Comparisons of the earlier and later laboratories indicated that the earlier ones had 86.5% fulfillment on the recognition level and the later ones had 85.5% fulfillment on the recognition level. At the commitment level the figures were 82% and 86.5% respectively.

Conclusions

The purpose of this study was to attempt to determine if the regional laboratories accepted the charge to be change agents. The analysis of the data gathered in this study suggests that conclusions can be drawn regarding the basic question of the study. Conclusions will be drawn on the two levels on which data were collected, on individual variables and from comparisons of the earlier and later laboratories. The following are the conclusions of this study on the recognition level:

- 1. The data collected on the direct statement recognition level did not indicate that the laboratories, as a group, stated an awareness of a change agent's role. This was shown by the data in that only four laboratories were judged to have direct recognition on more than half of the variables.
- 2. The data collected on the inferred recognition level indicated a greater awareness of a change agent's role. Such data was provided through planned activities or statements which was interpreted as an awareness of a change agent's role. Nine of the twenty laboratories had inferred recognition on over half of the variables.
- 3. As a group, considering both types of recognition, the laboratories did indicate an awareness of characteristics of a change agent's role. Combining the two sub-categories, thirteen laboratories fulfilled the recognition level on over half of the variables.

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An awareness of the role of change agent is important. However, perhaps even more important is the planned activity to fulfill such a role. Data were gathered on the commitment level to determine if such plans existed. The following are conclusions of this study on the commitment level:

- The laboratories as a group were not concise in describing their plans related to change activities. Only seven of the twenty fulfilled over half of the variables on the definite commitment level.
- 2. Too many laboratories did not clearly state their plans to foster change. Seven of the twenty fulfilled more than half the variables on the commitment level with possible commitments.
- 3. The possible and definite commitments taken together indicate that in all cases plans existed to fulfill at least eight of the thirteen variables. On the basis of both types of commitment, laboratories were judged to be pursuing activities designed to foster change.
- 4. Laboratories which were judged to have recognition by direct statement were more likely to follow with definite commitment than when recognition was inferred.
- Laboratories for which recognition was inferred were more likely to follow with possible than with definite commitments.

Analysis of the data collected on individual variables suggests
the following conclusions:

- The variables which dealt with functions expressed in the Federal <u>Guidelines</u> (Variables 1, 2, 7, 9, 11, 12, 13) were better fulfilled than those not mentioned in the <u>Guidelines</u>.
- 2. The laboratories as a group were not committed to activities to study or deal with barriers or resistances to change. (Variable 3) Only two laboratories expressed clear plans for such programs while nine others mentioned some plans in the context of program activities.
- 3. The laboratories as a group were not committed to improve clients' ability to become adaptive or continually innovative (Variable 5) Seven of twenty had clear plans in this direction while nine more had unclear plans.
- 4. The laboratories as a group were not committed toward studying the conditions necessary for or developing programs to improve the climate for change. (Variable 6) Only three laboratories had definite plans on this variable, while eight others mentioned such activities in program activities.
- 5. The laboratories as a group were not concerned about building credibility for themselves. (Variable 8) Six of twenty had clear plans while eight others had possible plans on this variable.
- 6. While almost all laboratories planned research activity, few were committed toward action research. (Variable 10) Five of twenty indicated plans which could be labeled action

research. An additional nine had possible plans.

Studying the data which compared the earlier and later laboratories, the following conclusions can be drawn:

- Considering the total package of variables, no differences existed between the earlier and later laboratories on the recognition level. This lack of difference was present for both sub-categories within recognition.
- 2. Considering all variables, differences existed between the earlier and later laboratories on the commitment level. The later laboratories had a 4.5% better fulfillment overall. The later laboratories had an ll.6% better fulfillment at the definite commitment level. Even though no difference existed concerning recognition of a change agent's role, the later group of laboratories were more committed toward plans to fulfill such a role.
- 3. The later laboratories were more committed to involvement of participants in planning. (Variable 1)
- 4. The earlier laboratories more clearly recognized the need to deal with barriers and resistances. (Variable 3)
- 5. The later laboratories were more committed to developing programs designed to help clients become more innovative and adaptive. (Variable 5)
- The earlier laboratories recognized and were more committed to use of resources. (Variable 9)
- The later laboratories were more committed to action research. (Variable 10)

- 8. The later laboratories recognized and were more committed to development activities. (Variable 11)
- 9. The earlier laboratories recognized and were slightly more committed to demonstration activities. (Variable 12)
- 10. The later laboratories more clearly recognized the need for dissemination but were less committed to it.
- 11. The earlier laboratories seemed to recognize more clearly the need to build credibility, but were less committed to it.

Infant organizations, especially infant organizations designed to assume a previously non-existing role, could hardly be expected to manifest full awareness of the role they were expected to fulfill. The data collected in this study were taken from reports that were submitted as a result of planning periods which ranged from two and one-half months to approximately eight months. Generally, one could hardly expect an organization to be much beyond the conceptual stage with the amount of planning available. However, in many cases the laboratories were much beyond the conceptual stage as evidenced by some clearly planned activities. Considering the direct statement recognition and definite commitment only, one would draw the conclusion that the laboratories, as a group, did not accept the charge to be educational change agents. Four of the twenty laboratories received direct statement recognition on over half of the variables. Seven of the twenty fulfilled over half of the variables on the definite commitment level. In both cases the figure is less than half of the total group. However, because there was provision in this study for acceptance of fulfillment with something less than clear cut recognition and definite commitment, conclusions must be drawn from the data gathered on the inferred recognition and possible commitment levels.

At the inferred recognition level nine of the twenty laboratories fulfilled over half of the variables. At the possible commitment level seven of the twenty fulfilled over half of the variables. These data would seem to indicate a stronger commitment to a change agent's role. This commitment is strengthened by combining the inferred and direct statement recognition. Such a combination shows that thirteen of the twenty laboratories fulfilled over half of the variables on the recognition level. Combining the possible and definite commitments indicates that fourteen of the twenty laboratories fulfilled the commitment level on over half of the variables.

On the basis of the data collected on both levels and sub-categories within levels, this researcher concludes that the regional laboratories did accept the charge to be educational change agents.

Recommendations

One of the purposes of a survey study is to provide data which might serve to identify elements of future studies. Hopefully this study will provide a reader with some ideas for further in-depth analysis of one or more of the regional educational laboratories. Before suggesting ideas that could lead to the development of related studies, it is necessary to point up some of the limitations of the present study.

This study sought to determine the existence of certain factors thought to be critical to the work of change agents. During the course of data collection, many alternate routes toward the same basic goal were revealed. A difference in quality was surely represented by those various routes. However, in this study, no attempt was made to assess the variations in quality of plans or to make judgments about which strategies were most likely to achieve the desired goals. For example, there may be quite a difference in the results when educational needs are assessed by collecting demographic data as compared to interviewing educators or having them complete questionnaires. Using another case, long term effectiveness may be improved if laboratories are concerned with programs designed to help clients become more adaptive or innovative rather than secure the adoption of specific new programs or ideas.

It would be difficult indeed to assess the quality of strategies until those strategies had been implemented in operational programs. This study is limited in that it dealt with plans of the laboratories rather than what they actually did toward fulfilling each variable. The scope of another study might include a follow up of various strategies employed to reach common goals and assess the relative effectiveness of each. Such studies could concentrate on a single variable used in this study or a combination of two or more.

