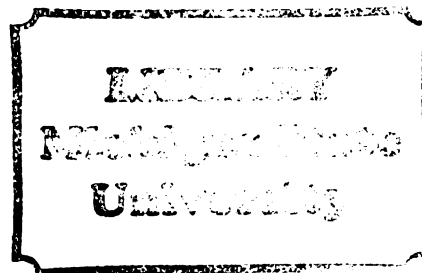


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"Teacher and Administrator Perceptions of Factors
Related to Implementation of a Curriculum for Trainably
and Severely Mentally Impaired Students"

presented by

Yaser Othman Salem

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Education

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TEACHER AND ADMINISTRATOR PERCEPTIONS OF FACTORS RELATED
TO IMPLEMENTATION OF A CURRICULUM FOR TRAINABLY AND
SEVERELY MENTALLY IMPAIRED STUDENTS

By

Yaser Othman Salem

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ABSTRACT

TEACHER AND ADMINISTRATOR PERCEPTIONS OF FACTORS RELATED TO IMPLEMENTATION OF A CURRICULUM FOR TRAINABLY AND SEVERELY MENTALLY IMPAIRED STUDENTS

By

Yaser Othman Salem

As a response to the right-to-education litigation, many programs have been started to serve and educate low-incidence populations, including severely and profoundly mentally impaired students. The most important legislative action was Public Law 94-142, which gives high priority to severely and profoundly handicapped children. As a result, many projects have been established in different places around the nation to meet the educational needs of trainably and severely mentally impaired students. To carry out the goals of these projects, a number of curriculum models have been developed. Unfortunately, little effort has been made to study the factors that influence the effectiveness and implementation of these curriculum projects.

The purpose of this study was to determine factors that influence the implementation of a curriculum for trainably and severely mentally handicapped students as perceived by teachers and administrators who work with this population.

Sixteen school districts in Michigan were chosen as the target population for the study. All of these school districts were formally involved in the implementation of a curriculum-management system known

as Project Perform, which was developed by an Intermediate School District, Ingham County, Michigan.

Project Perform is a curriculum-management system or a complete instructional system for the education of trainable and severely mentally impaired and severely multiply impaired students ages 0-25. The system includes three major components that can be used for developing a curriculum. The components are: (1) Performance Objective Catalog, (2) Data Processing, and (3) Staff Development.

The research design of the study included three groups of factors that were considered to have the major influence on curriculum implementation. These factors were identified as independent variables. The components of curriculum implementation were specified as dependent variables. The relationship between the independent factors and implementation was studied by surveying teachers who work with mentally impaired students and special education program administrators.

Multiple regression was used to evaluate the contribution of each independent variable toward the variance of curriculum implementation. Results showed that the highest predictors of curriculum implementation were the appropriateness of the curriculum to the needs and abilities of mentally impaired students, training the teachers how to use the curriculum components, and administration support of curriculum implementation.

To Palestine,
With Profound Love and Longing

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TABLE OF CONTENTS

	Page
LIST OF TABLES	vi
 Chapter	
I. INTRODUCTION	1
The Problem	3
Purpose of the Study	4
Delimitations	5
II. REVIEW OF LITERATURE	7
Review of Curriculum Development in Regular Education	7
Review of Curriculum Development for the Mentally Impaired	11
Factors That Influence Implementation of a Curriculum for the Trainably and Severely Mentally Impaired	22
III. METHODOLOGY	26
Introduction	26
Research Design	27
Dependent Variables (Degree of Implementation) . .	27
Independent Variables	28
Project Perform	28
Instrumentation	35
Questionnaire	36
Development of Questionnaire	38
Validity and Reliability of the Instrument	40
Data-Collection Procedures	44
Data Sources	46
Participants	46
Data Analysis	46
Demographic Data	48
Multiple Regression	51
Research Questions	54
Limitations of the Study	54

	Page
IV. RESULTS AND DATA ANALYSIS	57
Results of the Multiple-Regression Analysis	57
Descriptive Analysis	66
V. SUMMARY, DISCUSSION, AND RECOMMENDATIONS	86
Summary	86
Discussion	88
Recommendations	95
Specific Recommendations	95
General Recommendations	103
Further Research	103
BIBLIOGRAPHY	105
APPENDICES	113
A. QUESTIONNAIRE	114
B. PROJECT PERFORM	128
C. RESEARCH STUDY REQUEST	134
D. TEACHERS' AND ADMINISTRATORS' COMMENTS	141
E. DISTRICTS IMPLEMENTATION	152
F. OUTLINE OF POC SECTIONS	167
G. MULTIPLE-REGRESSION SUMMARY TABLE	177
H. RATIONALE FOR USING LIKERT SCALE	181

LIST OF TABLES

Table	Page
1. Most Recommended or Used Teaching and Training Areas in Mental-Retardation Curriculum	16
2. Dependent and Independent Variables	27
3. Dependent Variables	29
4. Independent Variables	30
5. An Example of the Organization of POC	32
6. Questionnaire Development: Schools, Stages/Procedures, and Times	38
7. Types of Positions of the Schools'/Centers' Representatives	44
8. Participating School Districts	47
9. Number and Percentage of Teachers, Based on the Percentage of Time They Work With Each Category of Students	49
10. Number and Percentage of Teachers, Based on Percentage of Time They Work With Each Level of Students	50
11. Number and Percentage of Teachers in Each Category of Experience	50
12. Number and Percentage of Teachers in Each Category of Type of Degree Held	51
13. Correlation Coefficients	58
14. Sets/Clusters of Independent and Dependent Variables	60
15. Multiple-Regression Summary Table for All Predictors of Implementation From All Sets of Factors	61
16. Multiple-Regression Summary Tables for the Implementation Components (M_1 - M_6)	62

Table	Page
17. Multiple-Regression Summary Table for the Three Predictors (Curriculum, Teacher, and Administrator) When Treated as Groups of Dependent Variables (Curriculum Implementation)	64
18. Teachers' Ratings of PP and POC	67
19. Teachers' Ratings of Administrators' Support of PP Implementation	68
20. Teachers' Ratings of Preparation to Use POC Components	69
21. Administrators' Ratings of PP and POC	71
22. Administrators' Ratings of Their Support of PP Implementation	72
23. Administrators' Ratings of Teachers' Preparation	73
24. Differences Between Teachers' and Administrators' Ratings of the PP and POC Components, Administration Support, and Preparation	74
25. Teacher Implementation Ratings	76
26. Implementation of Assessment-Reassessment Procedures of the POC Content Areas	77
27. Percentage of Instructional School Budget Spending on PP Components	80
28. Percentage of Instructional School Budget Spending on Total PP	81
29. Percentage of PP Spending on Each PP Component	82
30. Degree of Implementation (Criterion Variable) by District	83
31. ANOVA Table for Implementation by Districts	84

CHAPTER I

INTRODUCTION

The primary goal of this research was to identify the major factors that influenced curriculum implementation by teachers of trainably mentally impaired and severely mentally impaired students. Sixteen school districts in the state of Michigan were chosen as the target population for the study. Teachers in all of these school districts were formally involved in the implementation of a curriculum-management system known as Project Perform (PP), which was developed by the Ingham Intermediate School District.

PP is a curriculum-management system or a complete instructional system for the education of trainably and severely mentally impaired and severely multiply impaired students ages 0-25. The system includes three major components that can be used for developing a curriculum. The components are: (1) Performance Objective Catalog (POC), (2) Data Processing, and (3) Staff Development. (PP is described in detail in Chapter III.)

A special instrument was developed to collect the needed data. All teachers and administrators who met the criteria for participation in the survey were asked to fill out a special questionnaire. A multiple-regression model and other statistical methods were applied in analyzing the data.

As a response to the right-to-education litigation, many programs have been started to serve and educate low-incidence populations, including severely and profoundly mentally retarded students. Court decisions in the early 1970s forced local school districts to take responsibility for educating their handicapped children. According to Cobb (1977), some of the more significant cases include the Pennsylvania Association for Retarded Citizens (PARC) vs. the Commonwealth of Pennsylvania 1971. This decision ensured the educational rights of all mentally retarded children previously excluded from school. Another decision, Wyatt-Stickney vs. Aderholt (1971), ensured institutionalized persons the right to full treatment. In 1972, the case of Mills vs. Board of Education (Washington, D.C.) guaranteed a free and appropriate public education to each school-age child, regardless of the degree of the child's impairment. The general result of these court rulings and subsequent legislation is that severely and profoundly retarded students can no longer be denied their right to a free and appropriate public-school education (Stainback, 1977).

The most important legislative action was Public Law 94-142, passed in 1975. Turnbull (1978) noted that the purpose of this law is to assure that all handicapped children have available to them, within specified time periods, a free, appropriate public education that emphasizes special public education and related services designed to meet their unique needs.

Since P.L. 94-142 gives high priority to severely and profoundly handicapped children, administrators began to develop special

programs to fit the needs of that population. Somerton (1978) stated that the inclusion of severely and profoundly handicapped children into public-school programs forces educators to face the question of how to develop instructional programs that are appropriate for the functioning level of the child.

After passage of P.L. 94-142, government funding led to the initiation of many curriculum-development projects. For example, Meyer (1976) stated that the Bureau of Education for the Handicapped was supporting curriculum-development projects applicable to the target population as well as projects having curriculum implications. Administrators then began facing the problem of selecting, developing, and guiding staff to make decisions and implement curriculum.

The Problem

Many projects have been established in different places around the nation to meet the educational needs of trainably mentally impaired (TMI) and severely mentally impaired (SMI) students. To carry out the goals of these projects, a number of curriculum models have been developed. Unfortunately, little effort has been made to study the factors that influence the implementation and effectiveness of these curriculum projects.

It is obvious that studying and knowing the characteristics and factors that affect curriculum implementation will increase the awareness of administrators, curriculum developers, and curriculum specialists in their planning for curriculum implementation. Administrators generally focus their attention on the content of a

curriculum and its application to students' particular levels of functioning. They rarely focus their attention on factors related to whether the curriculum will in fact be implemented by teachers. It is hoped that this latter kind of information will help administrators to make more efficient and effective judgments when selecting or developing curricula.

The review of literature indicated that there is more than one factor affecting curriculum implementation with TMI and SMI students. These factors can be organized into three clusters: the curriculum itself, the teachers, and the administrators. There is a need to identify the characteristics of a TMI/SMI curriculum that affect its implementation. There is also a need to know how teachers and administrators influence the implementation of a curriculum. Thus, this study has focused on:

1. the variables that are purported to affect curriculum implementation and
2. the relationship between these variables and implementation of the curriculum.

Purpose of the Study

The Ingham Intermediate School District curriculum project, known as Project Perform (PP), is a curriculum-management system that has been developed to serve the educational needs of TMI and SMI students.

This model was chosen for study because it is a well-known project, it has been used for more than five years, and it has been

implemented in more than 16 districts in the state of Michigan as well as school districts in other states.

The main focus of this research was to study the variables that affect curriculum implementation and to study the relationship between these variables and curriculum implementation from the point of view of the users (teachers and administrators).

More specifically, the purposes of this study were to:

1. Identify the potential variables that influence curriculum implementation,
2. Determine the relationships between the identified variables and implementation of PP components, and
3. Determine which variables are most predictive of implementation of PP components.

Delimitations

Based on the special target population of this research, generalization of the findings is limited to this population or a population with similar characteristics and situations:

1. Generalizations are limited to the 16 school districts of the state of Michigan that participated in the study and have been using the Ingham curriculum instructional system for trainably and severely mentally impaired students. These districts used the three major components of PP (POC, Data Processing, and Staff Development) or one of them for at least a year.
2. Generalizations are limited to administrators and teachers who have been involved in the implementation of PP components or one of the mentioned components for at least a year.

However, the findings of this research will be helpful to administrators, curriculum specialists, and teachers who are involved in developing, improving, and/or implementing a curriculum for trainably and severely mentally impaired students.

CHAPTER II

REVIEW OF LITERATURE

The review of related literature is organized under three major headings. These headings are:

1. Review of curriculum development in regular education,
2. Review of curriculum development for the mentally impaired, and
3. Factors that influence implementation of curriculum for trainable and severely mentally impaired students.

Review of Curriculum Development in Regular Education

Curriculum is a very broad subject in education. For the purposes of this research, the review of curriculum literature focuses on the procedures for developing a curriculum, factors that influence the development and implementation of a curriculum, the types of content of curricula, definitions of curriculum in education, principles that should be included or addressed in the curriculum, sequencing, and goals and objectives. Reviewing these subjects gives a general idea of the characteristics of an effective curriculum in education.

The review of the available literature on the definition of curriculum revealed that any individual's definition of curriculum is a matter of that individual's perception. As stated by Doll (1978),

"A pupil might define his curriculum as that which happens to him in the school, while a teacher might view it as what he has been told to teach" (p. 6). This means that the curriculum of a school is the formal and informal content and process by which learners gain knowledge and understanding, develop skills, and alter their attitudes, appreciation, and values under the auspices of that school. Doll indicated that the curriculum definition should be broad so as to include both formal and informal aspects of schooling. He stated that what the student learns is the content, how he or she learns is the process, and the outcomes appear as knowledge, understanding, skills, attitudes, appreciation, and values.

Among educators there appears to be a general agreement that curriculum means planned experience that is organized in a way and based on a specific philosophy or theory to help the student to achieve broad goals and specific objectives. Hass (1977) defined curriculum as

all the experiences that individual learners have in a program of education whose purpose is to achieve goals and related specific objectives which is planned in terms of a framework of theory and research. (p. 5)

More specifically, Hass stated that curriculum means the subject matter taught to the students, the school's written courses and other related materials, and the planned experiences of the learners under the guidance of the school. Similarly, Doll indicated that the curriculum emphasis should be focused on (1) guided, preselected experiences to which students should be exposed; (2) plans and strategies for learning; (3) products of being educated, and (4) strategies or systems for achieving.

In terms of the goals and objectives of the curriculum, the literature emphasized that they should be clearly stated. Taba (1962) indicated that formulation of clear and comprehensive objectives provides an essential platform for the curriculum. Essentially, the objectives determine what content is important and how it should be organized. According to Taba, each curriculum should indicate: first, the goals in broad terms, and second, the objectives with more specific details. These goals and objectives should focus on the needs of the individual. Many years ago, Charters (1924) indicated that "before selecting objectives and dividing them into activities, the major emphasis should be given to certain units which are of importance for children" (p. 101).

There appears to be some kind of agreement on the general goals of curriculum. Many of these goals were indicated by Krug (1957):

1. To help every student build adequate mental health resources.
2. To teach the essential understanding, habits, and attitudes needed for physical health.
3. To help every student point toward his occupational future.
4. To help students develop interests.
5. To teach the skills of reflective thinking and problem solving.
6. To help students learn to use their own language as an effective tool in reading, writing and speaking. (pp. 89-93)

Along the same line, Doll (1978) summarized the goals of the curriculum into the following categories:

1. Intellectual dimensions which include: possession of knowledge, communication of knowledge, created knowledge, and desire for knowledge.
2. Social dimensions which include: student's relations to other people, to his country, and to the world.
3. Personal dimensions which include: physical, emotional development, ethical, and aesthetic.

4. Productive dimensions which include: vocation-selective and vocation-preparation. (pp. 164-65)

It appears from the review of the literature that establishing or selecting goals and objectives is an important procedure when creating or developing a curriculum. Their careful selection is influenced by several factors. Some of the important factors were stated by Hass (1977):

Goals and objectives are properly determined through consideration of the demands of society, the characteristics of the students, and the potential contributions of the various fields of knowledge. Because society, learners, and knowledge are all constantly changing, goals and objectives must be changed and restated. (p. 9)

Doll (1977) developed criteria in the form of questions regarding the goals and objectives of the curriculum. These questions ask if the goals of the curriculum or teaching plans are clearly stated, if the teachers and students participated in defining the goals, if the goals relate to the local community, if they relate to the students' needs, and if the goals are used in evaluating learning achievement.

The objectives and contents of any curriculum are influenced by the philosophy or the rationale behind it. Most of these philosophies and their effects on curriculum were explained by Wright (1971). In particular, he cited idealism, realism, experimentalism, and existentialism.

The literature on the principles of an effective curriculum revealed that, in addition to the important factors already mentioned, the structure and design of the curriculum is another important issue.

The structure of the curriculum includes sequence, continuity, scope, and balance (Doll, 1978, p. 135).

From the literature cited above and other available literature (Attkisson, 1978; Burns, 1970; Payne, 1974), it is apparent that there are different views among educators about the factors that influence the effectiveness of a curriculum. There is general agreement on some characteristics upon which effectiveness depends, such as the content, the goals and objectives, the philosophy of the society, the theory of the planners, the structure of the design, and personnel preparation. However, there is not a comprehensive or standard model in regular education to explain or to use in a systematic way to identify the characteristics of the more effective curricula.

Review of Curriculum Development for the Mentally Impaired

There is consistency in most of the reviewed literature on mental retardation in that most of the educators agreed that the main purpose of teaching and training programs for the mentally retarded is to provide an opportunity, intellectually and spiritually, so that adequate self-care, social adjustment, good planning of leisure time, and satisfying usefulness may be realized for living comfortably (Molloy, 1963). These purposes or objectives of special education and training of mentally retarded students will not be carried out sufficiently unless several conditions are met, such as well-trained teachers and principals, availability of the required materials, and an effective curriculum.

Many curriculum models have been established and developed for the mentally retarded, but little effort has been made to study or evaluate their effectiveness. From the review of available materials describing the curricula used in various programs, it appears that some characteristics of these curricula are highly usable and acceptable among curriculum planners for the mentally retarded. Kirk (1951) explained the work of Alice Descoeuders¹ regarding the education of the mentally retarded. In summary form, educators of the mentally retarded must:

1. Utilize the natural ability of the pupil.
2. Emphasize perceptual knowledge and sense training.
3. Individualized instruction.
4. Recognize the utilitarian character of the teaching.

Lingren (1977) mentioned several points related to teaching and training of the mentally retarded that are similar to the principles laid down in Descoeuders' work. Some of Lingren's principles include:

1. Emphasizing use of concrete materials.
2. Mentally retarded students need more attention.
3. Emphasis on out-of-school resources such as field trips.
4. Learning units should organize around life problems more than academic subjects. (p. 512)

Rosenzweig (1968) also emphasized that "an effective curriculum must include a well-defined target. The content needs to be psychologically rather than logically organized and needs to be spelled out in detail with the activities and materials of instruction" (p. 165). Snell

¹Descoeuders' book, The Education of Mentally Defective Children, translated from the French edition.

(1978) asserted that "an effective curriculum for the severely mentally impaired must be entirely flexible to meet the very diverse needs of individuals" (p. 14). In a similar work written by Greene (1972), several principles in using programmed teaching for the mentally retarded were mentioned. In summary, they are: (1) present the material to be learned in a logical sequence, (2) break down the materials into small steps, (3) base teaching on an individual basis, (4) engage the students in active participation, (5) use feedback, and (6) use practice and repetition.

Similarly, Burke (1980) focused on five principles that should be accounted for when choosing teaching materials or a curriculum for mentally impaired. In brief, they are:

1. Organization of the materials. Materials should be organized from basic skills to higher levels and from simple to more difficult.

2. Content. Content includes the quality of the materials and the balance among the areas of the curriculum.

3. Assessment. Pretesting or preassessment will help the teacher know where to start with the student and what area and level should be taught or trained first. Assessment should include record keeping.

4. Instructional guide. The guide explains how to teach a task.

5. Flexibility. The material or curriculum must be easy to use in a new situation or community or easily modified for a new situation.

Anderson (1976) also considered several criteria that should be taken into account when choosing materials for teaching the severely mentally impaired. Some of these are:

1. The materials should be relevant to the stated objectives of the curriculum.
2. The student should have the prerequisite skills which are needed to be able to use the materials.
3. The materials assist the student to acquire a concept or skill, and not only just to keep him busy.
4. Feedback procedures on systems.
5. The materials should be durable and reusable.
6. The materials should not be too complicated or costly. (p. 75)

One of the characteristics of an effective curriculum for mentally retarded that emerges in a review of the literature is a concern for the comprehensiveness and appropriateness of the curriculum. Such concerns involve decisions about what areas should be covered in the curriculum and the priorities for choosing those areas. Greene (1972) stated that:

The curriculum of the mentally retarded must give priority to basic tool subjects and to the vocational needs of the student. The curriculum should be child-centered, and flexible enough to take into consideration the varying individual needs of each child. There must be concentration on building the strengths of the child, rather than hammering away at his weakness. Achievements that have little or no practical value should not be emphasized. (p. 50)

Frankel (1966) mentioned three main categories that should be included in the curriculum: self-care, socialization, and expression. These areas can help the mentally retarded to develop adequate habits of moving about, taking care of their safety and health, interacting with other people, behaving toward others in acceptable ways, and developing ways of enjoyment such as participation in games, music, and the like. Frederick (1977) asserted that the curriculum for the

severely handicapped child should be as comprehensive as life itself. It not only must teach the child to live as effectively as possible in his or her environment, but must provide the most basic of teaching sequences in self-help, language, and motor skills.