If a future study were conducted which sought to determine continued commitment on the variables used in this study, it is recommended that the recognition level be omitted. This study could have been conducted without the two level analysis. It could have been

assumed that commitment to an activity implied recognizing its importance which was the case with the inferred recognition. However, omission of the recognition level would have prevented analysis of follow through from concerns to planned activities. Also, the documents from which data were drawn for this study were partially in the conceptual stage and it was believed that an indication of important concerns was a first step toward acceptance of the role of change agent.

Another factor may have affected the data gathered in this study. The signals from the U. S. Office of Education were not always clear nor were they always consistent. This was a new type venture for the U. S. Office of Education which meant there were many new problems to face. There was surely a struggle to avoid the laboratories being viewed as an arm of the U. S. Office of Education. It is also likely that the USOE staff perception of the laboratories changed as development began to unfold. The point is that if inconsistency existed among the USCE staff or with the passage of time in relation to the role of the laboratories, the autonomy of the laboratories or the nature of acceptable programs, the data for this study might have been affected.

A comment on the judges ratings seems appropriate at this point. Because the judges dealt with different type documents, with thirteen variables and two levels within each variable, the percentage of agreement was felt to be satisfactory. However, it is felt that the percentage of agreement could have been increased by insuring that the instructions to the judges were completely clear. One set of documents could have been used for a trial run to determine clarity of the task.

Choosing judges who had a conceptual framework concerning change agentry might also have increased the percentage of agreement.

Some limitations, which should be taken into account in future studies, exist within the structure of the variables. Each could be improved by greater limitation, but there are some which required collecting data on two dimensions when only one was originally intended. Variables two and nine are two examples. The intent on variable two was to gather data on program activities in relation to attacking priority problems, however, it was first necessary to collect data related to whether priority problems had been determined. Likewise, on variable nine it was necessary to determine awareness of resources before a judgment could be made concerning the use of resources.

Another type limitation is found in variable four. Skill development and attitude change were treated together because they were mentioned together in the literature, but for this study, they should have been treated separately. The data are distorted somewhat because the majority of data collected on variable four related to skill development rather than to attitude change.

Variable eleven implies a relatedness of two functions which may not be a valid relationship. It implies that development or design functions are for the purpose of making research more useful to practitioners. While this may be true in some cases, it probably is not valid as used here. Two variables could have been constructed with one dealing with development and design functions and the other with making research more useful to practitioners. The latter could have become a part of

variable ten on the subject of action research.

Perhaps, one of the most pertinent studies, alluded to earlier, would be one which aims at identifying and determining the success of various change strategies used by laboratories. This study has not identified those strategies in detail, but it has provided data on the existence, or lack of it, of activities related to the role of change agents. These activities make up part of change strategies utilized by laboratories. Each of the variables in this study could be developed as the major hypothesis for a future study. For example, all laboratories had some kind of plan for dissemination. The details of these plans could be determined and data could be gathered on the effectiveness of various strategies for dissemination. Similar studies could be undertaken for each variable. It is important that more data be gathered on the success of strategies for educational change.

The purpose of another study could be to determine if the laboratories followed through with plans they had made at the outset. A study such as this could provide valuable data on why program activities were changed or why they weren't. It is known that many laboratories have changed their programs considerably since their development period. A study of the factors which led to program changes would be information of value to developing organizations as well as established ones.

Another study might have as its central concern the role of the U. S. Office of Education in developing and coordinating the laboratories. U. S. Office staff have probably taken a more active role in the laboratories program than in other federally funded programs. There is a need

to know if the increased participation has been facilitating or retarding. It would also be helpful to have an analysis of laboratory programs as related to funding levels and what criteria U. S. Office officials used in making funding decisions. Another study might analyze the activities of the Chase Committee. Such a study could analyze the role of the ad hoc committee appointed in the mid-stream of development with a major emphasis on whether its activities were retarding or facilitating to laboratory development.

APPENDIX A

U.S. Office of Education and Related Documents

- 1. Laboratories locations map and list.
- Guidelines for a National program of Educational Laboratories.
- 3. Letter from President Johnson.
- 4. Staff Guidelines for review.
- 5. The Educational Laboratories: How do they fit into the future of American education?
- 6. Members of the National Advisory Committee.
- National Advisory Committee on Educational Laboratories. (Statement adopted on May 12, 1967)
- 8. Letter from Francis Chase to Laboratory Directors.

REGIONAL EDUCATIONAL LABORATORIES

Appalachia Educational Laboratory (AEL) Charleston, West Virginia Center for Urban Education (CUE) New York City, New York Central Atlantic Regional Educational Laboratory (CAREL) Alexandria, Virginia Central Midwestern Regional Educational Laboratory, Inc. (CEMREL) St. Ann (St. Louis), Missouri Cooperative Educational Research Laboratory, Inc. (CERLI) Chicago, Illinois Education Development Center (EDC) Boston, Massachusetts Eastern Regional Institute for Education (ERIE) Syracuse, New York Far West Laboratory for Educational Research and Development (FWREL) Berkeley, California Mid-Continent Regional Educational Laboratory (McREL) Kansas City, Missouri Michigan-Ohio Regional Educational Laboratory (MOREL) Detroit, Michigan Northwest Regional Education Laboratory (NWREL) Portland, Oregon Regional Education Laboratory for the Carolinas and Virginia (RELCV) Durham, North Carolina Research for Better Schools (RBS) Philadelphia, Pennsylvania Rocky Mountain Education Laboratory, Inc. (RMEL) Denver, Colorado South Central Region Educational Laboratory (SCREL) Little Rock, Arkansas

Southeastern Educational Laboratory (SEL)
Atlanta, Georgia
Southwest Educational Development Laboratory (SEDL)
Austin, Texas
Southwestern Cooperative Educational Laboratory, Inc. (SWCEL)
Albuquerque, New Mexico
Southwest Regional Laboratory for Educational Research and Development
(SWRL)
Inglewood (Los Angeles), California
Upper Midwest Regional Educational Laboratory (UMREL)
St. Paul, Minnesota

OE-2240c

GUIDELINES FOR A

NATIONAL PROGRAM OF EDUCATIONAL LABORATORIES

PUBLIC LAW 89-10 TITLE IV

U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE

Office of Education

Bureau of Research . Division of Laboratories and Research Development

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CIVIL RIGHTS

Grants and awards of the U.S. Office of Education must be administered in conformance with the Civil Rights Act of 1964; the regulation (45 CFR, Part 80) issued pursuant thereto by the Department of Health, Education, and Welfare; and the Assurance of Compliance (Form HEW-441), on file with the U.S. Office of Education. Excerpts from this Act include the following:

TITLE VI--NONDISCRIMINATION IN FEDERALLY ASSISTED PROGRAMS

Sec. 601. No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

Sec. 602. Each Federal department and agency which is empowered to extend Federal financial assistance to any program or activity, by way of grant, loan, or contract other than a contract of insurance or guaranty, is authorized and directed to effectuate the provisions of section 601 with respect to such program or activity by issuing rules, regulations, or orders of general applicability which shall be consistent with achievement of the objective of the statute authorizing the financial assistance in connection with which the action is taken. No such rule, regulation, or order shall become effective unless and until approved by the President.

GUIDELINES FOR A NATIONAL PROGRAM OF EDUCATIONAL LABORATORIES

The National Program of Educational Laboratories is designed to identify educational problems, to create new institutions to conduct educational research and research-related activities, to train individuals for leadership in such activities, and to assure educational improvements by implementing that research. The program will work toward these objectives through the initiative and the cooperative planning of scholars, school personnel, and representatives of various other groups interested in education.