From reviewing the literature, it appears that there is a group of categories or areas included or recommended for the content of a curriculum focused on the mentally retarded. Table 1 gives the reader a general idea of the types of content and areas that exist in curricula or programs for mentally retarded students. The table includes a number of references to curriculum projects applied in the field (PP, Lincoln, and MEAD). It also includes theoretical works or recommendations. The works referenced in the table and others not represented in the table have been reviewed and analyzed in terms of their content or, in the case of projects in the field, their actual areas of teaching. The result of the analysis revealed that there are nine categories or areas covered in these curricula. This work is not a comprehensive model for curriculum analysis and does not show the balance between these areas, but it is a useful indicator of the most used and agreed-upon areas of teaching/training among curriculum planners for the mentally impaired.

This table demonstrates that there is a great deal of agreement among educators of the mentally retarded on the kinds of areas or categories that should be included in the curriculum. They are self-care skills, motor or physical skills, language, social skills, basic communication, and vocational skills. It is not clear from the review of the literature nor does the table reflect the degree of importance

Table 1.--Most recommended or used teaching and training areas in mental-retardation curriculum.

References	Category								
	Self-Care	Language	Social	Motor	Basic Communication	Vocational	Read/Write	Cognitive	Recreation
Alpern, 1971				X	X				
Anderson, 1976	X	X	X	X					
Fredericks, 1977	X	X		X			X	X	
Fredericks, 1980	X	X		X	X		X	X	
Haring, 1976	X	X		X			X	X	
Ingham, 1977	X	X	X	X	X	X		X	X
Kirk, 1979	X	X	X			X	X		
Lincoln, 1979	X		X			X			X
Litton, 1978	X		X	X	X	X			
Mead, 1978	X	X		X	X	X		X	
Molloy, 1963		X		X				X	
Snell, 1978	X	X	X	X				X	
Sniff, 1973	X		X						
Waite, 1972				X					
Wehman, 1979		X	X	X		X	X		
Wehman, 1981				X			X		X
Williams, 1961	X	X	X	X	X	X			X

Note: (X) indicates that the above category has been used in the project or recommended by educator.

of each area. In other words, neither the literature nor the table shows what area or areas have actually been used most or should be focused on more than the others based on the priority of the needs of the mentally retarded students and/or any other factors.

An effective curriculum also includes broad goals and specific objectives that help the teacher choose the appropriate content for teaching the mentally impaired student. Wehman (1981) formulated a criterion that helps teachers to plan the student's goals. This criterion required specification of the student's present level of performance, specification of the student's rate of learning, and a chart that describes a logical sequence of broad skills in each goal. Haring (1976) mentioned that goals and activities are always interchangeable to some extent. Sometimes it is more convenient to think of a goal and to choose activities that will work toward the goal. On the other hand, nearly all activities provide learning opportunities that contribute to more than one goal.

Williams (1961) mentioned that in developing goals and objectives the basic philosophy should be to help each student realize his or her maximum potential. Review of the literature conveys the impression of general agreement with Williams' statement; i.e., the goals and objectives of teaching the trainable and severely mentally impaired should be relevant and appropriate to the students' needs. The goals and objectives should be clear for any user and easy to be evaluated.

Another useful principle that should be met by an effective curriculum for mentally retarded is the appropriateness for the

student's characteristics. Klein (1979) declared that a useful curriculum must be built upon the results of a comprehensive analysis of the particular students to be taught. The analysis considers the psychological, physiological, and intellectual maturity of students. It should forecast the knowledge, skills, and attitudes that will be useful when formal schooling ends. Also, it should accurately diagnose each student's present level of knowledge and ability. Consequently, instruction must begin where students can gain the greatest benefit. This issue is related to the student-centered curriculum. As stated by Burns (1970), the curriculum must be defined in terms of its goals as they apply to students and in terms of the psychological structure and educational experience of students.

Many educators consider that the curriculum for the mentally retarded should be assessment-based since this helps the teacher to diagnose the student's potential, knowledge, past experience, and achievement. The time and efforts of both teacher and student can be saved when using the assessment-based curriculum. Klein (1979) indicated that assessment helps to determine the mentally impaired student's current ability, what the student might be able to do, and in what instructional area the pupil is or is not performing successfully. An assessment-based curriculum also helps the teacher to receive feedback on the progress of the child, make necessary modifications in methods or materials, and ascertain whether the instructional sequence is effective or not. It also helps the teacher to verify that the child has attained the objective (Wehman, 1981).

Haring (1976) indicated that:

One of the most difficult jobs facing educators is the development of evaluation systems that will allow for the assessment of programmatic variables on a daily, weekly, and yearly basis. One partial answer is the development of curricula with the assessment built directly into the program. (p. 30)

The curriculum should also include or develop a special format that the teacher can use for record keeping and for evaluation purposes. This format should be provided to the parents or guardians, school or program administrators, and also retained by the teacher in order that they may be aware of the level of the student's progress and the degree to which the student is achieving his or her goals and short-term objectives. Molloy (1963) reported that:

The teacher must evaluate objectively the progress of each child for her own information. She must know the child's strengths and weaknesses. She can then revise programming to allow the maximum help to each child. When a goal is not reached the teacher must know whether the child can't do it, won't do it, or doesn't do it. (p. 13)

Another issue that appeared in the literature review is that curriculum should be based or built on a learning theory/teaching strategy. Learning theory can help the teacher in terms of understanding the different aspects of learning among the mentally retarded and nonmentally retarded. Justen (1974) stated that:

Differences between non-retarded and retarded children in various learning characteristics have been well substantiated in the literature. . . . Many of these characteristics have important implications to the instruction and classroom behavior of these children. (p. 56)

Waite (1972) mentioned that mentally retarded children's learning abilities are different from those of normal children. Mentally retarded students are less readily motivated toward a specific task. They also have less control of their emotions and are more

likely to become confused, while normal children are better observers. Normal children see many characteristics of things, people, and situations that lie beyond the scope of the retarded persons' perspective. The nonretarded are more adept in the use of symbols, language, numbers, and so forth. Sniff (1973) concluded that the mentally retarded learn best through concrete experience. Therefore, any opportunity for the teacher of the mentally retarded to change an abstract idea into a concrete experience should be taken. Perry (1960) also mentioned that the mentally retarded learn by being shown and guided rather than by verbal instructions only. In accordance with these specific learning characteristics of the mentally retarded,

Curriculum guides should be based on at least one sound learning theory with the ultimate goal being the attainment of increasingly complex behavior, personal control over the environment, and behavioral characteristics which are culturally designated as normal. (Payne, 1977, p. 314)

Wehman (1981) focused on two types of learning principles. First are the general learning principles that include acquisition, retention, and transfer teaching. The second type includes concept learning, verbal learning, discrimination learning, and learning-connected discourse. These principles should be employed in any teaching strategy for the mentally retarded. In terms of the methods for teaching mentally impaired children, Greene (1972) explained methods that could be applied effectively. These are the Montessori method, reinforcement, and other recent techniques. Others focused on reinforcement procedures as a teaching method with the mentally retarded (Cecil, 1977; Haring, 1975; Snell, 1978). There is more than

one learning theory that could be applied in teaching the mentally retarded. One of the well-known theories is by Piaget. Payne (1977) reported:

Piagetian Theory has several implications for teachers of the mentally retarded. Assessment of the child according to the developmental sequences will help to determine readiness for certain tasks. Curriculum should take advantage of appropriate placement in the developmental sequences of the child. (p. 16)

Klein (1979) declared that the application of Piaget's theory to curriculum planning and instruction for mentally retarded children and adults holds promise for enhancing their learning.

Some educators have focused their concern on other characteristics of curriculum for the mentally retarded, such as the structure or design of the curriculum (Klein, 1979; Wehman, 1981); others are concerned about the curriculum guide. Payne (1977) recommended that:

In order to enhance the use and effectiveness of curriculum guides, it was indicated that there was a need to standardize the terms related to the levels of severity of mental retardation, as well as the education levels. Also, the content information needed to be presented in a format that was clear, precise, understandable, and retrievable. (p. 314)

The review of the literature on the principles of a good curriculum for the mentally retarded showed that a number of characteristics are agreed upon. But at the same time, there are many issues that reflect different points of view among the curriculum builders. Greene (1972) stated that at present there are many disagreements about a curriculum for mentally retarded students. Most of these disagreements are related to the subject matter and the teaching methods.

In general, it is obvious that in the last decade a large number of teaching and training projects for the trainable mentally

impaired and severely mentally impaired have been established. As documented by Adams (1975), the quality and quantity of educational services available to the moderately, severely, and profoundly mentally handicapped student have been of growing concern in recent years. Many special-education programs did not give enough attention to developing a comprehensive or effective curriculum for this population. The reason for this was stated by Meyen (1976). He suggested that the priority in special-education programs was given to such aspects as determining eligibility and finding financial resources, and the priority for developing an effective curriculum was ignored. The task of curriculum development was left to one person--the special class teacher.

The literature reviewed thus far has pointed out what has been done in defining and studying the characteristics of an effective curriculum for the trainable mentally impaired and severely mentally impaired. It appears from that review that insufficient study and effort have taken place in this area. The present research was intended to study the characteristics of an effective curriculum for the trainable and severely mentally impaired from the teachers' and administrators' points of view and their influence on the implementation of trainable and severely mentally retarded.

Factors That Influence Implementation of a Curriculum for the Trainable and Severely Mentally Impaired

Implementation of a curriculum is one of the important stages in teaching (training) retarded students. There are a number of

factors influencing implementation. One of these is the teacher preparation or training required to implement a new curriculum. Lewy (1977) stated that implementation of a curriculum requires certain changes within the school system, such as adjustment of teacher-training programs to meet the needs of the new program. This includes modification in both pre-service and in-service training activities as teachers will need instruction in the new teaching methods and strategies. Teachers should be trained to monitor the program and to diagnose learning difficulties. Flynn (1960) mentioned that the kind of preparation received by the teacher candidate or the teacher in-service practically predetermines whether the teacher will take an active and intelligent part in curriculum implementation. And since teacher growth depends primarily on this factor, the pre-service and in-service programs should be well-planned and well-balanced.

Review of the literature revealed another factor that influences curriculum implementation: the importance of the administrators' role and support. Lewy (1977) focused on the necessity of obtaining cooperation of the administrators by declaring that "without their cooperation one can hardly expect successful implementation" (p. 22).

Other variables, mentioned earlier, that affect curriculum implementation are such characteristics as clarity, sequencing, appropriateness, flexibility, and utility. Haring (1976) stated that each objective should specify the competency to be demonstrated or the behavior the instruction is to produce. Each objective is seen as a basis for setting the dimensions of the lesson and provides the format for structuring the activities, evaluating the child's

performance, and selecting the sources. Objectives must be well-stated and well-designed. In terms of the influence of the sequencing of the content, goals, objectives, and materials of the curriculum, Wehman (1981) indicated that handicapped students learn more quickly when materials are presented in a logical progression from easy to hard. Other educators also recommended the use of the sequence-method strategy in teaching (Doll, 1978; Klein, 1979; Wehman, 1979).

Curriculum flexibility is a concern of educators and curriculum planners for the mentally retarded. Flexibility of curriculum means that the curriculum should be structured or designed so as to fit different children and programs, and it must be easy to adapt to new situations and materials. Haring (1976) stated that curriculum materials should be developed that are flexible and can be used in a variety of settings. Since mentally impaired students are different from each other in their abilities, aptitudes, interests, experiences, and so forth, the school curriculum should be flexible in a way that can fit all the individuals' differences.

Usability and practicability of the curriculum have been reported by more than one educator as important characteristics of curriculum (Haring, 1976; Wehman, 1979, 1982). The curriculum will be usable and practicable if it is not too complicated and if it is acceptable to teachers and parents. It is clear that if the teachers do not accept the new curriculum, they will try to use their own curriculum instead. One way that may help the teachers accept the new curriculum is to let them become involved in planning and/or evaluating the curriculum. Haring (1976) mentioned that in today's educational

process it is quite natural for teachers to participate in shared efforts in curriculum planning and development.

It appears from the review of the available literature that little has been done to study the perceptions of teachers and administrators about the implementation of a curriculum for trainably mentally impaired/severely mentally impaired. Through the literature review and interviews with curriculum specialists, administrators, and teachers who were involved in the development and implementation of a TMI/SMI curriculum, it can be concluded that there are three categories or three major groups of variables that influence the implementation of a curriculum. They are teachers, administrators, and curriculum characteristics.

CHAPTER III

METHODOLOGY

Introduction

As discussed previously, the primary goal of this study was to identify the major factors that influence the implementation of a curriculum for trainable and severely mentally impaired students. This study was based on the perceptions of teachers and administrators who work in the field of special education, particularly those who work with mentally impaired students. For this purpose, the Ingham Intermediate School District special education curriculum-management system was chosen. This model was chosen for study because it is a well-known project in the state of Michigan and other places and has been in use for more than five years. Teachers and administrators implementing this curriculum-management-system project in 16 Michigan school districts were participants in the study. The focus of the research design was on the measurement of perceptions of implementors of the curriculum-management system (teachers and administrators). In this chapter, dependent and independent variables, population, instrument development, and procedures of data collection are discussed in detail.

Research Design

Table 2 is a graphic depiction of the research design for this study.

Table 2.--Dependent and independent variables.

Dependent Variables	Independent Variables		
	Curriculum	Teacher	Administration
Assessment	Flexibility	Participation in:	Monitoring
Reassessment	Utility	Curriculum improvement	Involvement
Objectives	Clarity	Development of teaching strategies	Encouragement
Materials	Appropriateness		
Criteria	Sequencing		
Record		Pre-service In-service	

Dependent Variables (Degree of Implementation)

What does it mean to implement a curriculum? For purposes of this study, implementation of Project Perform components meant that the teacher would:

1. Use the assessment/reassessment procedure as suggested in the POC.
2. Choose performance objectives from the POC for Individual Educational Plans (IEP).
3. Use assessment criteria as suggested in the POC.
4. Use data-processing materials as a record-keeping system.
5. Use curriculum materials for assessment purposes.

These criteria were decided by four resource groups: the teachers, administrators, curriculum specialists, and the researcher himself.

Before selecting the determinants of curriculum implementation, the researcher developed a list of outcome components. He then discussed the components with a number of teachers who were considered by their administrators to be high implementers of that curriculum. Administrators and curriculum specialists were interviewed for the same purpose. The result of these discussions and interviews showed that there was general agreement on the five components listed above as outcomes of curriculum implementation. These variables are described in terms of outcomes and criteria in Table 3.

Independent Variables

The review of literature indicated that there are many different variables affecting implementation of a curriculum. In this research, the variables were narrowed down to three groups or categories, as shown in Table 4.

Project Perform

PP is described by the Ingham Intermediate School District as a curriculum-management system that helps teachers and parents to plan, carry out, and assess school programs for moderately and severely handicapped students.

Performance is a set of three tools that can be used to build a curriculum at the school, program, or individual level. These tools include (1) a bank of performance objectives, (2) the record-keeping

Table 3.--Dependent variables.

Dependent Variables: Outcomes of Implementation	Description of Outcomes	Criteria
Use assessment	Teacher uses the assessment procedures suggested in the POC on a continuing basis, and not just once at the beginning of the year.	Teacher uses the assessment procedure at least one time after the first assessment at the beginning of the year or at the beginning of the program.
Choose objectives	Teacher chooses objectives for his/her students from the POC for IEPs.	Teacher chooses at least 75% of the objectives from the POC.
Use materials	Teacher uses the materials that are suggested for assessment procedures and/or develops his/her own materials (to the students achieve the goals that are adopted from the POC).	At least 75% of the materials used by the teacher were suggested by the POC.
Apply criteria	Teacher applies the criteria that are suggested in the catalogue to evaluate his/her students' progress on achievement of the objectives that were chosen from the POC.	At least 75% of the criteria applied by the teacher are used as suggested in the POC.
Record keeping	Teacher uses the data-processing system as a record-keeping system to record the students' progress.	Teacher uses data processing as a record-keeping system for recording her/his students' progress in <u>all</u> chosen objectives.

Table 4.--Independent variables.

Categories	Factors	Description
Curriculum	Flexibility	The curriculum is designed to be open to new, additional goals and objectives, assessment procedures, or materials to fit new situations or unplanned goals. It also is able to meet the very diverse abilities and needs of the TMI and SMI students, who sometimes require modifications of the curriculum.
	Utility	The curriculum is easily used by any teacher who has the minimum training or in-service training for using that curriculum. Also it is acceptable by teachers and does not require too much time for paper work.
	Clarity	All parts of the curriculum are easy to understand by the instructor. The directions are not complicated and are well explained (i.e., how to prepare, organize, and use the curriculum).
	Appropriateness	The content of the curriculum reflects the needs of the TMI and SMI student population. The areas of the curriculum meet the goals of the district for their students.
	Sequencing	The curriculum is structured in a logical sequence. The content areas, objectives, materials, and teaching activities are organized according to a developmental sequence; the degree of difficulty of the tasks, from low level to high levels, is based on the mental ages of the students.
Teacher	Training	Teacher training includes the pre-service training in the use of the curriculum that the teacher received before her/his use of the curriculum and the in-service.
	Participation in curriculum improvement	Teacher participation includes their involvement in curriculum committees and curriculum meetings with a view to improving the curriculum. They may also create new procedures or techniques to help in using the curriculum in, for example, record keeping or self-evaluation.
Administration	Monitoring	The administrators planned for some kind of continuing evaluation to measure the effectiveness of the curriculum. The evaluation procedures may include teachers, aides, and parent involvement.
	Cost	The cost consists of the amount of money that the district spends on in-services, materials, developing instructional strategies, pupil and other related spending.

assistance of data processing, (3) the ongoing staff-development services of the project disseminator/trainer.

The POC is the foundation of a complete instructional system for the education of trainable and severely mentally impaired persons, ages 0-25. The project materials were developed for students attending the Beekman Center (Lansing Public Schools) and the Ingham Developmental Center (Ingham Intermediate School District). The materials were developed with Title I, Public Law 89-313 funds under a grant from the Office of Health, Education, and Welfare. The project is divided into two components for the trainable mentally impaired and severely mentally impaired in conformance with federal Title I requirements.

Approximately 8,000 performance-objective statements, each with its own achievement criterion and assessment procedure, are printed in an eight-section catalog. The sections are titled Physical, Perceptual, Language, Conceptual, Social, Vocational, Recreational, and Personal. The objectives in each section are specifically written for TMI, SMI, Severely Multiply Impaired (SMI), Autistic, and Severely Emotionally Impaired (SEI) students. Thus, the catalog is a performance-objective bank for virtually all skills taught to students with various disabilities, rather than a curriculum for any one student. Each of the eight major sections is divided into content headings, which are further divided into subcontent headings. Each content and subcontent is identified by a three-digit number, with the first digit identifying the section, the second digit identifying the content, and the third digit identifying the subcontent, as in Table 5.

Table 5.--An example of the organization of POC.

Section: PERCEPTUAL		Content: AUDITORY DISCRIMINATION	Subcontent: DISCRIMINATING ENVIRONMENTAL SOUNDS	
Number		Objective	Materials	Assessment Procedure
		201.010 The student responds to loud environmental sounds. (C)		
201.011	The student makes an overt response to a loud sound occurring six to eight inches from student's ear.		maracas; sound-producing item	Standing out of visual range of the student, instructor makes a loud sound six to eight inches from student's left ear. Student makes an overt response, such as: startle, eye blink, limb movement, cessation of movement, cry, or cessation of cry. Instructor repeats for right ear. NOTE: If student does not respond, refer to therapist for a hearing test
Criteria:		(2 RESPONSES ON 3 CONSECUTIVE DAYS)		
201.012	The student makes an overt response to a loud sound occurring two feet from student's ear.		maracas; radio; record player; sound-producing item	Same as 201.011, except sound is made two feet from each ear.
		(2 RESPONSES ON 3 CONSECUTIVE DAYS)		
201.013	The student makes overt response to sounds occurring at least ten feet from student.		sound-producing items	Same as 201.011 except sound is made ten feet from each ear.

Source: Performance Objectives Catalog, p. 201.

Each subcontent area is divided into cluster headings and performance objectives. Cluster headings are general statements that precede and serve to summarize each group of performance objectives. Performance objectives are identified by a six-digit number. The first three digits identify the section, content, and subcontent. After the subcontent number is a decimal point. To the right of the decimal point are three additional digits. The first two digits indicate the cluster heading, and the final digit denotes the specific performance objective. In item 201.011 presented in Table 5, the 2 represents the section (Perceptual), the 0 indicates the content category (Auditory Discrimination), the 1 indicates the subcontent (Discriminating Environmental Sounds), 0 and 1 indicate the cluster heading, and the 1 indicates the performance objectives. The performance-objective clusters are of two major types, contingent and noncontingent sequences. The contingent sequences are identified with the letter "C" after the cluster heading and are organized so that the first objective must be accomplished before the second objective, and so forth. In these sequences, the instructor should not assess or train higher objectives before the beginning objectives have been achieved. In the noncontingent sequences, the instructor need not follow a strict sequential ordering and may assess and train the performance objectives in whatever order he/she prefers.

Four major data-processing programs function to record data entered by professionals concerning individual students' educational plans and achievements. On request, these data are printed as reports

that can be shared with parents or used by teachers in planning students' instructional programs.

Training sessions for teachers, support staff, and administrators permit them (1) to use the catalog, (2) to send data to be processed in a variety of reports, and (3) to design and sequence instruction in order to implement the students' individualized educational plans.