A. Authority

The legal authority for this program is the Cooperative Research Act (P.L. 83-531) as amended by Title IV of the Elementary and Secondary Education Act of 1965 (P.L. 89-10). As originally enacted, the Cooperative Research Act authorized contracts with colleges, universities, and State education agencies for the support of research, surveys, and demonstrations in the field of education. The 1965 amendments provide authority for grants as well as contracts, extend the classes of applicants eligible for support, authorize the development and support of training programs for research and research-related purposes, give the program authority to engage in dissemination activities, and authorize funds over a 5-year period for constructing and equipping regional educational research facilities. The laboratory program will make full use of this expanded authority.

B. Types of Programs

Funds will be available to support:

- 1. An educational laboratory.
- 2. Interim activities, funded under a development grant, leading to the establishment and full development of a laboratory.
- 3. Special large-scale research or service programs focused on complementing or supplementing the activities of the labora-tory program.

The National Program of Educational Laboratories described in these GUIDELINES will not limit the prerogative of individual institutions to submit proposals to the Office of Education for the establishment of Research and Development Centers. Guidelines and application instructions for the Research and Development Center Program are available upon request from the Office of Education (Form OE 2105-5). During the initial stages of the laboratory program the Office of Education intends to concentrate its resources and efforts on the development of the educational laboratories with regional dissemination and service functions. For these reasons the guidelines which follow pertain to such laboratories.

2

C. Educational Laboratories

Regionally based laboratories will be multi-disciplinary, multifunctional endeavors which include several different institutions, organizations and agencies that will function in concert in research and research-related activities. Through its Division of Laboratories and Research Development, Bureau of Research, the Office of Education intends to work with prospective applicants in order to insure the development of an appropriate regional distribution of laboratories to function in all parts of the Nation. The limited number of laboratories which will be funded in the beginning years of the program suggests the necessity, in most instances, of involving the resources among several States in any one laboratory.

Laboratories will conduct a wide range of research, development, and dissemination programs including basic and applied research, curriculum development and evaluation, development of promising innovations, demonstrations of noteworthy programs and practices, training and dissemination activities, research information centers, and consultation services to assist schools in the implementation of educational improvements developed through research. A communication network is expected to enable the laboratories to complement and supplement each other.

Diversity of program is intended and expected in order that laboratories will respond in different ways to research needs and to the educational characteristics of the regions in which they are established and to the Nation as a whole.

The purposes of the laboratory program require an emphasis on cooperation much beyond that of project research programs. In particular, local school systems of the region must participate in the planning and operation of the laboratory. In developing plans for a laboratory, the first question ought not to be "who gets the laboratory," but rather how the constituent elements will be organized to:

- (1) define the regional membership,
- (2) identify the particular problem areas to be explored,
- (3) include the available and appropriate resources,
- (4) carry out the laboratory's function and purpose, and
- (5) allow for orderly future change.

Assuming that an interested group has considered the above issues, they would then proceed to the development and submission of a prospectus. When this group has developed their planning to a point where they can identify the necessary constituent elements in their region and can demonstrate that they have secured the commitment, cooperation, and coordination of all appropriate elements, they should then be ready to begin the development of a fully drawn formal grant request for a laboratory. Upon the approval of a prospectus which demonstrates this stage of readiness, the Office of Education will consider requests for development grants to cover initial organizational expenses during the period in which a grant request is being prepared for the full operation of a regionally based laboratory.

3

Procedures

Groups interested in forming a regionally based laboratory should submit to the Office of Education 20 copies of a <u>prospectus</u>, approximately 50 double-spaced pages. The prospectus ought to include:

- * a statement of the need for the proposed laboratory;
- * the delineation of the region from which the laboratory will primarily draw its professional resources;
- * an outline of the research, development, and dissemination program;
- * an inventory of talents, resources, personnel, institutions, private industries, agencies, and associations;
- * a sketch of prior efforts in research or dissemination upon which a laboratory might build;
- * a discussion of how the proposed laboratory would relate to other educational research including the continued support by the Office of Education or relevant project research;
- * an indication of the proposed organizational characteristics of the laboratory, physical facility requirements; and
- * a projected gross budget estimate for 5 years, showing separate amount for planning, program operations, and construction facilities.

Other relevant factors to be considered might be regional economic characteristics, demographic factors, relative amounts of public support at different levels for public and private education, and the political and administrative organization of the region's educational systems.

The inventory of resources and talents in the region is critically important and should include an accurate description of the various elements to be involved in the laboratory. Local schools, State educational agencies, colleges, universities, schools and departments of education, professional associations, nonprofit corporations, private industries, and foundations are potential elements which may be brought to bear on the problems and activities of a laboratory.

Also of particular importance to the prospectus will be the section on organizational intentions for this new institution, including a discussion of institutional and administrative control. Wherever possible, it will be expected that the laboratory will establish itself as a nonprofit corporation.

Depending on the merits of the proposal and the availability of appropriations, a prospectus will either be approved, held for further action, or disapproved.

- 1. An approved prospectus will lead to the development of a grant request. If the Office of Education approves a prospectus, the applicant can seek funds designated under B (2) above to help defray expenses while it develops a grant request. The personnel of the Division of Laboratories and Research Development will be available for advice and assistance in the preparation of a grant request.
- 2. A prospectus held for further action will be returned with suggestions for further development or for coordinating more fully with other groups. To the fullest extent possible, Division of Laboratories and Research Development personnel will work in close cooperation with these groups. This process is aimed at the eventual submission of new, more coordinated, and matured prospectuses which will have a better chance of approval.

This evaluation method is used to insure that regional purposes are fully served by the appropriate talents and resources according to patterns and strategies best suited to the area and that full-scale grant requests are developed only where there is a substantial likelihood of success. No grant requests for laboratories will be accepted for consideration by the Office of Education until and unless a prospectus has been submitted and approved for the development of a grant request.

Review of a prospectus will require about 60 days. Following the approval of a prospectus, it is expected that a maximum of 3 months may be required to develop and submit a full-scale grant request for a laboratory to be funded in fiscal year 1966. Instructions and formats for submission of both program and construction grant requests will be furnished after approval of a prospectus.

A prospectus may be submitted at any time. However, for funding in the first year of this program (fiscal year 1966), the Office of Education expects to receive prospectuses by October 15, 1965. Interested groups wishing to be considered for the funding of a regionally based laboratory during the first year and who are unable to submit a full prospectus by this date are asked to submit, no later than October 15, 1965, a letter of interest, indicating the scope and present status of any activities in which they are engaged. Such letters are intended to serve only as indications of interest and activity and in no way will bind either the Office of Education or the interested group.

Later dates will be established for receipt of a prospectus from groups wishing to establish laboratories during fiscal year 1967.

Prospectuses and letters of interest should be mailed to the Bureau of Research, Office of Education, Washington, D.C. 20202. Inquiries, preliminary to the submission of a prospectus or letter of interest, should be directed to the Division of Laboratories and Research Development within the Bureau of Research. FOR IMMEDIATE RELEASE

July 5, 1966

Office of the White House Press Secretary (San Antonio, Texas)

THE WHITE HOUSE

LETTER FROM THE PRESIDENT TO THE SECRETARY OF HEALTH, EDUCATION AND WELFARE

Dear Mr. Secretary:

I am pleased that we are now ready to open the first 12 educational laboratories under the Elementary and Secondary Education Act of 1965. These laboratories constitute a major new kind of institution to achieve rapid increases in educational quality on a mass scale.

I hope you will continue to press forward with the development of those laboratories to assist in improving our school systems. We simply cannot allow the school children of this country to find their education frustrating, unrelated to life, or inadequate to their needs in our increasingly complex world.

The laboratories should be large and significant enterprises, equal in size and scope to the major tasks they seek to accomplish. They ought to be conceived as comparable in their way to the large-scale laboratories of the Defense or Atomic Energy establishments. Nothing less will do. Their missions are equally important.

I share with you the great hopes for these laboratories. But it is a crucial question how they are to be transformed from a grand concept to a vital, practical force for change in the educational system. It is important, in this regard, that we continue to seek the advice of experts, both within and outside the Government, on the goals, priorities and accomplishments of these enterprises.

I look to these laboratories:

To stress putting into practice what we already know. The increase of knowledge through research must proceed at a rapid pace. But we have an even greater obligation to overcome the lag between discovery and use, and to convert the results of years of research into application in the classroom. This process will be speeded by establishment of extensive experimental schools and pilot projects showing educational innovation in real situations that can be seen and understood by administrators, teachers, and school boards. to deal with the highest priority common problems of education with which every community struggles and in doing so to contribute to a general elevation of the quality of education everywhere. Each laboratory, with unique talents, resources, and focal points, should, therefore, be broadly concerned with education in the whole Nation.

To involve outstanding scholars, experts, and artists in the development of new educational programs so as to assure that better methods of instruction are accompanied by improved content.

To be a part of community life, drawing out public support and involvement in innovation in education and calling on the resources of the community and industry for planning and operation.

To build links with other Federal programs so that every approach to educational improvement is explored and enhanced. Thus the laboratories should be related to the supplementary centers, provided for in the Elementary and Secondary Education Act of 1965, to the teacher training programs of the Office of Education and the National Science Foundation to appropriate activities of the Office of Economic Opportunity and the National Institutes of Health.

I congratulate you and those who helped you develop the concept of these laboratories and request that you give continuing attention to their effective development.

Sincerely,

/s/ Lyndon B. Johnson

Honorable John W. Gardner Secretary of Health, Education and Welfare Washington, D.C.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE OFFICE OF EDUCATION WASHINGTON, D.C. 20202

August 26, 1966

To Laboratory Directors:

In order to keep you as fully informed as possible, I have enclosed the Staff Guidelines for Review which will be used by Office of Education staff and their consultants during the September review of developmental laboratories. These guidelines were developed to help insure a thorough and consistent review of all seven laboratories.

I wish to stress the point that these guidelines should in no way be construed as instructions to you or demands upon you at this time. I would especially hasten to discourage any last minute activities, undertaken by a laboratory before its review date, under the impression that all items must be addressed before September. I feel I cannot overemphasize this position. The reason we are sending you a copy is simply to let you know what our specific concerns are. We are well aware that you are, by definition, in a developmental stage, and therefore, have not completed many activities at this time. Our purpose in asking questions of the areas included is to attempt to find out your progress to date and your plans for the future.

I hope this is a useful document for your purposes, and look forward to seeing you in September.

Sincerely yours,

R. Louis Bright Associate Commissioner of Research

Enclosure

Staff Guidelines for Review

Introductions:

On September 1, 1966, progress reports will be received from development laboratories. These reports will have been shaped by <u>Instructions</u>, which call for:

- 1. a narrative of major activities
- 2. a presentation of the results to date
- 3. plans for October and November

These instructions were deliberately prepared to encourage the development laboratories to present a factual report of accomplishments. Needless to say, such a report will omit a number of topics, ones which are for the most part, far more appropriate for verbal than written presentation. A list of these topics follows. They will be used in the following ways:

- 1. Questions which arise as a result of individual staff and consultant readings of a progress report should be reported in the space under the appropriate topics found in the list.
- 2. Each morning of a review session, the staff and consultants, using their lists of questions, will prepare an interview schedule for their meeting with the laboratory delegation. This schedule will assure that those questions which are deemed most important will definitely have priority in the interview.

(Staff or Consultant name)

(Date

Questions for the Review of

(Name of the Laboratory)

- I. The Concept of a Laboratory
 - A. Its mission--its unique function.
 - 1. As related to its role in its region.
 - 2. As related to its role in the national program.
 - B. Its relationship to other institutions in region--such as, state departments of education, universities, colleges, public and parochial schools, cultural institutions, industries, etc.
 - C. Its relationship to adjacent laboratories.
- II. The Government of the Laboratory
 - A. Responsibilities and privileges of membership and/or affiliates.

- B. Nomination-election procedures for governing bodies
 - 1. Representation of major education/community interests.
 - 2. Regular transfusion of "new blood".
 - 3. Continuous leadership.
- C. Division of functions among constituent parts of laboratory government for:
 - 1. Decision-making regarding
 - a. Purpose of laboratory.
 - b. Program selection.
 - c. Plans for executing programs.
 - d. Allocation of resources to specific programs/activities.
 - e. Laboratory operating procedures.
 - 2. Executing laboratory program and operations.
 - 3. Advising laboratory program and operations.

- D. Operating procedures for governing bodies (for example, frequency of meetings, quorum, use of alternates, advanced agenda, etc.)
- E. Relationship of the functions of the governing bodies to their operating procedures.
- F. Amendment procedures.

III. Program

- A. Assessment of educational needs
 - 1. Procedures adopted.
 - 2. Kinds of data collected.
 - 3. Interpretations of data.
 - 4. Long-range assessment plans.
- B. Assessment of resources
 - 1. Procedures adopted.
 - 2. Variety of resources contaced.

- 3. Results of assessment.
- 4. Long-range plans for assessment and utilization of resources.
- C. Consequences of the assessments for the laboratory's programs.
- D. Identified problems program objectives
 - 1. Definition of problems
 - 2. Criteria for establishing priorities among problems.
 - 3. Priorities presently established.
 - 4. Specifications or program objectives.
- E. Program Plans
 - 1. Alternative sets of activities (plans) considered for each objective.
 - 2. Rationale for selection decisions regarding sets of activities.
 - 3. Alternative schedules considered for each adopted set.
 - 4. Rationale for selection decisions regarding schedules.

- 5. Personnel requirements for set of activities.
- 6. Cost estimates for each set of activities.
- 7. Facility-location requirements of each activity.
- F. Balance of research, demonstration, and dissemination activities in each program plan.

IV. Organization

- A. Provisions for program planning.
- B. Provisions for implementing programs.
- C. Provisions for handling requests for services, proposals, program ideas, etc. from the region and for initiating and maintaining liaison with region.
- D. Provisions of administrative services, such as
 - 1. Personnel recruitment.
 - 2. Fiscal control and budget development.
 - 3. Technical services in regards to material production, data processing, communications, etc.
 - 4. Legal services.

5. Facilities: location, maintenance, construction.

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E. Line-staff relationships in regards to the above functions.

V. Communications

- A. Kinds of messages being sent and being anticipated.
- B. Media being used for the various messages
- C. Plans toward an intra-regional communications system.

THE EDUCATIONAL LABORATORIES HOW DO THEY FIT INTO THE FUTURE OF AMERICAN EDUCATION?

Francis S. Chase

New Orleans Meeting of the Laboratory Directors

January 15, 1967

My intent is not to pass judgment on the laboratories; but to ask you to rethink with me the role of the laboratories in American education and how this role may be played to greatest effect.

For the past two months the laboratories seldom have been absent from my thoughts except in sleep, and not always then. I have discussed these new institutions with everyone whom I could engage in conversations and have probed in every way I know to extract the essential meaning of these new institutions which have appeared on the American educational scene as an important piece of the apparatus created by the Elementary and Secondary Education Act of 1965. Those with whom I have conferred and argued include scholars from a number of disciplines in the academic community, state superintendents of public instruction, school administrators and teachers, and numerous others concerned with the advancement of education. Included among those with whom I have talked are several who took leading parts in the Task Force which enunciated the basic ideas later incorporated in Public Law 89-10, the Government officers responsible for administration of the National Laboratory Program and the laboratory staff in the Office of Education, members of the special panel chaired by Professor Cremin, and members of the boards and staffs of more than half of the regional

laboratories.