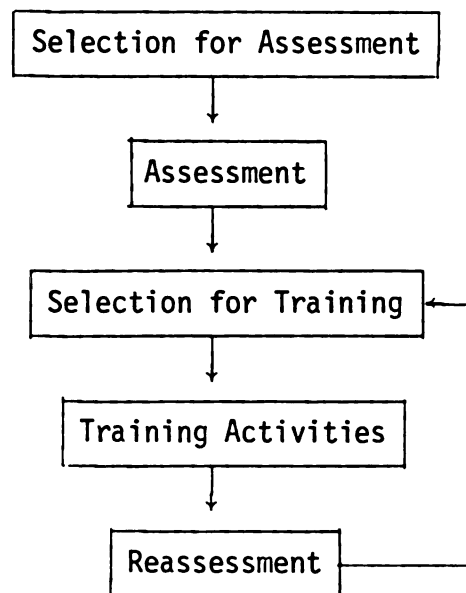
PP was developed using the resources of 15 Michigan intermediate school districts over a three-year period (1975-78). Ingham Intermediate School District coordinated the development and invested over half a million dollars (primarily Title I funds) in the production of the project components and the maintenance of the data-processing component.

Sixteen special-education centers in Michigan and additional centers in Iowa have contracted to use the Project Perform Curriculum Management System with 2,200 students. As these centers used the system, components were revised and new components developed in response to user evaluations.

In addition to PP contracting participants, several hundred centers and libraries use the catalog and assessment sheets as a reference for TMI/SMI curricula throughout the United States and in several foreign countries (e.g., at the Special Education Department at the University of Jordan in Amman, Jordan).

Assessment is the key to the PP instructional system. Teachers assess students and enter achievement information, which data are processed into group and individual program planning and achievement

reports. The POC, as goal provider and assessment guide, is used by the teacher in a performance-based instructional process. Selection of objectives alternates with assessment and training activities in the cycle illustrated below. (For more details on the PP Instructional System, see Appendix B.)



Instrumentation

An instrument was built to measure two main areas. First, it was designed to measure perceptions of teachers and administrators of curriculum implementation for trainably mentally impaired and severely mentally impaired students--more specifically, to measure teachers' perceptions of the curriculum components, teachers' perceptions of their administrations' support in implementing the curriculum components, and teachers' perceptions of their training in how to use the curriculum components. Second, the instrument was

built to measure the administrators' perceptions of the curriculum components, administrators' perceptions of their support, and their perceptions of teachers' training. The second area was the measurement of the degree of curriculum implementation.

Questionnaire

Two comparable questionnaire forms were developed, one form for teachers and the second for administrators. The teacher form included (1) cover letter, (2) introduction, and (3) personal data sheet.

Part I of the teacher form contained 18 items measuring the perceptions of teachers on (1) Project Perform components, (2) administration support, and (3) their preparation to use PP components. Part II of the teacher form contained six items measuring the degree of teacher implementation of Project Perform components. Part III of the teacher form provided a space for additional comments. Teachers who wanted to could add information regarding the implementation of PP components or general comments about the implementation of any curriculum for trainable and severely mentally retarded students. (See Appendix A.)

The administrator form included a cover sheet and an introduction. The instrument was divided into three parts. Part I of the administrator form included 18 items measuring administration perceptions in three areas: (1) Project Perform components, (2) administration support for use of PP components, and (3) teachers' preparation. Part II of the administrator form included six items

ascertaining district support by measuring spendings on (1) instructional school budget, (2) development of instructional strategies, (3) in-services, (4) materials, (5) per-student expenditures, and (6) other related spending. Part III of the administrator form was similar to Part III of the teacher's form. Administrators had a chance to provide any additional information about factors they believed to have a major influence on implementation of PP components and/or on any curriculum implementation for trainable and severely mentally impaired students.

Both questionnaire forms (teacher and administrator) were agreed on by teachers and administrators in the pilot studies. In their opinion, the questionnaires were not too long, were easy to answer, and the introduction was understandable.

In the first part of the two forms (18 items), teachers and administrators were asked to rate each item by marking (X) by the one response that best represented her/his opinion. Each of these items had five choices (alternatives). In other words, Likert's method was applied. The rationale for choosing the Likert method is discussed in detail in the next section. Since it was expected in a very few cases that an item(s) might not be applicable to a teacher's or administrator's own situation, a separate column called "Not Applicable" was provided.

The main difference between the teacher's and administrator's questionnaire forms was in Part II. In the teacher's form, the main concern in Part II was to measure the degree of implementation of PP components. On the other hand, the concern in Part II of the

administrator's form was to measure the influence of school/center money spending on the implementation of PP components.

Development of Questionnaire

For the development of the questionnaire, six phases were carried out as shown in Table 6.

Table 6.--Questionnaire development: schools, stages/procedures, and times.

School	Stages/Procedures	Time
...	1. Content analysis	Winter 1981
Beekman Center (Lansing)	2. Interviews with teachers	Summer 1981
Ingham Developmental Center (Mason)	Interviews with administrators	
...	3. Task analysis	Fall 1981
...	4. Early pilot study	Fall 1981
Beekman Center	Teachers	Fall 1981
Beekman Center and Ingham Developmental Center	Administrators	Fall 1981
Beekman Center	5. Second pilot study	Fall 1981
Ingham Intermediate School District	6. Final review of the instrument by Project Perform staff	Winter 1982

1. Content analysis was done by the researcher for the main categories that he believed have the most influence on curriculum implementation through a review of literature on the following areas: (1) curriculum in regular education, (2) curriculum in special education, and (3) curriculum for mental retardation.

2. Interviews were undertaken with three groups of curriculum developers and users: (1) teachers considered high implementors of the PP components by their administrators, (2) curriculum specialists, and (3) administrators and directors. From these interviews, the researcher aimed to discover what components affected curriculum implementation, as perceived by the three groups mentioned above.

3. Task analysis: From the previous interviews, the researcher compiled a list of five components that were agreed on by the teachers, curriculum specialists, and administrators as outcomes of curriculum implementation. Also, three broad categories were identified as having the major influence on curriculum implementation. Task analysis has been done for these five components and the three categories of variables that influence curriculum implementation. A large pool of items was prepared as a result of the task analysis, and those items were organized into two questionnaires, one for teachers and one for administrators. The teacher questionnaire form included (1) teacher perceptions of PP components, (2) teacher perceptions of administration support for PP, (3) teacher perceptions of his/her preparation to use PP components, and (4) implementation of PP components. The administrator questionnaire form included (1) administrator perceptions of PP components, (2) administrator perceptions of the administration support for PP, (3) administrator perceptions of teacher preparation to use PP components, and (4) measures of district support.

4. Early pilot study: Both questionnaire forms were tried with teachers and administrators using PP components. The researcher

interviewed each teacher and administrator after they answered the questionnaires, and made the necessary changes in the items according to their comments.

5. A second pilot study was done to test the new questionnaire forms. Both forms (teacher and administrator) were tried by the same teachers and administrators.

6. The new questionnaire forms were provided to a small group of administrators/staff at PP and discussed later with them in a meeting.

Validity and Reliability of the Instrument

There are at least three kinds of validity that can be claimed for the instrument used in this research (i.e., the teacher questionnaire form and the administrator questionnaire form). They are content validity, construct validity, and face validity.

Content validity.--Mehrens (1975) mentioned that:

There is no commonly used numerical expression for content validity. It is typically determined by a thorough inspection of the items. Each item is judged on whether or not it represents the specified domain. Although a detailed, systematic, critical inspection of the test items is probably the single best way to determine content validity. . . . These procedures might include using curriculum specialists as expert judges and reviewing current texts, curricular guides, and the like. (p. 111)

By reviewing the methodology and procedures used in building the instruments of this research, it is obvious that content-validity techniques were included. The following is a very brief summary of the questionnaires' development stages:

- Stage 1. Identification of components of curriculum implementation
- Stage 2. Identification of major factors that influence curriculum implementation
- Stage 3. Translation of the components of curriculum implementation and the major factors that influence curriculum implementation into items
- Stage 4. Selection of specific items for the questionnaires by experts/judges in the field
- Stage 5. Field testing of selected items

In stages 1 and 2 of the questionnaires' development, the focus was on the identification/specification of the domain. In stages 3, 4, and 5, the focus was on selecting or choosing the valid items that represent the specified domain, i.e., inspection of the items to determine the content validity of the instrument.

Construct validity.--According to Mehrens (1975), construct validity is:

the degree to which the test (Instrument) scores can be accounted for by certain explanatory constructs in a psychological theory. If an instrument has construct validity, people's scores will vary as the theory underlying the construct would predict. (p. 114)

In this view, the researcher hypothesized the components of curriculum implementation and the major factors that influence curriculum implementation. He developed items that were expected (hypothesized) to measure the degree of curriculum implementation and the factors that influence curriculum implementation. When these hypothesized curriculum-implementation components and factors were tested by experts and judges in the field, there was a high degree of agreement between judges (administrators, curriculum developers and

curriculum specialists, and teachers) on the items that represent or measure curriculum-implementation components and measure the factors that influence curriculum implementation.

Face validity.--Testing the face validity of an instrument is not a complicated technique compared to content validity, concurrent validity, or other types of validity. Simply, it is a subjective judgment about a given test as to whether that test appears to measure what it claims to measure. In other words, one reviews the items of the test and decides if these items present or measure what they are supposed to. Face validity also includes the reactions of the subjects to the test, e.g., the degree of their acceptance, their cooperation with survey instructions, or how seriously they react to the first.

Mehrens (1975) commented on face validity as follows:

Face validity is simply whether the test looks valid "on the face of it." That is, would untrained people who look at or take the test be apt to think the test is measuring what its author claims? Face validity often is a desirable feature of a test in the sense that it is useful from a public relations standpoint. If a test appears irrelevant, examinees may not take the test seriously, or potential users may not consider the results useful. (p. 115)

Applying the above discussion about face validity to the instruments of this research, it was found that people who reviewed the items on the final questionnaire forms agreed that the items represented what the researcher aimed to measure (perceptions of teachers and administrators about curriculum implementation). More evidence of the face validity of the instruments is the positive reaction and cooperation of the schools'/centers' administrators, curriculum specialists, and teachers.

In terms of the reliability of the instruments, none of the well-known reliability methods was used with this research instrument (e.g., test-retest, half-split-half, or equivalence forms). The focus of the researcher was on obtaining validity of the instrument more than reliability for three reasons:

1. According to the nature of this study and the nature of the structure of questionnaires, it is not highly effective or accepted to use traditional reliability methods such as test-retest, half-split-half, or equivalence.

2. It is not expected that the results or the generalizations from this study will be used as criteria in making decisions that influence an individual, such as the case with ability tests. Rather, results will be used for improving curriculum implementation. Mehrens (1975) pointed out that:

If the decisions the scores will help make are extremely important and/or irreversible, then the reliability of the measure is of more concern than if the decision is not quite so important and/or tentative and reversible. If a measure is to be used to help make decisions about individuals, then it should be more reliable than if it is to be used to make decisions about groups of people.

3. It is obvious that the focus was more on the validity of these research instruments than on their reliability, and that was because of the researcher's conclusion that validity was more important for this instrument. "The degree of validity is the single most important aspect of a test" (Mehrens, 1975, p. 109). However, a highly valid instrument usually insures a sufficient degree of reliability, which was considered the case for this instrument.

Data-Collection Procedures

Ingham Intermediate School District provided the researcher with permission to use their curriculum-management system, Project Perform, a letter to the Project Perform representative at each school/center, and the phone and address of each school.

These school-district representatives were either administrators of the special-education programs (e.g., director, principal, etc.), curriculum specialists, or teachers. Table 7 shows the distribution of those representatives.

Table 7.--Types of positions of the schools'/centers' representatives.

Administrators		Curriculum Specialists	Teachers
3 directors		3 curriculum specialists	6 teachers
3 principals			1 instructor coordinator
Total	6	3	7

The researcher contacted each of the representatives, explained the purpose of the research, and made an appointment to meet with him or her. After that, the researcher set out to visit all¹ of the 16 schools/centers and met with (at least) the school representative.

¹Only in one case did the researcher fail to reach a school. This was due to bad driving and weather conditions. However, the researcher explained in detail by phone the purposes of the study and the procedures for the survey to the school-district representative and to the special-education administrator of that program before he mailed them the questionnaire forms.

At these meetings the researcher provided the representative with enough copies of the teacher questionnaire form and at least one copy of the administrator questionnaire form. During the meeting the researcher also reviewed both questionnaire forms (teacher and administrator) and gave a chance to the representative to understand the parts of the questionnaire so he or she would be able to answer any questions from the staff who would be filling out the questionnaires later.

A blank envelope was attached to each questionnaire form for the teacher to use to seal his or her answers before returning them to the representative. This was to ensure confidentiality. The researcher provided each school representative with large addressed envelopes and enough postage affixed to use for mailing the questionnaires to the researcher later. Each representative played her or his role as a coordinator of the survey in the school by distributing the questionnaire forms to the staff and answering their questions (if any), gathering the forms, and mailing them to the researcher.

A telephone follow-up was done by the researcher to schools/centers that did not send the data as expected.

The response rate and cooperation from school-district representatives, administrators, and teachers were excellent. In some schools/centers the questionnaire return rate was 100%, which means that all the staff who were expected to fill out the questionnaires did so. In general, more than 80% of the expected survey participants (the research population) filled out the questionnaires. A few weeks later, a letter of appreciation was mailed by the researcher to each

school/center representative with the promise that a summary of the research results would be provided to schools/centers that participated in the study.

Data Sources

The data for this study were collected from 16 districts in the state of Michigan that were formally committed to using the PP components and had been using them for at least one year. Table 8 shows the districts or schools that were included in the study, along with the number of teachers and administrators who participated.

Participants

The participants of this study were divided into two groups:

1. Teachers who met the following criteria: (1) the teacher had one year of experience working in one of these district programs following the district's commitment to use PP, (2) the teacher was employed in that program, and (3) the teacher was assigned to work with TMI, SMI, or SXI classes.

2. Administrators who met the following criteria: at least one administrator from the program in each district who (1) was involved in the commitment to use PP for at least one year and (2) employed by the district. The administrator could be a principal, a director, or a curriculum specialist.

Data Analysis

Before analyzing the study results, the researcher would like to give a description of the collected data in this chapter.

Table 8.--Participating school districts.

School District/Center	City
Beekman Center	Lansing
Blossomland Learning Center	Berrien Springs
Clare/Gladwin Intermediate Day School	Clare
Clinton Intermediate School District	St. Johns
Forest Grove School	Fenwick
Ingham Developmental Center	Mason
J. F. Kennedy Center	Kalamazoo
Kettering School	Westland
Lyle A. Torrant Center	Jackson
Marquette Center	Garden City
Ottawa Area Center	Zeeland
Pathfinder Center	Centreville
Riley School	Allan Park
Traverse Bay Intermediate School	Traverse City
Vogel Center	Graden City
Woodside School	Lapeer

Demographic Data

As mentioned previously, 183 of PP users completed the questionnaires (168 teachers and 15 administrators) from the 16 districts. The description of data here focuses on the demographic areas, percentage of student population that teacher works with for each student category and level, years of teaching experience, PP experience, and highest degree held.

In terms of the percentage of student population that each teacher works with, responses were divided into four categories: (1) 100%--this category includes teachers who work all the time (100%) with one category only, (2) 50-99%--this category includes teachers who work 50-99% with one category of students but also may work with other categories of students, (3) 1-49%--teachers who work with less than 50% with one specific population, and (4) 0%--teachers who don't work with specific category but work all the time with different categories. Computer printout showed that only 14.31% of the teachers (n = 168) in the study worked all the time (100%) with the TMI category, SMI 11.9%, SXI 13.7%, and other (e.g., emotionally impaired, autistic, etc.) 6.0%. On the other hand, it showed that the percentage of teachers who worked with different categories of students was higher: 42.9%, 45.2%, 55.4%, and 76.2% for TMI, SMI, SXI, and other, respectively. Table 9 shows the number of teachers and their percentage in each category.

The second area in this description is the level of students with whom teachers work. It is similar to the previous area, except focus here is on the levels of students. Table 10 shows the number

and percentage of teachers in each of these five levels: pre-primary, primary, intermediate, secondary, and other. Some observations can be found here, too: that percentage of teachers who work all the time with a specific level of students is less than the percentage of teachers who work with different levels, e.g., 65.5%, 61.3%, 70.8%, 56.0%, and 92.3% of pre-primary, primary, intermediate, secondary, and other, respectively.

Table 9.--Number and percentage of teachers, based on the percentage of time they work with each category of students.

Category	Percentage of Time			
	100%	50-99%	1-49%	Don't Work
Trainable	14.3% (24)	30.36% (51)	12.50% (21)	42.9% (72)
Severe	11.9% (20)	7.74% (13)	35.30% (59)	55.4% (76)
Multiple	13.7% (23)	9.52% (16)	20.43% (36)	55.4% (93)
Other	6.0% (10)	5.36% (9)	12.50% (21)	76.2% (128)

Teaching experience has been categorized into six categories; Project Perform experience was categorized into four categories, as shown in Table 11. It appears that the highest percentage of teachers fell in the second and third categories of teaching experience-- 23.2% and 26.12%, respectively--whereas with Project Perform experience, the highest percentage were in the first and second categories, 32.7% and 38.7%, respectively. Very few people did not indicate their

Table 10.--Number and percentage of teachers, based on percentage of time they work with each level of students.

Category	Percentage of Time			
	100%	50-99%	1-49%	Don't Work With a Specific Group
Pre-primary	14.9% (25)	8.93% (15)	10.71% (18)	65.5% (110)
Primary	7.7% (13)	10.12% (17)	20.82% (35)	61.3% (103)
Intermediate	6.0% (10)	4.76% (8)	18.45% (31)	70.8% (119)
Secondary	26.8% (45)	6.55% (11)	10.71% (18)	56.0% (94)
Other	3.5% (6)	1.19% (2)	2.98% (5)	92.3% (155)

years of experience: 2.4% and 7.1% for teaching and Project Perform, respectively. In terms of the highest degree held by each teacher, Table 12 shows the number and percentage of teachers in each of the four categories.

Table 11.--Number and percentage of teachers in each category of experience.

Type of Experience	Years of Experience						Not Indicated
	1-2	3-4	5-6	7-8	9-10	10+	
Teaching experience	9.6% (16)	23.2% (39)	26.2% (44)	16.16% (28)	11.3% (19)	10.71% (18)	24.0% (4)
PP experience	32.7% (55)	38.7% (65)	19.1% (32)	2.38% (4)	..	..	7.1% (12)

Table 12.--Number and percentage of teachers in each category of type of degree held.

Type of Degree Held					
BA/BS	MA/MS	Ed.Sp.	Ed.D/Ph.D.	Not Indicated	Total
55.4% (93)	41.1% (69)	1.2% (2)	.6% (1)	1.8% (3)	100% (168)

Multiple Regression

The multiple-regression-analysis technique was used as a principal statistical method to analyze the data of this study and mainly to explain the variance in the implementation of PP components. In other words, multiple-regression is used in this section to specify the major variables that influence implementation of curriculum and to find out the degree of contribution of each variable on the implementation in the stepwise method, as will be explained in more detail later in this section.

What is multiple regression?.--Kerlinger (1964) defined multiple regression as "a method for studying the effects and the magnitudes of the effects of more than one independent variable on using principles of correlation and regression" (p. 603). DeJong (1981) also stated that "multiple regression analysis is a statistical technique [to be] used to analyze the relationship between a dependent variable and two or more independent variables" (p. 122). Nie et al. defined multiple regression as "a general statistical technique through which one can analyze the relationship between a dependent or criterion variable and a set of independent or predictor variables" (p. 321).

These definitions of multiple regression explain well the purposes of this statistical technique, which served properly in this research since the purpose of this study was to find out the main predictors of implementation of curriculum for TMI and SMI and to determine what portion of the variance in the outcomes (curriculum implementation) can be explained by each of the predictors (variables). By reviewing the research design of this study in this chapter, it shows how the multiple-regression model fit in this research design. There are three sets of factors (independent variables) that are assumed to have an influence on curriculum implementation. Each of these sets includes more than one variable. The curriculum implementation (dependent variable) also includes more than one variable; these were called implementation components. Thus, the researcher expected that multiple regression would be able to:

1. Identify the overall contribution of the independent variables (influence of the three sets of variables: curriculum, teacher, and administrator) to the dependent variable (implementation of curriculum).

2. Determine the contribution of a particular independent variable (any variable in the three sets of variables), with the influence of other independent variables controlled, to the dependent variable (implementation of curriculum).

Procedures of using multiple-regression analysis.--

1. Factor analysis: Factor analysis was used for all the variables in the study (independent and dependent variables). The purpose of the factor analysis was to find out the correlations between

all the variables. These correlations between variables served two objectives:

- a. To determine the variables to be used in the multiple regression. The independent variables that had high correlations with the dependent variables were used in the multiple-regression equation.

- b. To test the multicollinearity, which means that if the correlation between independent variables themselves is very high, this causes a problem in the multiple-regression equation. The results of the factor analysis didn't show a very high correlation between independent variables. However, the researcher observed in the factor-analysis results that independent variables in each set were correlated relatively high, and at the same time not highly correlated with other independent variables from the other sets. Thus, each set of independent variables plays as a cluster of variables that are relatively highly correlated to each other and (independent) not highly correlated with other variables from other sets (clusters).

2. Sets of variables: Three sets (clusters) of independent variables were formulated. Each variable in each group or set of variables was given a code, and each of these sets was given a code, too, to be used in the computer. The sets and the variables in each one are shown in Table 21.

3. Stepwise Procedures: The multiple-regression stepwise procedure was used to evaluate the contribution of independent variables to the variance of implementation. Stepwise procedures mean

that researchers can enter independent variables one by one in the multiple-regression equation. This procedure is used when a researcher wishes to isolate a subset of variables from predictor variables that will yield an optimal-prediction equation with as few terms as possible.

Research Questions

The study addressed three research questions, which are stated below:

1. Is there a relationship between curriculum implementation and curriculum characteristics, e.g., flexibility, utility, clarity, appropriateness, and sequencing?
2. Is there a relationship between curriculum implementation and teacher participation in curriculum improvement and in developing teaching strategies, and training in how to use curriculum?
3. Is there a relationship between curriculum implementation and administration involvement and encouragement of the use of curriculum?

Limitations of the Study

Three major limitations faced the researcher in this study. These were:

1. The number of teachers who participated in this study was larger than the number of administrators. This was because each school or center had only one administrator or in a few cases two administrators (e.g., principal, director, assistant director) but, of course, a larger number of teachers. The average number of teachers

in each school or center that participated in the research was 10.5 (total number of teachers in all schools ÷ number of schools/centers). The range was between 4 and 23. The total number of teachers who participated from all the 16 schools and centers was 168, whereas the total number of administrators who participated was 15. This large number of teachers and small number of administrators created two problems with data analysis:

- a. The researcher needed to compare between the perceptions of teachers and the perceptions of the administrator in each school on PP components, preparation of teachers, in-service, and other variables. It is obvious that comparison between teachers and administrators would be more adequate if the numbers in each group were more equivalent.

- b. The second problem was similar to the first, except it concerned the whole sample. The researcher compared the responses of all teachers in all schools/centers (all teachers in all schools/centers treated as one group) to all administrators in all schools/centers (all administrators treated as one group). The results of the comparison between teachers and administrators could be more adequate if the difference in their numbers were not so large (teachers = 168, administrators = 15).

2. The researcher had a similar problem when comparing between schools/centers since the number of teachers in some schools/centers was very small (e.g., four teachers), whereas in other schools/centers the number was relatively large (e.g., 23 teachers).

3. Actual observation of the teachers' implementation of curriculum components was not undertaken. Originally, the researcher had planned to interview all teachers who participated in the study and to observe each of them, or at least a representative sample. The rationale for this plan was that the researcher would then compare between the teachers' responses on Part II of the teacher's questionnaire that deals with the implementation of PP components and the actual degree of implementation as observed and rated by the researcher.

This task was not done because the researcher felt it was not appropriate for him to observe teachers. Nor was it advisable for the researcher to do so, in terms of time and effort and his own subjectivity. More objectivity is possible if the observer is not the researcher himself and if there is more than one observer. However, the instrument used to collect data from the teachers has been agreed on as a valid instrument. (See the section on validity and reliability of the instrument earlier in this chapter.)

CHAPTER IV

RESULTS AND DATA ANALYSIS

In this chapter, two major sections are presented. First, results of the multiple-regression analysis, used to identify the major predictors of the implementation of PP components, are given. Second, a descriptive analysis of the data is presented.

Results of the Multiple-Regression Analysis

The multiple-regression analysis stepwise procedure was used to analyze the contribution of independent variables to the variance of curriculum implementation. Table 13 shows the correlation coefficients between these variables. Stepwise procedures allow a researcher to enter independent variables one by one into the multiple-regression equation in the computer. This procedure is used when a researcher wishes to isolate a subset of variables from predictor variables that will yield an optional-prediction equation with as few terms as possible. In this study, stepwise procedure was used in three different arrangements of the variables. These arrangements were:

1. Dependent variables ($M_1 + M_2 + M_3 + M_4 + M_5 + M_6$) were treated as one variable (M), and independent variables were treated individually ($C_1, C_2, C_3, C_4, C_5, T_1, T_2, T_3, T_4, A_1, A_2, A_3$).

Table 13.--Correlation coefficients.

	Curriculum					Teacher				Administration		
	C ₁	C ₂	C ₃	C ₄	C ₅	T ₁	T ₂	T ₃	T ₄	A ₁	A ₂	A ₃
C ₁												
C ₂	.41											
C ₃	.12	.46										
C ₄	.26	.32	.23									
C ₅	.32	.49	.35	.31								
T ₁	.05	.14	.22	.12	.12							
T ₂	.18	.29	.15	.09	.26	.51						
T ₃	.22	.13	.21	.12	.21	.24	.14					
T ₄	.02	.06	.07	.05	.02	.46	.53	.16				
A ₁	.17	.22	.11	.02	.08	.34	.28	.15	.16			
A ₂	.06	.12	.21	.14	.14	.68	.55	.22	.45	.31		
A ₃	.05	.21	.18	.18	.17	.67	.78	.15	.56	.35	.68	

Table 14 shows the independent variables (clusters 1, 2, and 3). Each cluster and each subcluster has been given a code. In this method, the six components of curriculum implementation were combined and treated as one variable (implementation of curriculum). The multiple-regression summary in Table 15 shows the multiple-regression correlations and R^2 between C, T, and A variables and the M variable. The highest $R^2 = .20692$ ($p \leq .001$) was recorded when the last independent variable was entered in the equation in step 12. This result indicates that .20692 of the variation of implementation is explained by the C, T, and A variables operating jointly.

2. Each of the independent variables ($C_1, C_2, C_3, C_4, C_5, T_1, T_2, T_3, T_4, A_1, A_2, A_3$) was tested in the computer by using the stepwise procedure to find out its correlation with each of the dependent variables (M_1, M_2, M_3, M_4, M_5 , and M_6).

A summary of the results is presented in Table 16. It may be helpful to the reader to go through an example. When the independent variable T_4 (in-service) was entered in the multiple-regression equation in step 1, its correlation coefficient with dependent variable M_1 (assessment) was .28105 and the regression (R) square was .07899 ($p \leq .001$). In step 2, a new independent variable was entered in the equation: T_3 (pre-service). The multiple-regression correlation coefficient then became .32159 and the R^2 increased to .10342 ($p \leq .001$). One should be careful in interpreting the increase of R^2 from .07899 to .10342. This increase of $.02443 = .10342 - .07899$ cannot be explained as an influence of T_3 (pre-service) only. Instead, it is the influence of the interaction of T_4 and T_3 . Also, their

Table 14.--Sets/clusters of independent and dependent variables.

Dependent Variables		Independent Variables					
Cluster 4	Code	Cluster 1	Code	Cluster 2	Code	Cluster 3	Code
Implementation	M	Curriculum	C	Teacher	T	Administration	A
<u>Variables</u>		<u>Variables</u>		<u>Variables</u>		<u>Variables</u>	
Assessment	M ₁	Flexibility	C ₁	Participa- tion in:		Monitoring	A ₁
Reassessment	M ₂	Utility		Curriculum Improvement	T ₁	Involvement	A ₂
Objectives	M ₃	Clarity	C ₃			Encouragement	A ₃
Materials	M ₄	Appropriateness	C ₄	Development of Teaching Strategies	T ₂		
Criteria	M ₅	Sequencing	C ₅				
Record	M ₆			Pre-Service	T ₃		
				In-Service	T ₄		

Table 15.---Multiple-regression summary table for all predictors of implementation from all sets of factors.

Step	Variable Code	Variable Name	Multiple R	R ²	R ² Change	Overall F	Significance
1	T ₃	Pre-service	.25819	.06666	.0666	11.85660	.001
2	T ₄	In-service	.34044	.11590	.04923	10.81488	.001
3	C ₄	Appropriateness	.40965	.16781	.05191	11.02347	.001
4	A ₂	Administration Involvement	.42173	.17786	.01005	8.81548	.001
5	T ₁	Curriculum Improvement	.42946	.18444	.00658	7.32725	.001
6	A ₁	Monitoring	.43629	.19035	.00591	6.30839	.001
7	C ₂	Utility	.44559	.19855	.00821	5.66271	.001
8	A ₃	Encouragement	.45116	.20355	.00499	5.07936	.001
9	C ₁	Flexibility	.45278	.20501	.00147	4.52729	.001
10	C ₅	Sequencing	.45384	.20597	.00095	4.07251	.001
11	C ₃	Clarity	.45439	.20647	.00051	3.69008	.001
12	T ₂	Developing Strategies	.45488	.20692	.00045	3.37004	.001

Table 16.--Multiple-regression summary tables for the implementation components (M_1 - M_6).

Step	Var. Code	Variable Name	Multiple R	R ²	R ² Change	Overall F	Significance
M₁: Assessment							
1	T4	In-service	.28105	.07899	.07899	14.23642	.001
2	T3	Pre-service	.32159	.10342	.02443	9.51643	.001
3	C4	Appropriateness	.34371	.11813	.01471	7.32311	.001
4	A3	Encouragement	.35959	.12930	.01117	6.05155	.001
M₂: Reassessment							
1	T4	In-service	.22266	.04958	.04958	8.65916	.004
2	T3	Pre-service	.30718	.09436	.04478	8.59545	.000
3	T1	Curriculum improvement	.32616	.10638	.01202	6.50781	.000
4	A2	Involvement	.34400	.11833	.01195	5.46930	.000
M₃: Objectives							
1	C4	Appropriateness	.34610	.11979	.11979	22.59052	.001
2	A3	Encouragement	.38549	.14860	.02882	14.39959	.001
3	T3	Pre-service	.42831	.18345	.03484	12.28131	.001
4	C3	Clarity	.44380	.19696	.01351	9.99458	.001
M₄: Use Materials							
1	C4	Appropriateness	.32060	.10278	.10278	19.01687	.001
2	C2	Utility	.35781	.12803	.02524	12.11309	.001
3	A3	Encouragement	.39330	.15469	.02666	10.00363	.001
4	T3	Pre-service	.41994	.17635	.02166	8.72469	.001
M₅: Criteria							
1	C5	Sequencing	.15801	.02497	.02497	4.25092	.041
2	T3	Pre-service	.20000	.04000	.01503	3.43750	.034
3	A1	Monitoring	.23838	.05683	.01683	3.29362	.022
4	C2	Utility	.26179	.06854	.01171	2.99836	.020
M₆: Record							
1	T3	Pre-service	.14800	.02190	.02190	3.71733	.056
2	A2	Involvement	.22251	.04951	.02761	4.29759	.015
3	T1	Curriculum improvement	.24110	.05813	.00861	3.37373	.020
4	A1	Monitoring	.26441	.06991	.01179	3.06308	.018

separate influence cannot be described by saying, for instance, that T_3 contributed .02443 to M_1 variance because T_3 presented without T_4 will not necessarily produce the same results. The point is that in multiple regression one should consider the influence of a given variable in relation to its interaction with other presented variables.

According to the summary of the multiple-regression analysis results, in Appendix G, for M_1 , it appears that the highest R^2 is found in Step 11, where $R^2 = .14227$, indicating that 14% of the variation of M_1 is explained by all the mentioned variables operating jointly. The same is true with M_2 , M_3 , M_4 , and M_5 while $R^2 = .12651$, .21143, .19737, and .13495, respectively ($p \leq .05$). In the case of M_6 , $R^2 = .08608$ was not significant ($p \leq .21$). (See Appendix G.)

3. Dependent variables were treated as one variable (M) and the three groups of independent variables were each treated as one variable (C, T, A). In other words, all the C variables combined to become one independent variable, and the same was true with T and A variables. Table 17 shows the results of the multiple-regression analysis between the dependent variable M and the independent variables C, T, and A.

The multiple-regression coefficient for the first set of variables, C, was .23800, and the $R^2 = .05664$. This means that the variables in the C set (curriculum characteristics), when combined as one independent variable, predict only .05664 of the variance of the implementation, which is, however, statistically significant ($p \leq .002$). However, the multiple-regression coefficients for the

Table 17.--Multiple-regression summary table for the three predictors (curriculum, teacher, and administrator) when treated as groups of dependent variables (curriculum implementation).

Step	Variable Code	Variable Name	Multiple R	R ²	R ² Change	Overall F	Significance
1	C	Curriculum	.23800	.05664	.05664	9.96730	.002
2	A	Administration	.30343	.09207	.03543	8.36615	.001
3	T	Teachers	.31331	.09816	.00609	5.95038	.001

second and third sets of variables were .30343 with $R^2 = .09207$, and .31331 with $R^2 = .09816$, for A and T, respectively.

These results indicate that variables in the administration factor explain .09207 of the variance of the implementation when combining the variables in the set as one variable. The same conclusion can be derived for teacher factors--that the variables in that set can predict or explain the variance of curriculum implementation by .09816. Both of these results are statistically significant ($p \leq .001$).

In general, the results of the multiple-regression analysis showed that the independent variables are not very high in predicting or explaining the variation of the dependent variables. However, the influence of all of these variables was statistically significant. Another observation can be derived from the results of the stepwise procedures that were applied. In the first one (1) where each independent variable ($C_1, C_2, C_3, C_4, C_5, T_1, T_2, T_3, T_4, A_1, A_2, A_3$) was entered in the multiple-regression equation by using the stepwise method to find its contribution to the variance of the combined dependent variables (M_1, M_2, M_3, M_4, M_5 , and M_6), the result shows that in one combination of the independent variables, R^2 increased to .20692 ($p \leq .001$). However, when the independent variables were combined into one variable, the R^2 was decreased; the highest $R^2 = .09816$ ($p \leq .001$). One observation can be reported here. The more the researcher combined the variables for treatment as one variable, the smaller were the R^2 values obtained. In other words, the contribution of these variables to predicting or explaining the variance

of implementation decreases. These results are discussed in more detail in Chapter V.

Descriptive Analysis

This section presents teachers' and administrators' perceptions of PP and POC components, comparison between teachers and administrators, comparison between districts' implementation, and general comments from teachers and administrators on PP and POC components.

In terms of teachers' perceptions of PP and POC components, Table 18 shows that teachers were generally positive (means 3.3 to 4.0). Also their ratings of "clear objectives" and "clear materials" of POC were very high. However, they rated "POC appropriateness" the lowest (mean 3.3, SD 1.2), from which it can be concluded that it had the greater variability in response. This conclusion was one of the major results of the study--that appropriateness is one of the important factors that influence curriculum implementation.

Table 19 indicates teachers' ratings of administration support of and involvement in implementation of PP components. It appears that teachers were generally positive (means 3.3 to 3.9) but not convincingly high. However, all SDs were a little high (0.9 to 1.2), which indicates that teachers have different perceptions of their administrators' support of implementation of PP components. In terms of teachers' perceptions of their preparation, Table 20 shows that the mean for teachers' ratings of "adequate training" was 3.8 with

Table 18.--Teachers' ratings of PP and POC.

Item No.	Subject	Rating					$\bar{X}$	SD	Total No.
		SA (5)	A (4)	UN (3)	D (2)	SD (1)			
1	POC assessment procedures	40	94	13	14	3	3.9	0.9	164
2	POC assessment materials	21	103	21	20	1	3.7	0.9	166
3	PP data processing	21	83	27	25	3	3.6	1.0	159
4	PP components	23	83	26	25	6	3.6	1.0	163
5a	Clear directions	25	107	22	10	1	3.9	0.8	165
5b	Clear objectives	33	115	9	10	0	4.0	0.7	165
5c	Clear materials	30	112	11	11	1	4.0	0.8	164
5d	Clear assessment procedures	23	105	19	14	3	3.8	0.9	164
6	POC appropriateness	18	76	24	38	10	3.3	1.2	167
7	POC organization	28	103	23	10	2	3.9	0.8	166

Note: 1 = lowest
5 = highest

Table 19.--Teachers' ratings of administrators' support of PP implementation.

Item No.	Subject	Rating					$\bar{X}$	SD	Total No.
		SA (5)	A (4)	UN (3)	D (2)	SD (1)			
8	Changing in school	13	57	44	27	4	3.3	1.0	145
9	Understanding	41	80	21	18	6	3.8	1.0	166
10	Participation	35	71	24	31	3	3.6	1.1	164
11	Encouragement	40	91	17	17	2	3.9	0.9	167
12	Support in tangible ways	22	67	22	47	9	3.3	1.2	167
13	Development	22	69	32	37	6	3.4	1.1	166
14	Strategies	19	80	31	30	3	3.5	1.0	163
15	More support than necessary	3	27	33	85	14	3.5	1.0	162

Note: Item 15 was calculated using SA = 1, A = 2, UN = 1, D = 4, SD = 5 in order to reflect positive perceptions of administrators.

1 = lowest
2 = highest

Table 20.--Teachers' ratings of preparation to use POC components.

Item No.	Subject	Rating					$\bar{X}$	SD	Total No.
		SD (5)	A (4)	UN (3)	D (2)	SD (1)			
16	Person "on call"	40	92	6	19	3	4.0	1.0	160
17	Adequate training	23	104	16	20	1	3.8	0.9	164
18	Additional training	4	27	24	85	21	2.4	1.0	161

Note: 1 = lowest
5 = highest

SD = 0.9, which demonstrates that teachers' perceptions of the adequacy of their training were not highly positive, and the variation between their responses was high.

Administrators' perceptions of PP and POC components were very positive (means 4.0 to 4.5), with low variation (SD = 0.5 to 0.8). Table 21 shows that none of the administrators chose "strongly disagree" or "disagree" on any of the 15 items. Instead, most of them chose either "strongly agree" or "agree." Similar results are found in Table 22, which indicates that administrators' perceptions of their support was very high, too, especially their ratings of Items 11 and 13, "Encouragement" and "Development" (Means 4.5, 4.5). However, their perceptions of the teachers' preparation was generally similar to the teachers' own perceptions, as shown in Table 23.

A comparison between teachers and administrators showed that their perceptions of PP and POC components and of administrator support were different. It is clear in Table 24 that administrators rated most of the items very high, especially Item 6, "Appropriateness" (mean 4.0, SD 0.6), whereas teachers rated the same item lower (mean 3.3, SD 1.2). From this, one can conclude that administrators considered the POC appropriate to the needs and abilities of mentally impaired students, whereas teachers perceived it as less appropriate than administrators. One can explain this difference by concluding that teachers work with students directly and are able to judge the appropriateness of POC to their students' needs and abilities. Administrators' decisions may be based on less-direct application of POC. Also, there are differences between teachers' and administrators'

Table 21.--Administrators' ratings of PP and POC.

Item No.	Subject	Rating					$\bar{X}$	SD	Total No.
		SA (5)	A (4)	UN (3)	D (2)	SD (1)			
1	POC assessment procedures	10	4	1	0	0	4.5	0.8	15
2	POC assessment materials	8	6	1	0	0	4.5	0.6	15
3	PP data processing	4	10	0	0	0	4.3	0.5	14
4	PP components	4	10	1	0	0	4.2	0.6	15
5a	Clear directions	6	7	1	0	0	4.4	0.6	14
5b	Clear objectives	7	8	0	0	0	4.5	0.5	15
5c	Clear materials	4	10	1	0	0	4.2	0.6	15
5d	Clear assessment materials	5	10	0	0	0	4.3	0.5	15
6	POC appropriateness	1	13	1	0	0	4.0	0.6	15
7	POC organization	2	11	2	0	0	4.0	0.5	15

Note: 1 = lowest
2 = highest

Table 22.--Administrators' ratings of their support of PP implementation.

Item No.	Subject	Rating					$\bar{X}$	SD	Total No.
		SA (5)	A (4)	UN (3)	D (2)	SD (1)			
8	Changes in school	1	9	1	4	0	3.5	1.0	15
9	Understanding of implementation	8	3	2	1	0	4.1	1.4	14
10	Participation	5	7	1	1	0	4.1	0.9	14
11	Encouragement	9	4	1	0	0	4.5	0.9	14
12	Support	7	7	1	0	0	4.4	0.6	15
13	Development	8	7	0	0	0	4.5	0.5	15
14	Teaching strategies	7	7	1	0	0	4.4	0.6	15
15	More support than necessary	1	3	5	5	0	3.0	1.0	14

Note: 1 = lowest
5 = highest

Table 23.--Administrators' ratings of teachers' preparation.

Item No.	Subject	Rating					$\bar{X}$	SD	Total No.
		SA (5)	A (4)	UN (3)	D (2)	SD (1)			
16	Person "on call"	8	4	2	0	0	4.0	0.8	14
17	Adequate training	6	4	3	2	0	4.0	1.1	15
18	Additional training	0	4	7	3	1	3.0	0.9	15

Note: 1 = lowest
5 = highest

Table 24.--Differences between teachers' and administrators' ratings of the PP and POC components, administration support, and preparation.

Item No.	Item Content	Teachers	Administrators
<u>PP and POC Components</u>			
1	Assessment procedures	3.9 (0.9)	4.5 (0.8)
2	Assessment materials	3.7 (0.9)	4.5 (0.6)
3	Data processing	3.6 (1.0)	4.3 (0.5)
4	Adaptation of components	3.6 (1.0)	4.2 (0.6)
5a	Clarity of direction	3.9 (0.8)	4.4 (0.6)
5b	Clarity of objectives	4.0 (0.7)	4.5 (0.5)
5c	Clarity of materials	4.0 (0.8)	4.5 (0.6)
5d	Clarity of assessment	3.8 (0.9)	4.3 (0.5)
6	Appropriateness	3.3 (1.2)	4.0 (0.6)
7	Organization	3.9 (0.8)	4.0 (0.5)
<u>Administration Support</u>			
8	Changing in School	3.3 (1.0)	3.5 (1.0)
9	Understanding	3.8 (1.0)	4.1 (1.4)
10	Participation	3.6 (1.0)	4.1 (0.9)
11	Encouragement	3.9 (0.9)	4.5 (0.9)
12	Support in tangible ways	3.3 (1.2)	4.4 (0.6)
13	Development	3.4 (1.0)	4.5 (0.5)
14	Strategies	3.5 (1.0)	4.4 (0.6)
15	More support	2.5 (0.9)	3.0 (1.0)
<u>Preparation</u>			
16	Persons "on call"	4.0 (1.0)	4.4 (0.8)
17	Adequate training	3.8 (0.9)	4.0 (1.1)
18	Additional training	2.4 (1.0)	3.0 (0.9)

perceptions of administration support. Generally, administrators were more highly positive than teachers in their ratings of administration support, especially with Item 12, where administrators perceived that they were highly positive in providing consultation, in-service, materials, incentives, etc. (mean 4.4, SD 0.6), but teachers rated this item lower (mean 3.3, SD 1.2). There were no large differences between teachers and administrators in preparation.