Out of these conversations a number of conclusions are beginning to emerge and a number of sharp questions to protrude. These I wish to share with you before the first meeting of the National Laboratory Advisory Committee is held at the end of this month. I beg you to subject them to the sharpest possible scrutiny, to expose any errors of fact or weakness of logic, and to help me correct my present imperfect perception of what the laboratories are and what they may become.

The evidence which I have examined suggests that the funds already committed to the laboratories will bring returns that compare favorably with those from other expenditures within this decade which have been designed to produce constructive change in education. There is no reason to doubt that the laboratories are engaging in activities which are useful in their own terms and which may be expected to make at least modest contributions to the adoption of innovative practices, to the improvement of the morale of those engaged in teaching and administration, and some measurable increase in educational achievement.

As yet, however, only a small number of laboratories have moved with any definitiveness to supply the need for programatic research, rigorous "field testing" of research findings, or the engineering of components for the "systems" approach to education. Moreover, weaknesses built into the structure, the staff and the choice of activities by many of the laboratories threaten to reduce the prospect that their performance will differ significantly from existing educational institutions. One penetrating critic has said:

... that most of the laboratories are projecting their

activities on the basis of unwarranted assumptions; that they are poorly organized to carry out their mandates;

and that they have projected programs which are pedestrian and which will tend merely to 'repair' the most obvious deficiencies of American education without doing much to change the educational enterprise in any basic ways.

In my opinion this criticism is unduly harsh for most of the laboratories. I would say that considering the short lapse of time since the laboratories have been funded and the presence of conditions which interfere seriously with orderly processes of planning and staffing, it is little short of remarkable that so many of the laboratories (1) have achieved a defensible definition of functions and goals, (2) have built the nuclei of staffs of considerable promise, and (3) are demonstrating that they can make contributions which may enable all parts of the educational enterprise to perform more effectively. I also am inclined to think that several laboratories are engaging in dubious activities and have become the prisoners of mistaken concepts of regionality, of self-deating attempts to address themselves to everyone's perceptions of needs, and of "entangling alliances" of various kinds. Let me expose to you the assumptions that lie back of these harsh judgments.

Within the last several decades there has been a considerable amount of research which illuminates the evolution and functioning of educational institutions and provides implications for learning, teaching, and the administration of education. In his presidential address to the American Educational Research Association in Chicago last February, Professor Benjamin S. Bloom named several areas in which he believes ways of thinking about educational phenomena have been altered

by crucial studies. Reflections on the new knowledge to which Professor Bloom refers suggests, however, that much of it is not yet available for application to teaching or school administration. It has not been incorporated to any great extent into materials of instruction; it has not yet produced discernible change in most programs of teacher education; and most of it has not been put into forms that provide much guidance for organizing schools, grouping learners, or adapting instructional techniques to individual differences. The point is that the discovery of new knowledge does not make it immediately available to those engaged in the practice of education. The same thing can be said of new technologies of communication, data processing, and instruction. Educational availability cannot be measured by the possibilities inherent in the computer or other technological device until the applications to instruction are carefully worked out and tested under a variety of conditions; and the potential cannot be realized until other elements are modified so that the new technology becomes part of a consistent system.

In contrast with such fields as agriculture, engineering, and medicine, education has lacked precise technologies both for investigation of needs and for instrumentation of reforms. There have been serious gaps in the processes through which new knowledge and technologies have been adapted to use by schools and other educational agencies and subjected to rigorous testing under a variety of life situations. In short, there has been little that can be dignified by the name of applied science in the field of education.

The laboratories offer a hope of remedying this lack, provided they can be helped to specify with some precision the kinds of changes--

products or processes--to which their efforts are directed, the stages and instruments through which the ends are to attained, and the proximate inputs of time, talent, and other resources required for each development. It seems to me these developments would be more likely if each laboratory were to select one or a small number of programs so that the necessary attention might be given to the refinement of strategies of intervention and the building of the requisite instruments and staff competence through which to test the selected strategies and tactics, to monitor the operations of the new systems, and to exercise quantity and quality controls over the output.

By functioning along the lines described, the laboratories might provide the new elements to make the American educational enterprise operate more nearly as a system of reciprocating parts. The public and non-public school systems, the several institutions of higher education, the state departments of education, and voluntary educational agencies of many kinds now function largely as discrete units which engage with each other intermittently or incidentally. The laboratories might be designed to mesh continuously both with the producers of theory and research and the potential consumers who are responsible for instruction and the operation of educational agencies. If so, contributions to the effective functioning of other educational agencies would be incalculable. Scholars would be able to improve their research and theoretical formulations as a result of the feedback from the laboratories; knowledge of the kinds of experiences required to enable teachers to adapt their behavior to new conditions might force radical changes in both the initial and continuing education of teachers; state departments of education would be able
to regulate, consult, and advise on the basis of tested information and technology; and schools of all kinds would have a much clearer view of how to bring about the desired changes in education.

It appears that the conditions necessary to the development of laboratories along the lines indicated have not yet been established. In fact many of the conditions under which proposals were prepared and funding authorized were such as to create diffuseness of objectives, attempts to meet a host of conflicting expectations, and a frantic rush to employ staff and get into operation without adequate planning. It will serve little purpose to assign credit for the strengths which the laboratories exhibit or blame for their weaknesses; but it is important without further delay to create the conditions which will help them realize as fully as possible the potentialities of the concept which underlies their establishment. Some of the conditions which seem essential are discussed below.

There is a pressing need for a set of descriptive terms which will convey the distinctive functions and operational strategies of the educational laboratories without restricting arbitrarily the choice of activities essential to the performance of functions. Support of the laboratories by those who provide the essential resources, and by the organizations and persons which they seek to help and on which they must depend, requires a common concept which clarifies the ways in which the laboratories complement the work of existing educational institutions and agencies and the kinds of contributions to be expected from them. Until there is a set of communicable concepts or descriptive terms which are shared by and acted upon by the responsible govern-

ment officials, the staff of the Office of Education, the boards and staffs of the several laboratories, and the agencies and persons with which they need to work, there is a danger that the laboratories may be seen as intruding on the jurisdictions of other agencies and/or as institutions so poorly defined as to be innocuous. In view of the fact that the twelve operational laboratory contracts were negotiated as late as May, 1966, it is remarkable how much progress several of the laboratories have made toward achieving distinctive identities. Over a period of a few months notable progress in the specification of both goals and processes has taken place in at least five or six of the laboratories; and attempts at closer specification of objectives, programs, operating procedures, and staff competencies are observable in most of the laboratories. This process needs to continue with the help of able consultants, who themselves have thought deeply about the laboratories. and who are agreed among themselves and with the leadership of the Office of Education with regard to the essential character of the new institutions. It is hoped that the necessary definitions will emerge as a product of conversations among the several parties concerned with the development and functioning of the laboratories and will reflect the strategies and program definitions which seem to underlie the most promising developments to date.

Criteria for the guidance and evaluation of the laboratories need clarification to avoid confusion by what appear to be mixed signals. It is evident that some of the laboratories find it difficult to decipher the meaning of the directives and suggestions which they are receiving from the Office of Education; and some of the suggestions do appear to be at cross purposes with each other. Two kinds of perceptions of what is ex-

pected seem to me to have produced effects that are dubious, if not downright damaging to the effective development of the laboratories. The first is that the program should represent a response to the needs of the region as ascertained from the persons concerned. Related to this is the perception that the laboratory will be judged by the number and diversity of occupations of the persons involved. Both of these have contributed to the diffuseness which is found in the programs of many of the laboratories; and both contribute to the frantic effort to "bring help" even before there has been any adequate diagnosis of the problems or any formulation of a method of dealing with them. Another kind of perception which has operated to retard sound development is the idea that the laboratories must almost immediately have something to "show and tell". This has led to mounting programs without adequate planning and to recruiting staff without sufficient attention to the qualifications required for substantive contributions over an extended period.

It is my conviction that the laboratories must establish themselves by what they demonstrate, not by whom they involve. Widespread involvement of persons and agencies is no substitute for the development of soundly conceived and carefully developed efforts to produce understanding of how improvements in education can be achieved. Moreover, the desire to please many, or special, constituencies may interfere with development of institutional integrity and power. Laboratories are in danger of becoming captives of particular points of view emanating from powerful school systems, state departments of education, or universities unless the governing boards can concentrate on defining the distinctive

character of the laboratory and its relationships to other institutions. Too much courting of existing agencies may result in failure to develop new points of view and new cutting edges in education, and make the laboratories errand boys for other institutions or lead them to expend their energies largly for their own preservation. They might even come to resembly weak schools of education without students.

The indispensable prerequisite for both training and service activities is the development of tested technologies and specialized staff competence. The attempt to provide training of teachers or other personnel or to offer evaluative and consultative services without relating such training and service to the development of specialized staff competence and technologies will mean that the laboratory becomes simply another educational agency functioning on the basis of opinion and the "conventional wisdom" derived from experience.

It is my contention that as new institutions brought into being by the promise of Federal funds, the laboratories are entitled to reasonable support through their infancy without having to spend talent and energy in seeking grants and contracts. The character of the new institutions is not likely to be soundly formed if they are tempted to enter into contracts for services in order to pay their staffs and other expenses. All the early energies are needed to achieve identity and lay the foundation for distinctive contributions to education. They will mature more rapidly if they do not have to turn aside from essential tasks to raise money either because of shortage of funds or to protect their autonomy.

Long-range planning, stability of staff, and orderly program

development are difficult to achieve when funding is on a short-term basis and budget processing is tortuous or delayed. Several of the laboratories have been remarkably successful in attracting highly qualified persons who value the possibilities they see in the laboratories sufficiently to take the risk of short-term contracts. The risk will become intolerable, however, unless it can be reduced by effective performance. It is necessary that the laboratories provide a basis for confidence through a discriminating delineation of functions, responsible direction and policy making, the employment of competent staffs, and initial progress on significant problems. Once the basis for confidence is established for a laboratory, however, it has the need, and the right, to feel itself "master of its house"; and this it cannot do if autonomy is granted grudgingly or funding is inadequate.

There is no doubt that the President, Secretary Gardner, Commissioner Howe and all Government officers concerned with the laboratories want very much to see the laboratories succeed. They are pleased with evidence of effective functioning; but they are also alert to any signs that the power of the laboratories is being dissipated in activities of small promise or functions that might be as well performed by older educational agencies. The ablest educational leaders in the country appear to have similar views; and the severity of some of the criticism leveled at the laboratories springs from the overwhelming importance attached to effective performance by the laboratories of essential functions which are now neglected. Many of those with whom I have talked are beginning to raise questions which I believe deserve your studious consideration, questions which already are receiving attention in the

Office of Education, and questions which undoubtedly will be discussed thoroughly at the meeting of the National Laboratory Advisory Committee on January 28 and 29 and at the subsequent meeting of the Research Advisory Committee.

One of the questions that comes up in various forms is "How many laboratories should be supported for the next four or five years?" This question sometimes arises out of certain assumptions regarding the level of funding, but more often arises from concern that there may not be enough highly developed talent to permit effective operation of more than five to ten laboratories until additional talent can be developed through research training programs and the training offered by the laboratories themselves. There are many thoughtful persons who share this view and who would argue, therefore, for the discontinuance of the weaker laboratories or for mergers which would increase the strength of the resulting laboratories.

A related question has to do with how much and what kinds of overlap there should be in the programs of the several laboratories. For example, how many laboratories should be devoting major efforts to finding ways to provide success in learning for children and youth from urban slums? Are we more likely to attain the desired results by having one, two, or many laboratories addressing themselves to this problem? Examination of this issue probably will not support the thesis that it should be the concern of each of the present regional laboratories simply because different forms of deprivation appear in the several regions. Is it desirable that laboratories within easy commuting distance of each other pool the talent and other resources necessary for real progress in identi-

fying and coping with the conditions which make motivation so weak and progress in education so uncertain for so many of those growing up in our large cities? Again we may ask, how many laboratories need to concentrate their efforts on the education of the rural poor and the elevation of the quality of life in rural communities? How many need to address their efforts to the education of thos whose native language is other than English?

Another question, which in a sense encompasses those already stated, is how much national planning is desirable for the laboratories? Is some degree of planning essential to avoid wasteful duplication and failure to deal with crucial problems or to follow some of the more promising approaches? Or, can the laboratories be expected to accomplish the same purpose through establishing networks for communication and coordination? If there is to be some degree of national planning for the laboratories, to what purposes should it be directed and through what mechanisms should it be exercised?

A question may also be raised regarding the common service needs of the laboratories. Does it really make sense for each laboratory to establish its own data bank on a regional basis or should there be a common educational data bank which can serve all of the laboratories? The same question can be asked in regard to resource banks, computer facilities, and other services which the laboratories see as essential to their own functioning.

A question also may be raised as to the extent to which the several laboratories should engage in the evaluation of their own activities and of other programs such as those under Titles I and III of the Elementary

and Secondary Education Act.

It seems to me that we have an urgent need for the development of new technologies of evaluation, including diagnostic and analytical instruments of many kinds. In addition to using the instruments and knowledge developed in the field of measurement, it is necessary to bring to bear on the evaluation of education the sharpest tools that can be devised by economists and other social scientists. Otherwise we shall continue to intervene in education without any clear indications of the consequences of such intervention on the quality of the teaching-learning processes. If all of the laboratories engage in evaluative activities using the instruments at hand or those which can be readily improvised, I foresee little advance in the art and science of educational evaluation. Perhaps, there should be at least one laboratory which directs major efforts toward working with a Research and Development Center and other university scholars to develop a science and technology of evaluation and to train evaluators who may in time become available to the laboratories and to other educational institutions.

Some of the other questions to which attention is needed are:

1. Under what conditions is support of research in universities and other institutions justifiable?

2. Under what conditions, if any, are branch offices supportable?

3. How many distinctive types or models of laboratories are desirable?

4. What are the uses and abuses of PERT and of similar approaches to engineering education?

5. How many laboratories should engage in the construction or

revision of curricula in such fields as English, social studies, mathematics and science?

6. Is it desirable that at least one laboratory attempt the working out of processes through which individuals may be able to make discriminating choices among values?

7. How much and what kinds of attention should be given to the contributions of the arts and humanities to education?

Not all of these questions can be subjected to discussion today and not all of them will be high on the agenda of the National Committee; but most of them sooner or later need to be taken into account; and I am sure you can offer other questions equally worthy of consideration.

January 18, 1967

TO ALL DIRECTORS OF REGIONAL EDUCATIONAL LABORATORIES

FROM: James C. Gillis, Jr., Director National Program of Educational Laboratories

Enclosed is a listing of the members of the Advisory Committee on the National Educational Laboratories which we promised to send to you as soon as it was available. I have also enclosed an extra copy so that you may provide one to the Chairman, Board of Directors.