In terms of teachers' implementation of POC components, Table 25 shows that, generally, there are three levels of implementation of POC components: (1) a high level of implementation, which includes the use of objectives (mean 4.5, SD 1.0); (2) a low level, which includes the use of assessment materials and the use of the criteria (means 3.4, 3.3); and (3) a very low level, which includes the use of training materials and the use of the record-keeping system (means 2.9, 2.8). It should be reported that most of the SDs were high (1.0 to 1.4). In terms of implementation of assessment-reassessment, Table 26 shows the percentage and number of teachers who assessed and reassessed at least 75% or more of their students. The results indicated that implementation of assessment and reassessment procedures for all content areas was not very high. The areas most often implemented were the personal, language, conceptual, and physical areas, whereas vocational and recreational were the least often implemented. Another observation derived from these results is that reassessment procedures for all content areas were less implemented than assessment procedures.

Table 25.--Teacher implementation ratings.

Item No.	Subject	Degree of Implementation					$\bar{X}$	SD	Total No.
		<25% (1)	25% (2)	50% (3)	75% (4)	>75% (5)			
1	Objectives	5	5	14	20	122	4.5	1.0	166
2	Assessment materials	32	9	39	38	48	3.4	1.4	166
3	Training materials	40	18	46	30	26	2.9	1.4	160
4	Record keeping	32	33	44	25	19	2.8	1.3	153
5	Criteria	21	20	42	33	42	3.3	1.4	158

Note: 1 = lowest
5 = highest

Table 26.--Implementation of assessment-reassessment procedures of the POC content areas.

POC Content Area ^a	Assessment	Reassessment
a. Personal	51.2% (86)	36.3% (61)
b. Vocational	25.0% (42)	19.6% (33)
c. Social	38.1% (64)	28.0% (47)
d. Conceptual	43.5% (73)	31.0% (52)
e. Recreational	20.8% (35)	16.1% (27)
f. Physical	42.3% (71)	32.1% (54)
g. Language	45.8% (77)	33.3% (56)
h. Perceptual	38.1% (64)	28.0% (47)

^aIn Item 1 of Teacher Questionnaire Form Part II, the teacher was asked to indicate how many of his/her students had been assessed (i.e., initial assessment for determining performance objectives) in each of the above POC content areas since September 1981 and also to indicate how many of his/her students had been reassessed (i.e., using the assessment procedures to monitor progress of students) in the same content areas since September 1981. (Leave blank any areas for which no assessment has been made.)

In terms of the district support of implementation of the PP components, the researcher feels that it is necessary to give readers a brief idea regarding the computation method used in this section before describing the results. In Part II of the administrator

questionnaire form, administrators were asked to indicate the following on these six items:

1. Total instructional school budget for 1981-82: \$ _____
2. Actual cost of spending on developing instructional methods/strategies for PP in 1981-82: \$ _____
3. Actual cost of spending on in-service training related to PP in 1981-82: \$ _____
4. Cost of spending on materials related to PP in 1981-82: \$ _____
5. Other cost related to the PP in 1981-82: \$ _____
6. Number of students trained by the use of PP in 1981-82: # _____

The data collected from these six items were treated in such a way as to provide the percentage of the instructional school budget (budget) spent on implementation of PP components such as instructional strategies (strategies), in-service, materials, and other related spending (other). Also calculated were the percentage of PP spending on each of the PP components of implementation such as strategies, in-service, materials, and other; the percentage of budget spent on the total of PP; and the expenditures per student for those trained by the use of PP components.

To find the percentage of budget that was spent on strategies, in-service, materials, and other, the following computation was used:

1. % of budget spent on PP strategies = amount of \$ from Item 2 (strategies) ÷ amount of \$ in Item 1 (budget)
2. % of budget spent on PP inservice = amount of \$ from Item 3 (in-service) ÷ amount of \$ in Item 1 (budget)
3. % of budget spent on PP materials = amount of \$ from Item 4 (materials) ÷ amount of \$ in item 1 (budget)

4. % of budget spent on PP other = amount of \$ from Item 5 (other) ÷ amount of \$ in Item 1 (budget)

For finding the percentage of budget spent on total PP components and per student, the following formula was used:

5. % of budget spent on total PP = amount of \$ from Items # (2 + 3 + 4 + 5) ÷ amount of \$ in Item 1
6. % of budget spent on each student trained by the use of PP components = amount of \$ from Items # (2 + 3 + 4 + 5) ÷ Item 6 (number of students). Then the outcomes ÷ Item 1 (budget)

For finding the percentage of PP spent on each PP-implementation component, the following formula was used:

7. % of PP spent on in-service = amount of \$ in Item 2 ÷ amount of \$ in Items # (2 + 3 + 4 + 5)
8. % of PP spent on in-service = amount of \$ in Item 3 ÷ amount of \$ in Items # (2 + 3 + 4 + 5)
9. % of PP spent on materials = amount of \$ in Item 4 ÷ amount of \$ in Items # (2 + 3 + 4 + 5)
10. % of PP spent on other = amount of \$ in Item 5 ÷ amount of \$ in Items # (2 + 3 + 4 + 5)

The purpose of this section is to determine the percentage of budget spent on PP and to find out if there is a relation between district spending on PP and the implementation of PP components. In other words, if a district spends more money on PP, does that cause more implementation of the PP components?

In terms of the percentage of budget spent on PP components, Table 27 shows that 40% of these districts spent less than 1% of their budget on strategies, whereas 13.3% of the districts spent between 1 and 5% of their budget on strategies. One district spent between 6 and 10%, another district spent between 11 and 15%, and only one

Table 27.--Percentage of instructional school budget spending on PP components.

Type of Spending	Percentage of Spending								Not Ind.
	1%	1-5%	6-10%	11-15%	16-20%	21-35%	26-30%	31-35%	35%
Instructional strategies	40.0% (6)	13.3% (2)	6.7% (1)	6.7% (1)	6.7% (1)	..	..	..	26.7% (4)
In-service	40.0% (6)	13.3% (2)	13.3% (2)	6.7% (1)	..	6.7% (1)	..	..	26.7% (4)
Materials	46.7% (7)	13.3% (2)	..	13.3% (2)	..	6.7% (1)	..	..	26.7% (4)
Other	46.7% (7)	..	6.7% (1)	6.7% (1)	6.7% (1)	..	..	6.7% (1)	26.7% (4)

spent between 16 and 20%. None of the districts spent more than 20% of their budget on strategies. Four districts did not indicate the amount of spending. It appears from Table 25 that 40 to 46.7% of the districts spent less than 1% of their budget on PP components, and 13.3% of them spent between 1 and 5%. Two districts spent between 21 and 25% on in-service and on materials, and only one district spent between 31 and 35% on other. Four school districts did not indicate their spending.

In terms of percentage of budget spending on total PP and per-student expenditures, the results show that 40% of the districts spent less than 25% of their budget and 20% of the districts spent 26 to 50%, as shown in Table 28. Four districts did not indicate their spending.

Table 28.--Percentage of instructional school budget spending on total PP.

	Percentage of Spending				Not Indicated
	<25%	26-50%	51-75%	>75%	
Total PP	40% (6)	20% (3)	6.7% (1)	6.7% (1)	26.7% (4)

Percentage of PP spending on each PP component is shown in Table 29. It appears that the highest percentage of districts spent less than 40% of the PP budget on in-service, materials, and other. A few districts spent more on strategies. Also, there were 13.3% of the districts that spent more than 80% of the PP budget on other.

Table 29.--Percentage of PP spending on each PP component.

PP Components	Percentage of PP Spending						Not Indicated
	1%	1-20%	21-40%	41-60%	61-80%	80%	
Instructional Strategies	26.7% (4)	..	6.7% (1)	13.3% (2)	6.7% (1)	20.0% (3)	26.7% (4)
In-service	20.0% (3)	13.3% (2)	33.3% (5)	..	6.7% (1)	..	26.7% (4)
Materials	20.0% (3)	33.3% (5)	13.3% (2)	..	..	6.7% (1)	26.7% (4)
Others	33.3% (5)	20.0% (4)	6.7% (1)	..	..	13.3% (2)	26.7% (4)

To compare between districts on implementation, Table 30 shows the number of teachers and the mean of implementation for each district, standard deviation, and variance. The mean for all the 16 districts was 3.0178. There were eight districts above that mean and eight districts below it. The highest mean was 3.7917, and the lowest mean was 2.1831. The degree of implementation was measured on a scale from 1 to 5. According to these results, none of the districts was considered very high on implementation, based on the criteria of this study. However, some of the districts can be considered low in their implementation.

Table 30.--Degree of implementation (criterion variable) by district.

No. of Teachers	Mean	SD	Variance
13	3.7917	.5621	.3160
11	3.4209	.8510	.7241
7	3.3091	.5651	.3194
8	3.2600	.8642	.7469
20	3.2448	.6873	.4723
5	3.1669	.6706	.4497
23	3.1047	.9651	.9314
4	3.0458	.6701	.4491
7	2.9908	.8405	.7065
13	2.9464	.8281	.6858
10	2.8468	.9617	.9248
10	2.8306	.8577	.7356
14	2.7179	.5677	.3223
6	2.6875	1.0463	1.0948
7	2.4554	1.1597	1.3450
4	2.1831	1.0567	1.1167
Total 168	3.0178	.9004	.8107

Analysis of variance was done between the districts and implementation, as shown in Table 31, was significant ($F = 2$, $p \leq .02$).

Table 31.--ANOVA table for implementation by districts.

	Sum of Squares	Degrees of Freedom	Mean Square
Between groups	23.6248	16	1.4766
Within groups	111.7640	151	.7402
Total	135.3888	167	

$F = 1.9949$ $\text{Sig.} = .0167$

Part III of both the teachers' and administrators' questionnaires was designed for comments or suggestions that a teacher or administrator would like to add regarding implementation of the PP components in particular and/or any additional comments or suggestions for implementation of any curriculum for TMI and SMI. One-third of the sample (teachers and administrators) wrote comments and/or suggestions on the implementation of PP components and/or on any implementation of TMI and/or SMI curriculum.

Eight conclusions were derived from these responses. These are the conclusions:

1. Objectives: Teachers suggested that many of the POC objectives need to be broken down to more specific objectives or small steps.

2. Appropriateness: Teachers agreed that POC performance objectives are not appropriate for SMI and/or SXI students.

3. Assessment procedures: Teachers wrote that they had difficulty with the assessment procedures because they are not consistent.

4. Modification: Teachers mentioned that the physical area of the POC content areas needs modification to be more appropriate for SXI students.

5. Sequencing: Teachers suggested that if the POC objectives were organized according to developmental sequences they would be more appropriate and effective.

6. Use as a guide: Teachers commented that POC was a helpful guide to them in their work with TMI and/or SMI students.

7. Data processing: Different views were reported by teachers on this issue. Some considered it very helpful for record keeping, and it saved their time. Others commented that data processing took up a lot of their time. At the same time, parents found the computer printout hard to understand.

8. Early ages: It was commented that it does not include early ages.

These are just a few comments that were presented here. However, there are many comments and suggestions made by teachers and administrators regarding implementation of PP components, especially the implementation of POC, and also comments and suggestions on implementation of TMI and SMI curriculum in general. A sample of these comments and suggestions is reported in Appendix D.

CHAPTER V

SUMMARY, DISCUSSION, AND RECOMMENDATIONS

Summary

The purpose of this research was to identify the factors that influence the degree of implementation of curriculum for TMI and SMI students, based on the perceptions of teachers and administrators. It was hypothesized earlier in the research model that three factors play a major role in curriculum implementation: (1) curriculum characteristics, which include flexibility, utility, clarity, appropriateness, and sequencing; (2) teacher variables, including participation in curriculum improvement, development of teaching strategies, pre-service training, and in-service training; and (3) administrator variables, which include administration monitoring, involvement, and encouragement.

Two questionnaires were built for the purpose of data collection. The questionnaire items measured the outcomes of curriculum implementation and the factors that influence curriculum implementation from teachers' and administrators' points of view.

Data were collected on four categories of variables:

1. Outcomes of curriculum implementation (dependent variables).
2. Curriculum characteristics (independent variables), which include teachers' and administrators' perceptions of PP components.

3. Teachers (independent variables), including teachers' perceptions of administrative support and teachers' perceptions of their preparation for use of PP components.

4. Administrators (independent variables), including administrators' perceptions of their support for the use of PP components, their perceptions of the preparation for use of PP components, and the measurable district support, which includes money spent on PP components.

Data were collected from 16 schools and centers in different districts and cities in the state of Michigan. All of these schools/centers offer special education and/or training for mentally retarded students, and they all belong to the public-school system. Data were gathered from the teachers (no aides) and administrators who work with these programs and use PP components.

Multiple-regression stepwise procedures were used to evaluate the contribution of independent variables to the variance of curriculum implementation.

The results of the multiple-regression analysis showed that all of the three groups of independent variables (curriculum characteristics, teacher participation and training, and administration involvement) influenced the dependent variables (curriculum implementation). The highest predictors of curriculum implementation were curriculum appropriateness, teacher training, and administration support, especially when these three variables operate jointly.

Discussion

Multiple-regression analysis was the major statistical method used to analyze the data collected for this study. As mentioned previously, the purpose of this research was to identify factors that influence implementation of a curriculum for mentally impaired students and to identify the portion or contribution of each factor in the implementation. It was hypothesized that three main groups of factors influence the implementation of curriculum. These three groups are the curriculum characteristics, the teacher group, and the administration group. Each of these three groups contains a number of variables that are considered to play a major role in curriculum implementation. The curriculum-characteristics group includes five variables, the teacher group includes four variables, and the administration group includes three. These variables are considered independent variables. The outcome of the independent variables was broken down into six components that were considered dependent variables. (See Table 12, Chapter IV.)

The purpose of using the multiple-regression method was to identify which of the independent variables were major predictors of the degree of curriculum implementation and to evaluate the magnitude of each predictor. As explained in Chapter III, multiple-regression procedures were applied to evaluate the predictive power of each variable in three different arrangements. The results of these three stepwise arrangements are the core of this discussion.

The first arrangement of the stepwise procedure was set up to identify variables that influence curriculum implementation and to

evaluate their degree of influence when combined with other variables. Implementation components were combined and treated as one dependent variable (implementation) in this arrangement. The 12 independent variables, regardless of their sets, were entered into the equation one by one.

The first variable entered in the evaluation on step number one of the procedure was the pre-service variable, which was defined in this research as the pretraining of teachers on how to use PP and POC components. According to the multiple-regression stepwise results, the multiple-regression coefficient was .25819 and $R^2 = .06666$. This means that providing pretraining to teachers on how to use PP and POC components is important and can predict by itself 7% of the implementation. Its influence appears not to be very high; however, it is statistically significant ($p \leq .001$). In addition, its influence on prediction is higher when entered with another variable. The portion of prediction was increased when another significant variable was entered into the equation on step number two of the multiple regression. The multiple summary table (Table 13) in Chapter IV shows that when the in-service variable was entered into the equation, the multiple-regression coefficient increased to .34044 and R^2 increased to .16781. In other words, assuming that other variables were controlled, these three variables jointly can predict 17% of the implementation. When the last independent variable was entered into the equation in stepwise number 12, the multiple-regression coefficient increased to .45488 and $R^2 = .20692$. Therefore, if the 12 variables operate jointly, assuming other variables are controlled,

they can predict 21% of the variation of implementation ($p \leq .001$).

In the second arrangement of stepwise procedures, where implementation components were treated individually as dependent variables, the 12 independent variables were entered into the equation one by one with each component of implementation. The purposes of this procedure were to find out what implementation components can best be predicted by the independent variables, to determine which independent variables to ascertain the predictive power of these variables are the best predictors.

The results showed that the highest predictor of the use of assessment procedures is the in-service variable, where the multiple-regression coefficient = .28105 and $R^2 = .07899$. This demonstrates that the more the teacher received in-service training on how to use the assessment procedures, the more he/she used them. And, by entering all the 12 variables in the equation, the multiple-regression coefficient was .37718 and $R^2 = .14227$. Another five multiple-regression stepwise procedures were run on the computer for the remaining five components of implementation. Also, the results showed that "training of teachers in how to use reassessment" was the most predictive independent variable in this arrangement. For two components of implementation, "choose objectives" and "use materials," the highest predictor in the two stepwise procedures was the appropriateness of the curriculum; the multiple-regression coefficient is .3461 and $R^2 = .11979$, and .3206 and $R^2 = .10278$, respectively. In the third stepwise procedures, the highest four predictors of the

dependent variable "choose objectives" were appropriateness of curriculum, administration encouragement, teacher training, and clarity of the curriculum. These four variables alone predict 20% of the variation of implementing POC objectives. When entered, the rest of the independent variables caused slight changes (the multiple-regression coefficient of .4438 was increased to .45981, and the R^2 of .21064 was increased to .21143). This means that the influence of the first four variables on implementing POC objectives was very high when compared to the rest of the variables in the equation.

For the "use materials" component, the highest four predictors were appropriateness, utility or usability, encouragement, and teacher training. The multiple-regression coefficient for the four of them operating jointly is .41994 and $R^2 = .17635$. When entering the other independent variables, the multiple-regression coefficient is .44427 and $R^2 = .19737$. This shows that most of the variation predicted by all of the independent variables in the equation can basically be predicted by the first four variables.

The results of this multiple-regression analysis showed that the component of implementation that can best be predicted by the independent variables was "use objectives," and the least predicted were "use criteria" and "use record keeping." The independent variables most predictive of curriculum-implementation components were appropriateness of the curriculum, training, in-service of teachers about how to use the components, and encouragement and support of administration.

In the third arrangement of variables, independent variables were combined in three sets: curriculum, teachers, and administration, and the dependent variables were treated as one variable, implementation. Stepwise procedures were then applied. Results showed that curriculum characteristics were the highest predictor of implementation; multiple-regression coefficient = .238 and $R^2 = .05664$. When administration was entered into the equation, the coefficient increased to .30343, and R^2 rose to .09816 when the teacher variable was entered into the equation. It is clear here that the predictive power of these factors was decreased when they combined. That decrease is a result of the combination of independent variables.

Results of the multiple-regression analysis and stepwise procedures explain that the power of these independent variables in predicting the degree of implementation was not very high; however, they were statistically significant. So, as the efficiency of these variables increases, the more the degree of curriculum implementation will increase. The results show, for example, that curriculum implementation will increase by providing training and in-service to experienced and inexperienced teachers in how to use a curriculum component. It has been mentioned earlier in the review of literature by Lewy (1977) that implementation of a curriculum required certain changes within the school system, such as adjustment of teacher-training programs to the needs of the new program. This includes modification in both pre-service and in-service training activities. Teachers need to have further instruction regarding the new teaching methods and strategies. Teachers should be trained to monitor the

program and to diagnose learning difficulties. Flynn (1960) mentioned that the kind of preparation received by the teacher-candidate or at the teacher in-service practically predetermines whether the teacher will take an active and intelligent part in curriculum implementation. And since teacher growth depends primarily on this factor, the pre-service and in-service programs should be well-planned and well-balanced.

The results of the study also showed that appropriateness of curriculum to the needs and abilities of mentally impaired students is one of the most important factors in curriculum implementation. This agrees with what was reported earlier in the review of literature. Klein (1979) declared that a useful curriculum must be built upon the results of a comprehensive analysis of the particular students to be taught. The analysis considers the psychological, physiological, and intellectual maturity of students. It should forecast the knowledge, skills, and attitudes that will be useful when formal schooling ends. Also, it should accurately diagnose each student's present level of knowledge and ability. Consequently, instruction must begin where students can gain the greatest benefit. The results also indicated that administration involvement and encouragement of curriculum implementation is an important factor. This agreed with literature reviewed as well. Lewy (1977) focused on obtaining cooperation of the administrators by declaring that "without their cooperation one can hardly expect successful implementation" (p. 22).

The results of this research can be summarized in four points:

1. There is a relationship between curriculum characteristics, teacher factors, and administration factors (independent variables) and curriculum implementation (dependent variable). Thus, these results answered the questions raised earlier in this research. Curriculum characteristics, teacher factors, and administrator factors do influence the degree of implementation of curriculum for TMI and SMI students.

2. The highest predictors of the degree of curriculum implementation for TMI and SMI students were curriculum characteristics, teacher training, and administration factors. However, the appropriateness of a curriculum to the needs and abilities of mentally impaired students was the most highly predictive factor. This conclusion is reached from the results of multiple-regression analysis as well as from teachers' perceptions of curriculum characteristics and from their comments and suggestions on the PP and POC components. The other two predictors were training of teachers in how to use curriculum components and administration support of curriculum implementation.