If there is any other information that I might be able to furnish you regarding this Committee, please let me know.

Enclosures

November 22, 1966

TO LABORATORY DIRECTORS

Two events of importance to the regional laboratories took place last week. First, the Research Advisory Council met and reviewed the staff recommendations on the future level of funding for each laboratory. Second, Secretary Gardner appointed Dr. Francis Chase of the University of Chicago as Chairman of the National Laboratory Advisory Committee. The membership of the Committee has been approved also and will be announced as soon as the people nominated have agreed to serve.

I have asked Dr. Chase to spend full time for the next six or eight weeks to make a broad overall study of the National Program of Educational Laboratories. Dr. Chase will have a special staff assisting him in his work and will be joined by several other distinguished educators.

Whereas I have confidence in the program as it has developed, and in the recommendations which our staff has presented, it seems to me that an endeavor of this magnitude and with such significance for all of American education ought to have the benefit of a broad, independent assessment before action is taken on major contracts for its further development. Consequently, I have asked the Research Advisory Council to withhold final recommendations pending the results of this review, and I have further requested the Bureau of Research to delay making any changes in the operating levels of the laboratories until Dr. Chase's group has presented its views.

I have discussed this administrative action with the Research Advisory Council and with Secretary Gardner, and they concur in the desirability of an independent overall look at the program. Because this will be a quick and intensive effort it will not be possible to involve all the members of the new Laboratory Committee or of the Research Advisory Council in it. But no action will be taken on the recommendations of the review without consultation with these advisory groups.

The delay involved in these procedures will certainly make some problems for you, and we want to do everything possible to make these manageable. We shall continue after December 1 to fund your activities at the same rate at which they are now authorized. In addition, our staff will make individual funding adjustments with any laboratory which has special difficulties growing out of the delay on funding decisions. We hope to arrive at new decisions on longer-range funding within two months. Dr. Louis Bright of the Bureau of Research and his staff are fully informed about these matters and can, I am sure, assist in the solution of any problems that might arise. But if you feel that I can be helpful do not hesitate to get in touch with me. I regret that we were unable to achieve this independent review of our Regional Laboratory Program with a timing which would have avoided this delay.

Sincerely yours,

/s/ Harold Howe II

Harold Howe II U.S. Commissioner of Education

Advisory Committee on National Educational Laboratories

Bailey, Stephen K. Dean of Maxwell Graduate School Maxwell School Syracuse University Syracuse, New York 12210

Bloom, Benjamin S. Professor of Education Department of Education University of Chicago Chicago, Illinois 60637

Chase, Francis S. (Chairman) Professor of Education 5835 Kimbark Avenue South Judd Hall Chicago, Illinois 60637

Dayton, Mona (Mrs.) Walter Douglas Elementary School Tuscon, Arizona 85001

Essex, Martin W. Superintendent of Public Instruction State Department of Education 608 State Office Building Columbus, Ohio 43215

Gage, Nathaniel L. Professor of Education School of Education Stanford University Stanford, California 94305

Getzels, Jacob W. Professor of Psychology and Human Development University of Chicago Judd Hall Chicago, Illinois 60637 Meyers, John F. (Rev.) Superintendent of Schools for the Diocese of Dallas-Fort Worth 2122 Kidwell Street Dallas, Texas 75214

Phillips, Howard M. President Birmingham Southern University 800-8th Avenue West Birmingham, Alabama 35204

Proctor, Samuel D. Director, Institute for Services to Education 2000 P. Street, N.W. Washington, D.C. 20036

Schaefer, Carl J. Professor Graduate School of Education Rutgers State University New Brunswick, New Jersey 08903

Tyler, Ralph W. Director, Center for Advanced Study in Behavioral Sciences 202 Junipero Serra Boulevard Stanford, California 94305

Whitmer, Charles A. Section Head of Studies and Curriculum Improvement National Science Foundation 1800 G. Street, N. W. Washington, D.C. 20006

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NATIONAL ADVISORY COMMITTEE ON EDUCATIONAL LABORATORIES*

Statement adopted May 12, 1967

The National Advisory Committee on Educational Laboratories believes that the complex Regional Educational Laboratories will contribute uniquely to the improvement of American education through concentration on the processes commonly associated with the term "development," and emphasis on other measures specifically designed to convert research knowledge as rapidly as possible into education practice. No other institution appears so strategically placed to strengthen development and implementation efforts in American Education.

Since the call to establish these new institutions went forth, thousands of individuals across the nation have engaged in the task. These individuals include leaders from institutions of higher learning, State and local educational agencies, business and industry, government, and voluntary associations. The U. S. Office of Education received some 40 formal prospectuses and letters of intent from groups seeking funds to initiate activities directed toward establishing and developing regional educational laboratories. On February 15, 1966, the Office of Education granted 10 contracts for planning and development; between June 1, 1966 and September 1, 1966, 10 additional contracts were granted. The 20 laboratories which now constitute the laboratory complex range in age from eight to 14 months.

In barely over one year, a number of the laboratories have developed into vigorous organizations that show every promise of making important contributions to the advancement of education. It is also apparent that *The Committee recommended that this become its official designation.

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laboratories are still searching for identity as new institutions and seeking specification of programs which will justify full membership in the laboratory complex; however, almost all of the laboratories in this category have been in existence for less than one year.

The Advisory Committee is aware of the criticisms that have been made of the laboratory organization and operation. The Committee itself and the staff of the Office of Education have been equally critical of some aspects of present conditions. The Committee believes that many of the severest criticisms arose partly from the high expectations held for laboratories and partly from the normal difficulties attendant on translating the concept of new institutions into functioning organizations.

The 14 months which have passed since the establishment of the first laboratories have seen evidence of extraordinary commitment to the laboratory concept on the part of laboratory boards and staff in the face of three shortterm and unstable contract periods. The period of existence has not permitted an appropriate test of laboratory accomplishment. Nor has the limited period since establishment of the laboratory program (and other new agencies created by the Elementary and Secondary Education Act of 1965) permitted any full demonstration of how these agencies can best contribute to the processes which must intervene between discovery or invention and educational use; but the Committee sees evidence that the laboratories are devising promising means of bridging the gap between discovery of knowledge and its application to

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educational practice.

Conclusions

On the basis of the information available to it, the Advisory Committee takes the following positions.

- 1. a. Several laboratories have moved with commendable facility and vigor to clarify their functions, define their programs, develop needed staff competence, and take other steps necessary to justify confidence that they will yield tested products and procedures for improving education;
 - b. other laboratories are moving slowly through stages that are necessarily preliminary to effective operation; and
 - c. a few laboratories still need considerable help in establishing themselves on a sound basis.
- 2. Progress to date justifies confidence that the laboratories will complement the work of other educational agencies in ways that will provide the American educational enterprise with a more effective system of mutually reinforcing institutions.
- 3. a. The total funds allocated to the laboratory program to date have been keyed to initial planning and development activities; but
 - b. the funds allocated to date are not sufficient for carrying out the active work of the laboratories and for appropriate program expansion; and
 - c. the contract periods have been too short and unstable to permit optimum program planning and achievement.