3. The degree of implementation is computed by combining the six components of curriculum implementation. In this case, degree of implementation of the entire curriculum was not very high. However, if components of implementation were treated individually, it turns out that some components of implementation can be considered highly implemented, such as "use objectives"; some are relatively high, such as "use materials"; and others are low, such as "use criteria" and "record keeping." If implementation is broken down by districts,

the results show that some districts are significantly higher than others in the degree of implementation.

4. Both teachers and administrators rated the value of PP and POC components very positively. Some components such as appropriateness of curriculum, assessment materials, and procedures were not perceived as highly as others. Teachers and administrators differed in their perceptions of some characteristics of the POC, e.g., appropriateness, clarity, data processing, and other issues such as administrators' support and encouragement of implementation. Results show that most administrators in this study tended to rate these characteristics or components more positively than did teachers.

Recommendations

Based on the results of this study, the researcher would like to outline a few recommendations for possible application.

Specific Recommendations

Specific recommendations regarding PP and POC components' implementation are as follows.

Recommendations on characteristics of curriculum.--

1. Appropriateness. The results of the multiple-regression analysis, teachers' perceptions, and teachers' comments on POC components indicated that appropriateness of the performance objectives is a major factor that influences implementation of curriculum for TMI and SMI students. However, teachers reported that in some content areas, the POC did not appropriately meet the needs of SXI students, very young mentally handicapped students, or SMI students.

According to the PP, the performance objectives in the POC are considered to be designed to help teachers and to guide them in their work with the TMI and SMI students. However, the results of the study indicated that some of these performance objectives of the POC do not meet the needs and abilities of the SMI students. The teachers' comments on these performance objectives were that they were too general. The teachers' suggestion for solving this problem was to break down these performance objectives to become more specific objectives or more specific steps, so as to fit more the abilities and needs of the SMI, SXI, and the very young mentally impaired students.

Degree of implementation of POC could be influenced by the philosophy of its users (teachers, curriculum specialists, and administrators). If the POC implementors perceive POC as a curriculum for their TMI, SMI, and SXI students, that will influence the degree of implementation negatively, since some of the performance objectives of the POC will not meet the abilities and needs of some of the mentally handicapped students, especially SMI, SXI, and very young mentally impaired students, simply because teachers will drop those performance objectives that do not fit the students' needs and abilities. However, if the POC is considered or perceived as a guide for building a curriculum, that will influence positively the degree of implementation of POC. More specifically, teachers and parents of mentally retarded students need to plan for their students some specific ultimate goals and objectives so the individual educational plan could be adapted from the POC performance objectives to help

particular students reach their ultimate goals, and not necessarily to use performance objectives of the POC exactly as they are in the POC. This philosophy could be summarized by saying that any curriculum for TMI, SMI, and SXI students should be flexible enough to be adapted to fit the abilities and needs of mentally handicapped students.

Recommendations based on the previous discussion can be stated in two points: (1) some of the performance objectives of the POC need to be broken down to become more appropriate for the abilities and needs of the SMI, SXI, and very young mentally impaired children and (2) users of the POC should use or perceive it as a guide more than a curriculum.

2. Assessment and reassessment. Assessment and reassessment procedures mean that teachers need to evaluate each of their students' abilities in order to be able to know their strengths and weaknesses. The results of that evaluation (assessment) can help the teacher, parents, and any other involved people devise an individual educational plan for particular pupils. Without assessment procedures, one can hardly know the ability level of a student and the needs of that student. However, reassessment procedures mean that the teacher needs to reassess the student's abilities in order to know his or her level of progress and achievement.

According to PP literature, the POC performance objectives are considered an assessment tool. Users of the POC are expected to use these performance objectives for the purpose of assessment and reassessment. However, results of this study showed that assessment

and reassessment were not highly implemented--particularly the assessment and reassessment procedures of some areas of the POC, such as vocational and recreational areas, where only 20 to 25% of the teachers used those areas for assessment and 16 to 28% for reassessment, based on the research criteria of this study.

By reviewing procedures of the Project Perform system, as illustrated in Project Perform, it appears that there are five procedures: (1) selection for assessment, (2) assessment, (3) selection for training, (4) training activities, and (5) reassessment. The focus here is on two procedures, assessment and reassessment. In terms of assessment procedures, teachers expected to assess their mentally impaired students at the beginning of the year or at the beginning of the term. Performance objectives were chosen from POC to use in the assessment procedure. The reassessment procedure can be considered a method of evaluating the progress of individual students: in other words, to determine if the performance objectives that were chosen for a particular pupil are appropriate or not, if he/she achieved the objectives or some of them, or if he/she needs more time to work on it, or simply if the objective(s) does not fit the student's needs and/or abilities as stated in POC. Thus, by applying reassessment procedures, teachers/parents are able to evaluate their students' improvement.

Unfortunately, the results of this study showed that assessment and reassessment procedures were both rated low, particularly reassessment procedures. One explanation of these results could be a misunderstanding of data processing by teachers. That is, teachers

may feel that since achievement of performance objectives by each child is reported on the computer and can be easily obtained and understood by them or by parents, why do they need to reassess their students? If this is the case, that philosophy encourages teachers, directly or indirectly, not to implement reassessment procedures, and it will negatively influence the implementation of these two components.

Since assessment and reassessment are considered to be important components of implementation of curriculum for TMI and SMI, and curriculum-implementation project for mentally retarded populations should consider both of these components. A study or any appropriate investigation would be helpful to find out what are the causes of the low degree of implementation of these two components.

Administration support.--Regarding teachers' perceptions of administration support for implementation of curriculum, the results showed that teachers rated administrators' support highly on only three items. The items showed that teachers considered that their administrators were concerned with understanding how to use or implement PP components; administrators encouraged their teachers to participate in PP-related activities such as curriculum development, revision, and evaluation; and administrators encouraged them to use performance objectives from POC in daily instructional activities. However, the teachers perceived that their administrators did not highly encourage them to create/develop ways to adapt PP components to their daily routines, and they did not provide teachers with enough consultation, in-service, materials, or incentive.

On the other hand, the results indicated that administrators' perceptions of administration support of implementation of PP and POC components were very high. The writer concluded that administrators perceived themselves as supporters of their teachers in using performance objectives from POC in their daily instructional activities and supporters also in tangible ways, such as providing consultation, in-service, materials, and incentive. Also, administrators perceived themselves as encouraging teachers to create/develop ways to adapt PP components to their daily routines and encouraging them to plan and develop teaching strategies for implementing PP components in their classrooms.

A large discrepancy was observed between the teachers' perceptions and administrators' perceptions of administration support. Whereas administrators considered themselves to be highly supportive of the implementation of the PP components by providing consultation, in-service, materials, and incentives, the teachers perceived the same issue less positively than the administrators did. One explanation of that discrepancy is that administrators perceived their support of teachers' implementation of PP components to be high, whereas teachers expected more support from their administrators than they actually received. Another explanation of this phenomenon is that administrators may tend to give a "nice" picture of their support for implementation.

In spite of these explanations of the results, it is clear from these findings that teachers' perceptions of administration support are not positive enough in regard to providing consultation,

in-service, materials, and teaching strategies. A study to identify ways of increasing administrators' support for implementation might increase teachers' implementation of curriculum components.

Training.--According to the results of the multiple-regression analysis, teacher training was one of the important predictors of curriculum implementation. Based on these findings, the researcher would like to recommend two types of training: (1) teacher training: additional training is necessary for those teachers in the study (18.5%) who indicated that they need additional training and for the teachers (12.5%) who indicated that they did not receive adequate training in how to use PP and POC components; (2) administrator training: the focus of that training should not necessarily be similar to the teacher training on how to use PP and POC components. However, training or in-service to help administrators become more involved in curriculum implementation as well as in decision making is needed. That would help administrators understand more fully the procedures of curriculum implementation and be aware of the problems that teachers may face in implementation. This also may narrow the large discrepancy between teachers' and administrators' perceptions of curriculum implementation. An investigation of the necessity of teacher and administrator training in this area is recommended.

District implementation.--For the purpose of measuring the degree of implementation, degree of implementation was broken down into six components (assessment, reassessment, objectives, assessment materials, training materials, record keeping, and criteria). Teachers rated each of these components from one to five. Then the scores

were combined to produce only one score for each item of implementation. Furthermore, scores of all teachers in each district were combined to produce one score for all teachers in each school district. Based on this explanation, there were 16 degrees of implementation. None of these degrees can be considered to be very high according to the research criteria. However, by looking at each implementation component, it appears that the degree of implementation was relatively high on some components, such as "use of performance objectives," and it was low on other components, such as "assessment, reassessment, and criteria." The low degree of implementation of these three components caused the decrease in the degree of total implementation.

In terms of the relationship between instructional school budget spending and implementation of the district, it did not compute statistically, due to the sample size of the districts, since four school districts did not indicate the specific figure of spending on PP components by their schools. However, in terms of district implementation, each school district was treated as a unit, and the analysis of variance showed a significant difference among school districts in their degree of implementation. Since this study was not designed to study this phenomenon, identifying the factors that increase the degree of implementation of curriculum in some school districts was not considered appropriate in this research. Thus, further research to study the factors that increase curriculum implementation in the districts that rated high in implementation is

highly recommended so that the results can be generalized to other school districts that use the PP and POC components and were rated low in implementation.

General Recommendations

The results of this study give curriculum developers, evaluators, and users a general idea regarding the major factors that influence implementation of curriculum for TMI and SMI students. The implications of these results can be used by curriculum specialists, administrators, and teachers of mentally regarded students when they need to choose a curriculum. Their focus, based on the results of this study, should be on the appropriateness of the curriculum to their population of students, teacher training on how to implement the curriculum, and administration support of that implementation.

Further Research

As mentioned before, this research did not cover all the areas that related to curriculum implementation. In addition to the suggested studies already mentioned by the researcher in his recommendations, investigation in another two areas may be helpful to curriculum developers or specialists: first, a study of the type of training or in-service needed by teachers who use a particular curriculum; and second, a study of the influence of teaching methods/strategies on the implementation of curriculum for TMI and SMI students. In the latter case, the goal would be to identify the teaching strategies or methods used with each level and category of

mentally retarded students and to study the influence of each of these teaching methods on curriculum implementation. A research model similar to that designed for this research could be used, and multiple-regression analysis would be recommended for application to this purpose.

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APPENDICES

APPENDIX A
QUESTIONNAIRE

Dear Teacher/Administrator:

We are interested in teacher and administrator perceptions related to implementation of a curriculum for trainable and severely mentally impaired students.

This study is an effort by Michigan State University, Division of Special Education. The primary purpose of this research is to determine school district or center characteristics which influence special education curriculum implementation. We have identified school districts contracting with Ingham Intermediate School District and Project PERFORM as our target population. We would like your responses to this short administrative/teacher survey.

Indeed, your effort is very important in this research. We highly appreciate your cooperation in completing this questionnaire.

Thank you very much for your help.

Sincerely,



Donald Burke, Professor
Michigan State University



Yaser Salem, Research Assistant
Michigan State University

Personal Data Sheet

Please indicate the following:

1. In your work, please estimate the percent of your student population for each of the following categories:
 - a. (%) TMI
 - b. (%) SMI
 - c. (%) SXI
 - d. (%) other, explain _____

2. In your work, please estimate the percent of your student population for each of the following levels:
 - (%) Pre-primary
 - (%) Primary
 - (%) Intermediate
 - (%) Secondary
 - (%) Other (specify) _____

3. How many years of teaching experience do you have in working with TMI, SMI and/or SXI including the year 1981-82?

_____ Years

4. How many years of experience do you have in using the Project PERFORM Management System (i.e. Performance Objectives Catalog, or Data Processing Forms/Procedures or Staff Development).

_____ Years

5. Circle the highest degree held: BA/BS Ed.S.
 MA/MS Ed.D./Ph.D.

6. List special education areas of approval (endorsement): _____

Thank You

Teacher Survey

Introduction

When answering these questions, please keep in mind that we are interested in your views of your school program and the students of your class, not all programs/schools or students in general.

PP in this questionnaire refers to Project PERFORM, which has been developed by Ingham Intermediate School District, as a curriculum management system to help teachers and parents plan, carryout and assess school programs for moderately and severely handicapped students. This management system is a set of three components: the Performance Objectives Catalog (POC), Data Processing Forms/Procedures and Staff Development Activities.

Please rate each item below by marking (X) the one response which best represents your opinion. A Not Applicable column has been provided should you feel unable to make an appropriate response to a particular item. However, we recommend you try to respond to all items.

All references to the administrator of your program refer to that person to whom you are directly responsible. Such references do not refer to your school liaison with Project Perform, your curriculum specialist or the Project Perform teacher-contact person unless your administrator also happens to perform one of these jobs.

Part I

	<u>Strongly</u> <u>Agree</u>	<u>Agree</u>	<u>Undecided</u>	<u>Disagree</u>	<u>Strongly</u> <u>Disagree</u>	<u>Not</u> <u>Applicable</u>
1 - The POC assessment procedures are useful to you in determining performance objectives for your students.	()	()	()	()	()	()

	<u>Strongly Agree</u>	<u>Agree</u>	<u>Undecided</u>	<u>Disagree</u>	<u>Strongly Disagree</u>	<u>Not Applicable</u>
2. The POC recommendations for assessment materials are useful to you in assessing student performance.	()	()	()	()	()	()
3. The PP data processing forms/procedures for recordkeeping are useful to you in monitoring student performance.	()	()	()	()	()	()
4. The components of PP adopted by your school district are easily adapted to fit the procedures you prefer to use in operating your classroom.	()	()	()	()	()	()
5. In general, the following items in the POC are clearly written:						
a. Overview/Directions	()	()	()	()	()	()
b. Objectives	()	()	()	()	()	()
c. Materials	()	()	()	()	()	()
d. Assessment Procedures	()	()	()	()	()	()
6. In general, the content of the POC is appropriate to the range of needs and abilities of all of your students.	()	()	()	()	()	()
7. In general, the organization (section, content area, sub-content area, numbering system, etc.) is helpful to you in understanding and using the POC in your classroom.	()	()	()	()	()	()

	<u>Strongly</u> <u>Agree</u>	<u>Agree</u>	<u>Undecided</u>	<u>Disagree</u>	<u>Strongly</u> <u>Disagree</u>	<u>Not</u> <u>Applicable</u>
8. Administrative action concerning changes in school policy, routine, or procedures have been helpful to you in implementing PP.	()	()	()	()	()	()
9. The administrator(s) of your program is concerned that you understand how to use or implement PP.	()	()	()	()	()	()
10. The administrator(s) encourages your participation in PP related activities, such as curriculum development, revision, and evaluation.	()	()	()	()	()	()
11. In general, the administrator(s) of your program encourages teachers to use Performance Objectives from the POC in daily instructional activity.	()	()	()	()	()	()
12. The administrator(s) of your program is supportive in tangible ways of your use of PP (e.g. he/she provides consultation, inservice, materials, incentives, etc.).	()	()	()	()	()	()
13. The administrator(s) of your program encourages you to create/develop ways to adapt PP components to your daily routine.	()	()	()	()	()	()

	<u>Strongly</u> <u>Agree</u>	<u>Agree</u>	<u>Undecided</u>	<u>Disagree</u>	<u>Strongly</u> <u>Disagree</u>	<u>Not</u> <u>Applicable</u>
14. The administrator(s) of your program encourages you to plan and develop teaching strategies/instructional methods for implementing PP in your classroom.	()	()	()	()	()	()
15. The administrator(s) of your program offers you more support/encouragement than is necessary for implementing PP.	()	()	()	()	()	()
16. The administrator(s) of your program designated a person to be "on-call" when you have or have had questions concerning PP.	()	()	()	()	()	()
17. You have received adequate training in how to use PP components in your classroom.	()	()	()	()	()	()
18. You need additional training on how to use PP components in your classroom.	()	()	()	()	()	()

Part II

For the next six items, please circle the % that you feel fits your classroom situation.

1. Indicate how many of your students have been assessed (i.e. initial assessment for determining performance objectives) in each of the following POC content areas since September, 1981. Also indicate how many of your students have been reassessed (i.e. using the assessment procedures to monitor progress of students) in the same content areas since September, 1981. (Leave blank any areas for which no assessment have been made):

Content Areas	% Assessed					% Reassessed				
a. Personal:	<25%	25%	50%	75%	>75%	<25%	25%	50%	75%	>75%
	x	x	x	x	x	x	x	x	x	x
b. Vocational:	<25%	25%	50%	75%	>75%	<25%	25%	50%	75%	>75%
	x	x	x	x	x	x	x	x	x	x
c. Social:	<25%	25%	50%	75%	>75%	<25%	25%	50%	75%	>75%
	x	x	x	x	x	x	x	x	x	x
d. Conceptual:	<25%	25%	50%	75%	>75%	<25%	25%	50%	75%	>75%
	x	x	x	x	x	x	x	x	x	x
e. Recreational:	<25%	25%	50%	75%	>75%	<25%	25%	50%	75%	>75%
	x	x	x	x	x	x	x	x	x	x
f. Physical:	<25%	25%	50%	75%	>75%	<25%	25%	50%	75%	>75%
	x	x	x	x	x	x	x	x	x	x
g. Language:	<25%	25%	50%	75%	>75%	<25%	25%	50%	75%	>75%
	x	x	x	x	x	x	x	x	x	x
h. Perceptual:	<25%	25%	50%	75%	>75%	<25%	25%	50%	75%	>75%
	x	x	x	x	x	x	x	x	x	x

2. Indicate how many IEP performance objectives came from the POC (i.e. out of all objectives for all students).

less than 25% 25% 50% 75% more than 75%

~~x~~ ~~x~~ ~~x~~ ~~x~~ ~~x~~

3. Indicate how often you use the materials that are suggested in the POC for assessment.

less than 25% 25% 50% 75% more than 75%

~~x~~ ~~x~~ ~~x~~ ~~x~~ ~~x~~

4. Indicate how often you use the materials that are suggested in the POC for training.

less than 25% 25% 50% 75% more then 75%

~~x~~ ~~x~~ ~~x~~ ~~x~~ ~~x~~

5. Of all the time you devote to record keeping, how much of this time do you use Data Processing materials from PP.

less than 25%	25%	50%	75%	more than 75%
*	*	*	*	*

6. Indicate how often you apply the assessment criteria suggested in the POC for each objective.

less than 25%	25%	50%	75%	more than 75%
*	*	*	*	*

Part III

Please feel free to make any additional comments about:

1. The Project Perform Components.

2. Major factor(s) that influence the implementation of a curriculum for TMI/SMI/SXI.

Thank you very much for completing this questionnaire.

Administrator SurveyIntroduction

When answering these questions, please keep in mind that we are interested in your views of your school program and the students of your school, not all programs/schools or students in general.

PP in this questionnaire refers to Project PERFORM, which has been developed by Ingham Intermediate School District, as a curriculum management system to help teachers and parents plan, carryout and assess school programs for moderately and severely handicapped students. This management system is a set of three components: the Performance Objectives Catalog (POC), Data Processing Forms/Procedures, and Staff Development Activities.

Please rate each item below by marking (X) to the one response which best represents your opinion. A Not Applicable column has been provided should you feel unable to make an appropriate response to a particular item. However, we recommend you try to respond to all items.

Part I

	<u>Strongly Agree</u>	<u>Agree</u>	<u>Undecided</u>	<u>Disagree</u>	<u>Strongly Disagree</u>	<u>Not Applicable</u>
1. The POC assessment procedures are useful to your teachers in determining performance objectives for their student.	()	()	()	()	()	()
2. The POC recommendations for assessment materials are useful to your teachers in assessing student performance.	()	()	()	()	()	()
3. The PP data processing forms/ procedures for recordkeeping are useful to your teachers in monitoring students performance.	()	()	()	()	()	()
4. The components of the PP adopted by your school district are easily adapted to fit the procedures that your teachers prefer to use in operating their classroom.	()	()	()	()	()	()
5. In general, the following items in the POC are clearly written:						
a. Overview/ Directions	()	()	()	()	()	()
b. Objectives	()	()	()	()	()	()
c. Materials	()	()	()	()	()	()
d. Assessment Procedures	()	()	()	()	()	()

	<u>Strongly Agree</u>	<u>Agree</u>	<u>Undecided</u>	<u>Disagree</u>	<u>Strongly Disagree</u>	<u>Not Applicable</u>
6. In general, the content of the POC is appropriate to the range of needs and abilities of all of your students.	()	()	()	()	()	()
7. In general, the organization (section, content area, sub-content area, numbering system, etc.) is helpful to your teachers in using POC in their classrooms.	()	()	()	()	()	()
8. You had to make some changes in your school policy routine or procedures in order to make PP easier to use.	()	()	()	()	()	()
9. You are concerned that teachers understand how to use or implement the PP.	()	()	()	()	()	()
10. You encourage the participation of teachers in PP related activities such as curriculum development, revision, and evaluation.	()	()	()	()	()	()
11. In general, you encourage teachers to use performance objectives from the POC in their daily instructional activity.	()	()	()	()	()	()
12. You are supportive of PP use by your teachers in tangible ways (e.g. you provide consultation, in-service, materials, incentives, etc.).	()	()	()	()	()	()

	<u>Strongly Agree</u>	<u>Agree</u>	<u>Undecided</u>	<u>Disagree</u>	<u>Strongly Disagree</u>	<u>Not Applicable</u>
13. You encourage teachers to create/develop ways to adapt the PP components to their daily routine.	()	()	()	()	()	()
14. You encourage teachers to plan and develop teaching strategies/instructional methods for implementing PP in their classrooms.	()	()	()	()	()	()
15. You offer more support/encouragement to your teachers than they think is necessary for implementing the PP.	()	()	()	()	()	()
16. You have designated a person to be "on-call" when a teacher has questions concerning the PP.	()	()	()	()	()	()
17. You have provided adequate training for your teachers in how to use PP components in their classrooms.	()	()	()	()	()	()
18. Your teachers need additional training in how to use PP components in their classrooms.	()	()	()	()	()	()

Part II

Please indicate the following:

1. Total instructional school budget for 1981-82: \$ _____
2. Actual cost of spending on developing instructional methods/strategies for PP in 1981-82: \$ _____
3. Actual cost of spending on in-service training related to PP in 1981-82: \$ _____
4. Cost of spending on materials related to PP in 1981-82: \$ _____

5. Other cost related to the PP in 1981-82: \$ _____
6. Number of students trained by the use of
PP in 1981-82: # _____

Part III

Please feel free to make any additional comments about:

1. The Project Perform Components

2. Major factor(s) that influence implementation of a curriculum for TMI/SMI.

Thank you very much for completing this questionnaire.

APPENDIX B
PROJECT PERFORM

Project PERFORM:The Ingham Special Education Curriculum SystemWHAT IS PROJECT PERFORM?

Project PERFORM is a curriculum management system which helps teachers and parents to plan, carry out and assess school programs for moderately and severely handicapped students.

The management system is a set of three tools which can be used to build a curriculum at the school, program or individual level. These tools are (1) a bank of performance objectives, (2) the record keeping assistance of data processing, (3) the ongoing staff development services of the project disseminator/trainer. More specifically the three components are these:

THE PERFORMANCE OBJECTIVE CATALOG

Approximately 8,000 performance objectives statements, each with its own achievement criterion and assessment procedure are printed in an eight-section catalog. The sections, titled Physical, Perceptual, Language, Conceptual, Social, Vocational, Recreational and Personal contain objectives specifically written for TMI, SMI, SXI, Autistic and SEI students. The catalog is a performance objective bank of virtually all skills to be taught to various disabilities, rather than a curriculum which every student experiences.

THE DATA PROCESSING

Four major data processing programs function to record data entered by professionals concerning individual students' educational plans and achievements. On request, these data are printed as reports

which can be shared with parents or are used by teachers in planning students' instructional programs.

THE STAFF DEVELOPMENT

Training sessions for three groups, teachers, support staff and administrators permit them (1) to use the catalog, (2) to send data to be processed in a variety of reports, (3) to design and sequence instruction in order to implement the students' individualized educational plans.

HOW WAS PROJECT PERFORM DEVELOPED?

Project PERFORM was developed using the resources of 15 Michigan intermediate school districts, over a 3-year period (1975-78). Ingham Intermediate School District Coordinated the development and invested over a half million dollars (primarily Title I funds) in the production of the project components and the maintenance of the data processing component.

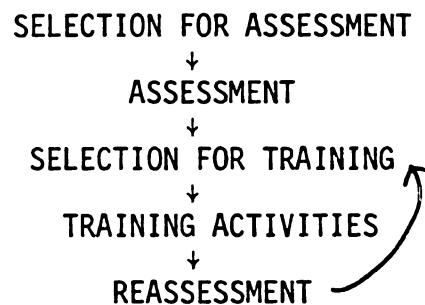
Sixteen special education centers in Michigan and Iowa have contracted to use the Project PERFORM Curriculum Management System, with 2,200 students. As these centers used the system, components were revised and new components developed in response to user evaluations. Presently, the field-tested project components are available to centers at a cost of \$16-40 per student, averaging \$24 per student, during 1981-82. (First year costs are usually higher.)

In addition to Project PERFORM's contracting participants, several hundred centers and libraries use the catalog and assessment

sheets as a reference for TMI/SMI curricula throughout the United States and in several foreign countries.

HOW DOES PROJECT PERFORM WORK?

ASSESSMENT is the key to the Project PERFORM instructional system. Teachers assess students and enter achievement information, which data are processed into group and individual program planning and achievement reports. The PERFORMANCE OBJECTIVES CATALOG, as goal provider and assessment guide, is used by the teacher in a performance-based instructional process. Selection of objectives alternates with assessment and training activities in the cycle illustrated below.



HOW DOES DATA PROCESSING SUPPORT THE PROJECT PERFORM INSTRUCTIONAL SYSTEM?

The teacher receives help in the record keeping and progress reporting tasks of this instructional system from four data processing programs.

One of Project PERFORM's data processing programs, the BASE-LINE ASSESSMENT RECORD is used to record present level achievement. Prior to instruction, the teacher may assess a student in a content area to determine the student's present skill level. The performance objectives which have been achieved already are recorded by the

teacher. These student history data are processed and are available to teachers as a help in planning instruction through the CAC REPORT.

Another of Project PERFORM's data processing programs, the CONTENT ACHIEVEMENT BY CLASS or CAC REPORT, assists the classroom teacher in planning and managing instruction. A teacher can submit a list of content areas s/he expects to be teaching, and a list of the students in the class. These data are processed to show each student's achievement history in the requested content areas.

This CAC document serves as a planning aid for the teacher in determining which objectives to assess and which to select for instruction for each student's individual educational program. Often this CAC report is used by the teacher as a recordkeeping instrument to chart student progress and to mark next-step objective selections for each student.

Still another of Project PERFORM's data processing programs, the IEP REPORT, details a particular student's IEP goals and objectives, the outcomes of the yearly IEPC. A teacher selects possible educational objectives for a student from the Performance Objectives Catalog. This input is processed to yield the POSSIBLE IEP OBJECTIVES REPORT. The report is sent to parents several days before the IEP conference so that they can participate effectively with teachers and support staff in choosing the best yearly plan for their student. IEPC decisions recorded at the conference become the data which is processed as the FINAL IEP REPORT FOR THE SCHOOL YEAR.

Finally, another of Project PERFORM's data processing programs, the PERFORMANCE OBJECTIVE ASSESSMENT/SELECTION PROCESS, is a

method of recording student achievement and reporting to parents.

The ASSESSMENT/SELECTION sheets show all active objectives for each student. They designate which ones are also IEP objectives and provide spaces for the teacher to select new objectives. The teacher updates the achievement record after instruction and assessment. These data are processed as the PROGRESS REPORT which shows the cumulative yearly achievement to date and functions as a report card for parents. This report also tells parents what objectives have been added to the student's continuing program.

In addition to curriculum development, Project PERFORM's components can help teachers handle repetitious manual writing tasks which can be time consuming when individualized, performance objective-based instruction is the goal of a special education program.

You may wish to develop an integrated curriculum using Project PERFORM's components at your center. If so, inquiries concerning the purchase of Project PERFORM components or participation in the project should be sent to the Disseminator/Trainer of Project PERFORM.

Audrey Gomon, Ph.D.
Disseminator/Trainer
Project PERFORM

Ingham Intermediate School District
2630 West Howell Road
Mason, MI 48854
517/676-1051, ext. 273

APPENDIX C
RESEARCH STUDY REQUEST

INGHAM INTERMEDIATE SCHOOL DISTRICT

DIVISION OF SPECIAL EDUCATION
2630 W. HOWELL ROAD MASON MICHIGAN 48854
PHONE 317 876-1061

RESEARCH STUDY REQUEST Special Education Division Ingham ISD

REQUESTING PERSON

Name Yaser Salem Title/Agency Grad Assistant - MSU
Work Address University Center for International Rehab Telephone 355-1824 (work)
5th Floor Erickson Hall (College of Education) 353-0909 (home)
MSU, East Lansing, MI Zip Code 48824

DESCRIPTION OF STUDY

Title "Teacher and Administrator Perceptions of Factors Related to Implementa-
tion of a Curriculum for Trainable and Severely Mentally Impaired Studer
Purpose/Objectives To determine teacher and administrator perceptions related
to implementation of a curriculum for trainable and severely mentally
impaired student.

Beginning Date Immediately Completion Date June, 1982

INFORMATION REQUIRED

Please use a one page attachment to answer the following questions. Also attach a summary of the research proposal, if available.

- A. How much time (school) will be involved?
- B. Number of students needed and particular characteristics (boy, girl, age, etc.)?
- C. Information needed for individual students?
- D. What are space/room requirements?
- E. Will school supplies/equipment be required?
- F. Will financial support be requested from the Ingham ISD?
- G. How will teachers be required to help in the study?
- H. How will other school personnel be involved in the study?
- I. What data will be collected? (Specify names of commercially-available tests and attach copies or researcher-developed instruments.)

RESEARCH STUDY REQUEST
Page 2

- J. What methods of data analysis will be used?
- K. How will parental consent be obtained (if appropriate)?
- L. How will human subjects be protected in view of the Family Rights and Privacy Act?

RESULTS

Do you agree to provide a copy/summary of the completed study to the
Ingham ISD Special Education Office? Yes

Signature

Date

DCD:pb
9-25-80

INFORMATION REQUIRED

- A. Staff only.
- B. None
- C. None
- D. None
- E. No
- F. No
- G. By completing a questionnaire.
- H. No
- I. A questionnaire developed by researchers.
- J. The major stat. method will be used is the Multiple Regression, however, other appropriate stat. methods will be applied.
- K. No
- L. Perceptions of teachers and administrators only.

February 5, 1982

Mr. Yaser Salem
1575 J Spartan Village
Michigan State University
East Lansing, MI 48823

Dear Yaser,

Your research study request entitled "Teacher and Administrator Perceptions of Factors Related to Implementation of a Curriculum for Trainable and Severely Mentally Impaired Students" has been reviewed and approved for implementation. I would suggest that you communicate directly with Dr. Harrold Spicknall or Dr. Audrey Gomon to determine when the letter from the Ingham Intermediate School District should be sent out to your survey recipients.

I wish you the best of luck in completing this dissertation study.

Very truly yours, .



Daun C. Dickie, Ph.D.
Assistant Director
Special Education

DCD:cb



Project PERFORM
 Division of Special Education
 2630 West Howell Road
 Mason, Michigan 48854
 517-676-1051

MEMORANDUM

TO:
 Project Perform/User District Representative

FROM: Audrey Gomon,
 Project PERFORM Disseminator/Trainer

RE: Michigan State Study on Special Education
 Curriculum Implementation

DATE: January 14, 1982

I understand that a study is being undertaken at Michigan State University to determine school district or center characteristics which influence special education curriculum implementation.

Professor Donald Burke and Research Assistant Yaser Salem of MSU have chosen the use of our Project Perform Components to represent "curriculum implementation". They would like your staff's responses to an administrative and a teacher survey they have designed to collect your perceptions.

Burke and Salem will be contacting you about your willingness to participate in the study. That decision is, of course, yours to make. I am sure the study findings will be interesting to us and I testify to the legitimacy of the two researchers--but your participation in the study is entirely voluntary--and not obligated in any way by our Project Contract.

Here's to even better professional understandings in the field of special education.

AG:jh

MICHIGAN STATE UNIVERSITY

UNIVERSITY CENTERS FOR INTERNATIONAL REHABILITATION
513 ERICKSON HALL
TELEPHONE (517) 355-1824

EAST LANSING • MICHIGAN • 48824

March , 1982

.....

Project Perform/UserDistrict Representative

We want to thank you for your contribution to our survey of teachers and administrators working in districts using components of Project Perform. The cooperation has been excellent.

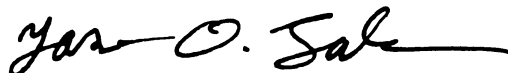
When the results of the survey are available, we will forward a summary report to each cooperating school district.

Once again, thank you for your part in making this survey a success.

Sincerely,



Donald Burke, Professor
Michigan State University



Yaser Salem, Research Assistant
Michigan State University

APPENDIX D
TEACHERS' AND ADMINISTRATORS'
COMMENTS

ADMINISTRATORS AND TEACHERS' ADDITIONAL
COMMENTS ABOUT PP COMPONENTS AND/OR
SUGGESTIONS ABOUT MAJOR FACTORS(S)
THAT INFLUENCE IMPLEMENTATION
OF A CURRICULUM FOR TMI/SMI/SXI.

Administrators' Comments

There is a need to review criteria for achievement; this should probably be done at an individual user district level.

It would be terrific if all schools could hire a person to be in charge of PP and curriculum only, so other responsibilities would not overshadow the PP potential.

Developing some of the content areas to meet our SMI/SXI need.

Factors-implementation:

1. administrative support/direction
2. teachers' needs/acceptance (involvement)
3. available resources
4. inservice/planning time

Although involved in its development, I do believe it is the best available system for TMI/SMI/SXI students.

Staff involvement in the development of it; participation in the decision making process--team approach.

1. district philosophy and financial
2. teacher preference-relevancy
3. ease in use
4. cost-effective

Staff attitudes, staff communication and training, leadership and coordination, legal requirements for student program documentation, staff facility and materials, resoufes, and parents.

Teacher attitudes, parents' attitudes, administrative attitude, students' needs.

Most curriculums are too high for SMI.

A more efficient assessment/recording system would be of value--particularly as relates to a placement of new students within the system and long range individual student profile.

The eight subcontent areas are well defined instructional components for a curriculum for a mentally impaired student. The catalog does an excellent job covering a wide range of disabilities.

Some objectives are not finite enough for our population.

After reviewing several curricula, I find this to be one of the best in the country. Cost per student could be less if others would use it.

We needed a curriculum to help unify our program. We had been a field test component and found it applicable to our situation.

The objectives for the SMI and SXI population are hard to fit into the program. I think that it is not a fault of this PP but that our students are so low functioning and move along at such a slow rate.

Teachers' Comments

I feel that the physical section could be expanded for the SXI population to include range of motion, positioning, equilibrium and protective reactions.

Our major problem still is in creating and organizing teaching ideas so that we teach the objective and not just the assessment procedure. We also are working on age appropriateness for materials.

I like the project perform and find it quite helpful in organizing my teaching and makes it much easier to use according (to) student individual needs.

The administrator does not give information about PP. The curriculum specialist does.

1. monitoring
2. evaluation of teachers
3. parents' expectations
4. teachers' expectations
5. teachers' attitudes and aides
6. students' wanting to learn

In the "personal" section, assessment procedures could be more clearly defined regarding breakdown of many individual objectives into steps. While data processing has been a valuable aid, it somehow does not meet some of the needs. For example, when a student "graduates," I would like to see him/her take along a compilation of all objectives achieved--in words, not just numbers--so that this information can be used by people dealing with the student in future placement, whether vocational or living situation.

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1. Recognizing need for organized, sequential programming at that level.
2. Ease of usability of the curriculum format and data processing.
3. Funding from the local district to allow for the cost.
4. Administrative acceptance of the curriculum.
5. Having equipment and supplies necessary for implementation.
6. Regular updating of changes made in the curriculum.
7. Ease with which the curriculum fits into the IEP requirements for goals and objectives.

I have found that some steps are too high--not broken down enough for SMI students.

A simple one page sheet to write down all students' objectives for the year. To be able to quickly pull it out and see which objectives have not been hit yet and those met and not yet met. A form that everyone could use for record keeping.

TMI--meets needs of 30% of the study body; SMI--meets needs of 10%.

For myself as a therapist, the curriculum project cannot get specific enough for each individual child to help me with treatment, scanning, and reassuring.

Deals too much with milestones, and not enough with quality of movement and transitional stages. I feel my time could be more efficiently used by writing up specific treatment plans for each child. Too much generalization yet would be impossible to work with a project with all the specifics and qualities of movement.

Great program for organization and implementation and assessment in the classroom; it is a great deal of work for certain periods of the year, but it makes the rest of the time easier and more efficient.

Time--in the beginning it is difficult to get all the work done in time; you feel a great deal of pressure. Materials are sometimes hard to assemble. I disagree with some of the assessment criteria.

Does not allow for a child to have gained a skill, regressed and lost that skill and have the curriculum print it in such a way that a person can tell that. With many children it is important to know that they once could do something and now can't--it may give evidence that something neurologically is going on with that child.

As far as therapy is concerned, I have found the curriculum project to be difficult to use. It does not allow for the individuality of each child and the components of movement he/she has. The curriculum tends to deal with milestones; for example, that a child can sit in a position unsupported. I am interested in the components of movement he/she uses to get into that position and his/her ability to maintain the position in a correct posture. The curriculum only allows for a "yes" or "no" he/she can do it and, therefore, is not helpful to me. I would much prefer to use my time to write specific therapy treatment plans.

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Saves time
 Well written
 Easy to perform--not too difficult
 Not boring for students

Some are not sequential and could be revised; basically good though.

There needs to be work in the area of continuity. Each class needs to be aware what objectives they are responsible for. There should be some way to check to see if these objectives are being addressed on a regular basis. Regular inservices should be held to give suggestions of ways to approach and meet objectives. A basic philosophy for each area which are consistent with one another would help.

Not always appropriate for materials available.

I have used the Ingham Instructional System as a basis for P.O. objectives and have implemented charts and record keeping systems which I use on a daily basis to record pre-vocational progress which is valuable for my information.

There are many places that require additional steps between objectives and rearrangement in objectives, but this is often due to very specialized needs of individuals.

A good program but too little support from administrators and too little inservice for teachers.

1. a more complete program than what is available elsewhere
2. the print-outs are nice for the objectives needed for the IEPC

Many of the objectives are not broken down into small enough steps for SMI students.

1. student needs
2. skill development in a sequential manner
3. physical handicaps
4. emotional handicaps
5. potential employment needs
6. social adjustment needs
7. self care needs

I feel the assessment procedures are very good, but I feel it would be better if they gave some suggestions on teaching the objectives in more creative ways.

I wanted to explain that my results are based on being a "specialized teacher" using only the P.E. area and that I also serve the total school population.

I feel that many of the content areas could have even higher preformance levels added to them in that it seems to be a moving trend to enroll very high TMI/Low EMI students in our school now.

James King
Well written
Easy to get into
and boring for students
Such are not surprising
There needs to be a
be more well defined
way to check the
books, libraries, and
approach and how to
are consistent with
get a more complete
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these and have found
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for my information
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the difference between
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and others
1. student work
2. adult work
3. physical work
4. emotional work
5. potential work
6. social work
7. self work
I feel the research is very good, but I feel it would be
better if there was more on teaching the children to work
independently
I wanted to know if the results are based on being a regular
teacher, using only the W.L. test and that I also have the test
population
I feel that many of the research areas could have been higher
more levels added to the test so that it would be a more
well very high level for students in our school.

POC is very useful and beneficial; data processing a mass of paperwork.

I work with this population only minimally for two mornings a week. The rest of my time is spent in a local public school, so my involvement with the program is limited and population of TMI/SMI students is small.

I don't agree with all the assessment procedures. Ex.: some items the student does once and he/she passes it. For my population, I don't feel one time in a lot of those areas is adequate.

I don't teach any of the three groups (TMI/SMI/SXI) that the curriculum is recommended for, so it is difficult finding objectives to fit my students at times.

PP components are not adequately examined and deadlines are set that do not give me adequate time for classroom daily management and paperwork. New forms are sprung on us without enough explanation and when the information is returned from the computer we are then told how to use it instead of explaining the purpose before we fill out the forms. I end up writing more notes to explain the information received.

The curriculum guide is (has been) very useful in my classroom. Weak areas are in reading programs but there just aren't enough reading series for TMI. Another weak area is pre-vocational because of the limitations of our own situation--we don't have the resources used in the curriculum guide.

Could use more cross-reference index.

Have the time free of students and available others to explain structure of program.

The method of assessment is too frustrating and time-consuming. There must be a better way! I really like project perform--feel it has helped me very much professionally.

1. ease of training para-professionals
2. ease of communication of goals/objectives with parents
3. how appropriate goals/objectives are for students who live in a home, institution, group home, etc.

POC does not follow any developmental sequence. This makes it extremely difficult to implement. I employ other developmental guides to assess students and develop IEPs and the POC only to satisfy the district and have a uniform print-out.

Educator philosophy/parental dictates/geographic location

The Project Perform components are quite easy to use after you get a basic understanding of the system. Some assessment criteria are confusing and not applicable.

Overall, I feel that a major problem with the implementation of the PP curriculum is that parents are very confused with the computer print-out sheets and at IEP parent conferences, much time is spent explaining the curriculum.

Some areas of the curriculum could still be expanded or broken down into smaller units per objective. For my SXI students, objectives dealing with physical manipulation therapy and sensory stimulation are needed.

The assessment procedures are not always appropriate for low SXI students; i.e., many of my students do not respond to a visual/auditory cue to stimulate a certain response.

Because my students are mainly functioning at a 0-2 month level, there is not too much in the Project Perform curriculum that pertains to them.

It is not low enough in certain areas, and it is incomplete when dealing with occupational therapy needs (in the sensory integration area).

Parents have not the training necessary to understand PP. Parents' reports are a waste of time and money.

I like the performance objective catalog. Although there are additions that could be made, I do not like the computer sheets for parent use or record keeping.

Teaching supplies available; functioning level of students; individual needs of students.

Time allotment; curriculum priorities as determined by staff and administrator; student population needs.

My only complaint is that the objectives in the language section do not cover all the areas/objectives I use with students--I write in quite a few objectives "missing" in the catalogue. Also, the sections on sign language and fluency/stuttering are extremely incomplete and often useless to me. In general, I like the system because of its convenience (for the most part) and its possibilities due to the computer printouts.