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Recommendations

The Advisory Committee recommends that:

- Funds should be appropriated commensurate with the mission of the entire laboratory program, and federal budgeting procedures should be such as to encourage orderly expansion of work beyond the initial stages.
- 2. The contract and funding periods should be extended and stabilized so that laboratories may proceed to employ necessary staff and to plan longrange development of their programs;
- 3. The U. S. Office of Education should strengthen its services in order to nurture the more recently organized and less mature laboratories so that they may perform their share of the mission of the laboratory program;
- 4. The U. S. Office of Education staff should continue to use all available expert judgment to specify even more appropriately the performance criteria to which the entire program and each laboratory should be held;
- 5. The laboratories should be permitted to emerge in different forms, since it is too early to conclude that there is only one best form or style of operation for all laboratories;
- 6. After reasonable time and effort have been allowed, if individual laboratories do not meet appropriate performance criteria, the U. S. Office of Education should take action toward their reorganization, redesign, or elimination.

The Committee considers it crucial that appropriate measures be taken so that the entire program will not be brought into question, or

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retarded because of the lack of accomplishment of individual laboratories. The Committee's belief in the laboratory program as a whole does not, therefore, imply commitment to continuation of any specific organization now in existence.

Summary

By way of summary, the Committee is impressed, despite the short duration of the laboratory program, with the achievement of a number of specific laboratories and the momentum of the program as a whole. The Committee affirms its confidence in the general concept of the laboratory program, even though it sees that more developmental work is needed with certain organizations.

Finally, the Committee earnestly hopes that more resources will be made available so that the laboratories can move as rapidly as possible from the stage of planning and development to the stage of action and application. 5835 South Kimbark Avenue Chicago, Illinois 60637

May 19, 1967

TO: Laboratory Directors

FROM: Francis S. Chase

in re: National Advisory Committee Meeting - May 12-13, 1967

The National Advisory Committee at its meeting on May 12 adopted the enclosed position paper which (1) sets forth the Committee's views on the importance of the laboratory concept and the current situation and (2) offers recommendations to facilitate progress toward the realization of the full laboratory potential.

Although, there may be less than complete agreement on the inferences to be drawn from the statement, I feel that the intent is clear and that it should be encouraging to those who are struggling to make the laboratories into instrumentalities of great power for the achievement of educational goals.

At its May meeting, the Committee also discussed at some length the problem of devising appropriate criteria and processes for review and evaluation and the associated problem of creating adequate reporting systems. Throughout the discussions the Committee, with the aid of Office of Education personnel, was searching for approaches which will reconcile a high degree of autonomy for the several laboratories with orderly procedures for assessing performance and the factors instrumental in achievement of performance goals. Members of the Committee expressed confidence that the combined efforts of laboratory personnel and staff of the Office of Education will lead to the establishment of systems for reporting and evaluation which contribute to, rather than detract from, sound processes of planning, staff and program development, and demonstration of tested educational processes and products.

The Committee also gave attention to the needs of the laboratories and research and development centers for buildings and other facilities designed for their particular requirements. It attempted to frame, in collaboration with the Office of Education staff, a set of policies which recognize the importance of federal government participation in the creation of greatly improved facilities for a wide range of research and Labs NACEL May Meeting Page 2

development activities in the field of education. At the same time, the Committee attempted to take cognizance of the special needs of the research and development centers and the laboratories. The recommendations of the committee are now being studied by the Office of Education; and the policies will be clarified as the Committee examines the proposals from centers and laboratories in the light of site visits and other relevant information.

Within the next month I hope to prepare a report setting forth at greater length my perceptions of the laboratories as emerging institutions. In this report I hope to include concise descriptions of several types of programs and other activities which seem to represent fruitful uses of laboratory resources. I shall appreciate any help that you may give in providing information for this purpose. I also wish to address myself further to the conditions essential to effective functioning by the laboratories and will welcome information in the form of case descriptions of obstacles to sound planning and operation. APPENDIX B

JUDGES RATINGS



Distribution of agreement of three judges with a 20% sample of documents on the recognition level by sub-categories.

	LAB B]	LAB C	;	I	LAB F LAB			LAB K	S	
	A	В	С	A	В	С	A	В	С	A	В	С	
1	2	2	2	1	1	1	1	2	1	1	1	1	
2	1	2	2	2	1	2	2	2	2	2	2	2	
3	1	2	2	1	0	2	2	2	2	1	2	2	
4	1	1	1	1	1	2	1	2	0	1	2	2	
5	0	1	Q	1	1	2	2	2	2	1	2	0	
6	0	1	0	0	0	0	l	2	0	0	2	0	
7	2	1	1	1	1	1	1	0	2	1	2	1	
8	1	1	1	1	2	1	2	2	2	1	l	1	
9	1	2	1	1	2	1	1	1	1	2	2	1	
10	0	0	1	1	1	1	0	0	0	1	2	l	
11	2	2	2	l	2	1	1	1	1	1	1	1	
12	1	2	2	1]	1	0	1	0	1	2	1	
13	2	2	2	1	2	0	2	2	2	1	1	1	

KEY:

0 - No recognition
1 - Inferred recognition

2 - Direct statement recognition

Distribution of agreement of three judges with a 20% sample of documents on the commitment level by sub-categories.

	LAB B			I	AB C		LAB F LAB I			AB K		
	A	В	С	A	В	С	A	В	С	A	В	С
1	2	2	2	1	2	0	1	1	1	2	2	2
2	2	2	2	2	2	0	l	2	2	2	2	2
3	1	2	1	1	1	0	2	2	1	1	1	2
4	2	2	2	2	2	2	1	1	0	2	2	2
5	0	ο	0	1	2	1	2	2	2	1	2	0
6	ο	l	0	0	0	0	l	2	0	0	1	0
7	1	2	2	1	1	1	1	2	1	2	2	2
8	2	1	1	1	2	1	1	2	2	2	2	2
9	1	1	1	2	1	ı	2	2	1	2	1	2
10	0	2	0	1	1	ı	0	1	0	2	2	2
11	2	l	2	2	1	1	2	0	1	2	l	2
12	1	1	1	2	2	2	0	2	0	1	2	1
13	1	2	1	1	2	0	1	1	1	2	2	1

VARIABLES

KEY:

0 - No commitment

1 - Possible commitment

2 - Definite commitment

	Reco	ognitic	on Leve	el		Commitment Level					
	В	C	<u>F</u>	K			В	C	F	К	
1	3	3	2	3		_1	3	1	3	3	
2	2	2	3	3		2	3	2	2	3	
3	2	1	3	2		3	2	2	2	2	
4	3	2	1	2		_4	3	3	2	3	
5	2	2	3	1		5	3	2	3	1	
6	2	3	1	2		6	2	3	1	2	
7	2	3	1	2		7	2	3	2	3	
8	3	2	3	3		8	2	2	2	3	
9	2	2	3	2		9	2	2	2	2	
10	2	3	3	2		10	2	3	2	3	
11	3	2	3	3		11	2	2	1	2	
12	2	3	2	2		12	3	3	2	2	
13	3	1	3	3	1	13	2	1	3	2	

Summary Tables showing number of judges agreeing on each variable by levels

KEY:

- 1 No agreement among judges. Each category represented by one judge
- 2 Two judges agreed on a rating
- 3 All three judges agreed on a rating

Analysis

The number and percentage of agreement as shown in the tables is:

Of 104 decision points

A & B agreed on 54 (51.%) A & C agreed on 70 (66.3%) B & C agreed on 58 (55.7%)

All three judges agreed on 43 decision points which is 41.3%Two or more judges agreed on 93 decision points which is 89.4%No judges agreed on 10 decision points which is 10.6%

The researcher failed to agree with at least one other judge on 21 decision points which is 21% of the items. However, on eleven of these decision points no judges agreed. There were, therefore, 10 decision points (10%) where the two judges were in agreement, but the researcher judged the items differently. BIBLIOGRAPHY



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