Future employment after workshop training.

Some assessment criteria have more tasks required than our workshop has.

Employment after workshop experiences; CARF requirements.

The vocational components need to be revised/updated with an emphasis on current employment trends in post-school programs; i.e., service related industries, W.A.C. and sheltered employment.

Potential employment opportunities.

Could be written so it would be more applicable to our shop. Some of the objectives are so detailed it is difficult to complete the objective as written.

1. The first part of the report deals with the general situation of the country and the position of the various groups of the population. It is a very interesting and informative study of the social and economic conditions of the country.

2. The second part of the report deals with the political situation of the country. It is a very interesting and informative study of the political conditions of the country.

3. The third part of the report deals with the cultural situation of the country. It is a very interesting and informative study of the cultural conditions of the country.

4. The fourth part of the report deals with the economic situation of the country. It is a very interesting and informative study of the economic conditions of the country.

5. The fifth part of the report deals with the social situation of the country. It is a very interesting and informative study of the social conditions of the country.

6. The sixth part of the report deals with the legal situation of the country. It is a very interesting and informative study of the legal conditions of the country.

7. The seventh part of the report deals with the educational situation of the country. It is a very interesting and informative study of the educational conditions of the country.

8. The eighth part of the report deals with the health situation of the country. It is a very interesting and informative study of the health conditions of the country.

9. The ninth part of the report deals with the environmental situation of the country. It is a very interesting and informative study of the environmental conditions of the country.

10. The tenth part of the report deals with the international situation of the country. It is a very interesting and informative study of the international conditions of the country.

Placement of students after completion of school program.

Students can pass an objective using the recommended assessment procedure but not be able to perform it spontaneously later. Carryover must be implemented.

Not appropriate to all students; lots of holes.

Time, repetition, overload of paper, not appropriate for all students, too high for most and too low for some.

The materials and assessment procedures are lacking in the program. The assessment procedures are not consistent and in some cases unrealistic. Overall, the program is very beneficial to me, and I use it very much.

With most experience and time to organize, I plan on increased usage of materials for assessment and record keeping.

I expect higher assessment criteria--more consistency than in POC.

Hard to coordinate materials to objectives to record keeping in the beginning; hard to locate objectives in beginning; need more variety in training/material selection.

We have not really used all the components for a complete year.

IEP requirements.

Not very adequate for low levels SXI; needs much modification.

I like the consistency factor built into program--since students are assigned to new classrooms/teacher often. I also like the record of the goals and assessment that becomes a part of students' files.

Consistency throughout the various programs.

Realistic levels covered. I would like to see revisions include all objectives listed in the order that learning takes place especially in the conceptual skill. I would like to see more leisure skills objectives.

The performance objectives should be broken down more for SMI. More suggestions for accessing or teaching suggestions would be nice. A section on modified objectives for physically impaired should be added.

Difficulties I have in implementation of PP: Difficult to get an overview on student functioning in order to begin assessment. Often I use other assessment and then use PP to be more specific as to a breakdown in objectives. Non developmental--I find I need a generalized developmental sequence in order to use PP--I feel it is very easy to work on a skill that a student may not be ready for even though it is next in the sequence. Because of the need for modification, I, at times, find it easier to use my own assessment or assessment in variety of other curriculum and then find the closest corresponding objective in PP. This fulfills administrative expectations, students are assessed; however, it means additional work for me.

I do not like the system for my own use. The POC gets in the way and the forms, etc., are more of a chore than a help. Often the published POC are unsuitable to our students. For reference, the system is okay, but for daily use it's far too cumbersome.

Of great influence, I feel, are the personalities and style of the teacher, students, and the learning environment. If a teacher was not aware of basic child developmental steps and the learning process, the organization of the system might be very helpful. I find, however, that the POCs are stifling, limiting, and not always well-suited to the situations we are dealing with in a population of handicapped infants and their parents (i.e., nutrition, basic care, health, safety, acceptance, etc.).

Very time consuming, especially when you're not familiar with sequence and available information. Some loop holes large for SMI population--especially noted in signing area.

The program has given us a reasonable foundation. Sometimes students and objectives have no relationship, but this would happen in all programs. Overall, we just need an occasional burst of morale and a flash of fresh material.

The needs of the student and how well material available can be adapted to those needs.

Basically, I like the components. However, many of the language, conceptual, pre-voc areas and self-help could be task analyzed more.

I wish the baseline would come through the computer in a form other than just stating numbers.

I have found PP to be too specific in some areas, grossly general in others and totally lacking objectives in areas that are essential in programming according to normal development. Also, the same goal is often re-stated in two or more sections, and often goals that belong together are scattered through several sections.

I never use the materials provided by the PP due to the kinds of students I have. PP allows for neat, more concise, and easier ways of updating IEPs. Some gaps appeared between objectives (e.g., feeding, general self-care skills). Intermediate steps were eliminated.

A consistent program throughout the school; a major factor was convincing staff that initial problems of a curriculum would dissolve the next year it was used. Another factor is simplicity. Also the more detailed and number of objectives, the more the curriculum is used and no other sources are needed.

Number of students in class; academic area which is affected by student's handicap; extent of student's impairment; material available; number of interruptions during classtime; behavior of students in class; attitude of students.

Could be more complete for areas more applicable to our school situation. I like the testing format of Brigance in notebook form and the way it is recorded in a booklet. I think Ingham could benefit from these ideas.

I think the data processing components are real time savers. They also help keep records current and exact.

The curriculum is not splintered enough in task breakdown to meet the needs of institutionalized students.

Swimming section is incomplete and not suitable for students here.

There are not enough objects appropriate to the needs of low functioning SMI and SXI students.

It really gives you a base to work from. It gives you ideas of areas to assess that one would not have thought of. Also, the suggested material list is also helpful in making training materials.

Readiness of assessment materials/time it takes to develop appropriate materials.

More valuable to me when I taught TMI students.

For SXI, the PP is not broken down enough to pass very low functioning and physically impaired students on objects. Many of the needs of these students are not even within the curriculum; much time is spent on the children's needs which does not allow as much time for POs. In past TMI classroom, very helpful. POs were at a level that children were able to achieve rather smoothly.

Used as a guide to teaching, it is an essential tool!

Needs much more perceptual objectives.

This curriculum is quite useful to me; but for low functioning SXI students that do not exhibit consistent responses, it needs some changes in the passing criteria.

The PP components serve as a good guideline in organizing and assessing classroom materials for the appropriate use with each individual student. There is still much room for improvement of the entire system.

I feel the books are thorough and well organized for our lower-average functioning autistic children. I use the books to assist in goal writing for every child. I have my own assessment procedures that I feel comfortable with, so I have not needed to use the Project Perform assessment.

The prepared system of assessment and goals was not useful in my area, but the record keeping and computer printouts are great to reduce paper work after our own goals were put on the system.

and the other side
of the road
was the old
house.

I think the other side
of the road

was the old
house.

I think the other side

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was the old

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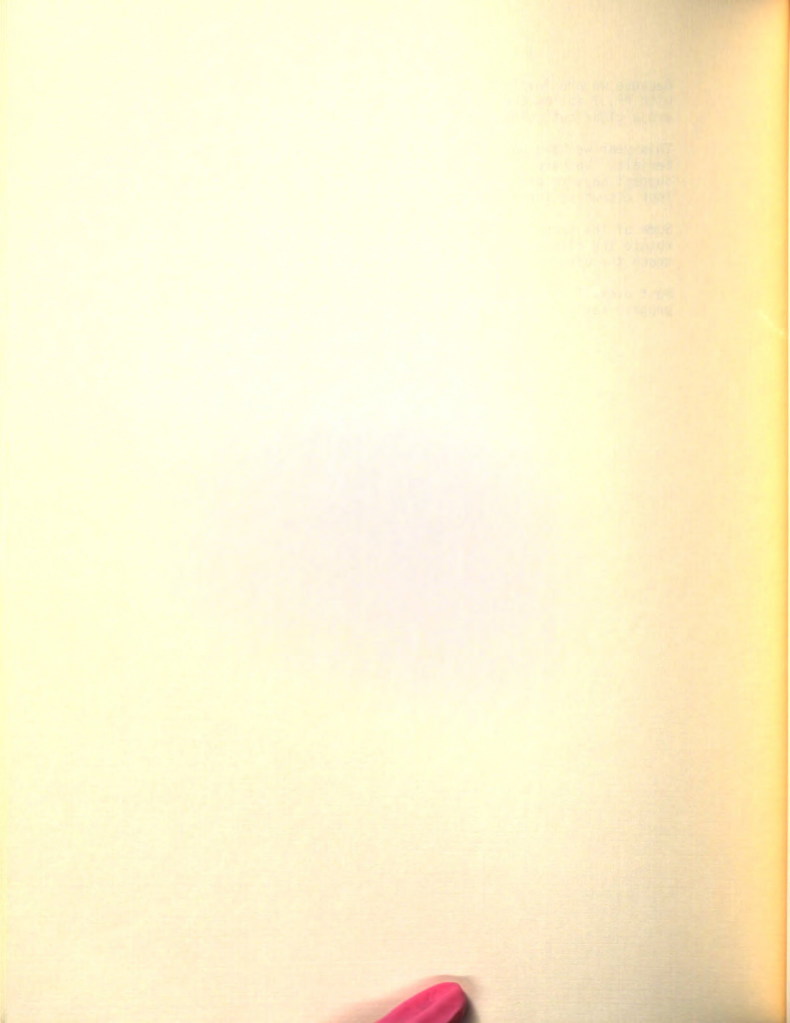
house.

Because we are involved in a length of school year study in conjunction with PP, I follow the IEP and PP suggestions very closely. Also they are a clear cut guideline. Also record keeping is a must for the LSYS.

This year we have had enough money to order and receive required materials. We have been fortunate. Ingham County Curriculum alone cannot suggest ways to deal with some of our most aggressive students, so we look elsewhere for that information.

Some of the steps need to be broken down into smaller steps still. We rotate the classes, and I only teach and stress vocational. Others teach the other areas.

Best overall program we could find. Since we were plugged into the program early, we assisted with the developing of the program.



APPENDIX E
DISTRICTS
IMPLEMENTATION

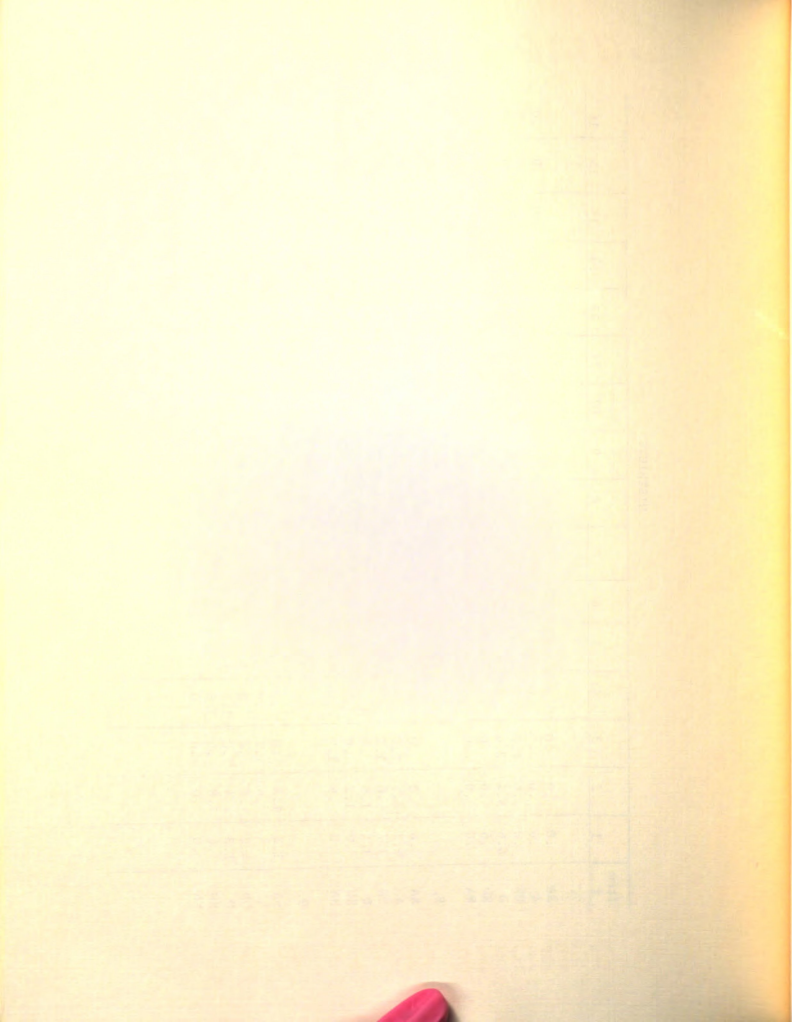
Teachers' Perceptions Broken Down by Districts

DISTRICTS

Item #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1.																
SA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	.6%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
A	.0	.6	.0	.0	1.8	.0	1.2	.0	1.2	1.2	.0	.0	.0	.0	.0	.0
UN	.6	.6	.0	.0	1.2	.0	1.2	.6	.6	.0	1.2	.6	.0	.6	.0	.6
D	5.5	4.2	3.0	2.4	5.5	3.0	9.1	1.8	1.8	3.0	3.6	3.6	4.2	1.2	3.0	1.8
SD	1.8	1.8	1.2	2.4	3.6	.0	2.4	.0	.0	3.0	2.4	0	2.4	1.2	1.2	.0
NA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.6	.0	.0	.0
2.																
SA	.0	.0	.0	.0	.0	.0	.0	.0	.6	.0	.0	.0	.0	.0	.0	.0
A	1.2	.0	.0	.0	2.4	.0	.6	.0	1.2	1.8	.6	1.2	1.2	1.2	.6	.0
UN	1.8	.6	.0	.0	2.4	.6	2.4	.0	1.8	.0	1.2	1.2	.6	.0	.6	.0
D	4.2	5.4	3.0	2.4	6.0	1.8	10.2	2.4	1.2	4.8	4.8	3.0	4.8	2.4	3.0	2.4
SD	1.2	.6	.6	2.4	1.2	.6	.6	.0	.0	1.2	1.8	.6	1.2	.0	.0	.0
NA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.6	.0	.0	.0	.0	.0
3.																
SA	.0	.0	.6	.0	.0	.0	.0	.0	.6	.6	.0	.0	.0	.0	.0	.0
A	1.2	.6	1.8	.0	2.4	1.8	1.8	.0	.6	1.2	2.4	.6	.6	.0	.0	.0
UN	.6	.0	.0	.0	1.2	1.2	1.8	1.2	1.2	.0	.6	2.4	1.8	1.8	1.8	.6
D	6.0	5.4	1.8	3.0	7.8	.0	7.8	1.2	1.8	3.0	.6	2.4	4.8	1.2	1.8	1.2
SD	.6	.6	.0	1.8	.6	.0	1.8	.0	.0	2.4	1.2	.6	.6	.6	.6	.6
NA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	4.2	.0	.0	.0	.0	.0

DISTRICTS

Item #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
5c.																
SA	.0	.0	.0	.0	.0	.0	.0	.0	.6	.0	.0	.0	.0	.0	.0	.0
A	.0	.0	.6	.0	1.2	.6	.6	.0	.0	1.2	.6	.6	.0	1.2	.0	.0
UN	1.2	1.2	.0	.0	.6	.0	.6	.0	.6	.6	.0	.0	1.2	.0	.6	.0
D	6.0	3.6	2.4	1.8	7.8	2.4	12.0	2.4	2.4	4.2	5.4	4.2	6.0	2.4	1.8	2.4
SD	1.2	1.8	1.2	3.0	2.4	.0	.0	.0	.6	1.8	2.4	1.2	.6	.0	1.2	.0
NA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.6	.0	.0	.0	.6	.0
5d.																
SA	.0	.0	.0	.0	.0	.0	.0	.0	.6	.0	.6	.0	.0	.6	.0	.0
A	1.2	.0	.0	.6	1.8	.6	1.2	.0	.0	.6	.6	1.2	.0	.6	.0	.0
UN	.6	.6	.6	.0	1.2	1.8	1.8	.0	1.2	1.2	.6	.0	1.2	.0	.6	.0
D	6.1	5.5	3.0	2.4	6.7	.6	10.3	2.4	1.8	4.8	4.8	3.6	5.5	2.4	1.8	1.8
SD	.6	.6	.0	1.8	2.4	.0	.0	.0	.6	1.2	1.8	1.2	1.2	.0	1.2	.6
NA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.6	.0
6.																
SA	.0	.0	.6	.0	1.2	.0	.0	.0	.0	1.8	1.2	.0	1.2	.0	.0	.0
A	2.4	1.2	.0	.6	4.2	.6	3.0	1.2	2.4	.0	1.2	2.4	2.4	.6	.0	.6
UN	.0	1.8	1.2	1.2	1.8	.0	1.8	.0	.6	1.2	2.4	.6	.0	1.2	.6	.0
D	4.2	3.6	2.4	1.8	3.6	2.4	8.3	1.2	1.2	2.4	3.6	2.4	3.0	1.2	2.4	1.8
SD	1.8	.0	.0	1.2	.6	.0	.6	.0	.0	2.4	.0	.6	1.2	.6	1.2	.0
NA	.0	.0	.0	.0	.0	.0	.0	.0	.6	.0	.6	.0	.0	.0	.0	.0



DISTRICTS

Item #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
13.																
SA	1.2	.0	.0	.0	.6	.0	.6	.0	.0	.0	.0	.0	.6	.0	.6	.0
A	2.4	.6	1.8	.6	5.4	.0	3.0	1.2	.6	1.8	.6	.6	1.8	.0	1.8	.0
UN	3.0	.0	.6	.0	3.0	.0	4.8	.6	.6	2.4	.0	1.8	1.8	.0	.0	.6
D	1.8	5.4	1.2	1.8	2.4	1.8	5.4	.6	3.0	3.0	3.6	3.6	3.0	1.2	1.8	1.8
SD	.0	.6	.0	2.4	.6	1.2	.0	.0	.0	.6	4.2	.0	.6	2.4	.0	.0
NA	.0	.0	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14.																
SA	1.2	.0	.0	.0	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
A	2.4	.6	1.2	.0	3.6	.0	3.0	1.2	.0	1.8	.6	.0	1.2	.0	2.4	.0
UN	3.0	.6	.0	1.2	2.4	.0	2.4	.6	1.2	2.4	.0	1.8	2.4	.0	.0	.6
D	1.8	3.6	1.8	1.2	5.5	2.4	8.5	.6	3.0	3.0	4.2	4.2	3.0	1.8	1.8	1.8
SD	.0	1.8	.0	2.4	.0	.6	.0	.0	.0	.6	3.0	.0	.6	1.8	.0	.0
NA	.0	.0	.6	.0	.0	.0	.0	.0	.0	.0	.6	.0	.0	.0	.0	.0
15.																
SA	3.0	.6	.0	.6	1.2	.0	1.2	.0	.0	.0	.0	.0	1.8	.0	.0	.0
A	3.6	3.6	3.0	1.8	7.8	.6	6.6	1.8	2.4	4.8	1.2	2.4	4.8	1.2	2.4	2.4
UN	.6	1.8	.6	.0	2.4	1.2	3.0	.0	.6	1.8	3.6	1.8	1.2	.6	.6	.0
D	1.2	.6	.0	2.4	.6	1.2	3.0	.6	.6	1.2	3.6	1.2	.0	.0	.0	.0
SD	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.8	.0	.0
NA	.0	.0	.6	.0	.0	.0	.0	.0	.6	.0	.0	.6	.0	.0	1.2	.0

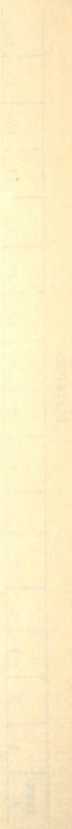
DISTRICTS

Item #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
16.																
SA	.0	.0	.6	.6	.0	.0	.0	.0	.0	.0	.0	.0	.6	.0	.0	.0
A	1.2	.0	2.4	.6	.6	1.8	1.2	.0	1.8	.0	.0	1.2	.0	.6	.0	.0
UN	.0	.0	.0	.6	.6	.0	.6	.6	.6	.0	.6	.0	.0	.0	.0	.0
D	5.5	6.1	.6	1.8	10.4	.0	9.1	1.2	.6	2.4	3.7	3.7	3.7	2.4	3.0	1.8
SD	1.8	.6	.0	.6	.6	1.2	3.0	.6	.0	4.9	3.7	.6	3.7	.6	1.2	.6
NA	.0	.0	.6	.0	.0	.0	.0	.0	.6	.6	.6	.0	.0	.0	.0	.0
17.																
SA	.0	.0	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
A	.0	2.4	1.8	.0	1.8	.0	1.8	.6	1.2	.0	.0	.0	1.2	.6	.6	.0
UN	.0	.6	.6	.0	1.8	.0	1.2	.6	.6	.6	1.2	1.8	.6	.0	.0	.0
D	6.0	3.0	1.2	3.0	8.4	3.0	9.0	1.2	2.4	4.2	6.6	3.0	5.4	2.4	2.4	1.2
SD	2.4	.6	.0	1.8	.0	.0	1.8	.0	.0	2.4	.6	.6	.6	.6	.6	1.2
NA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.6	.0	.6	.0	.0	.0	.0
18.																
SA	2.4	.6	.6	.6	.0	.0	.6	.6	.0	3.0	1.8	.0	2.4	.0	.0	.0
A	6.1	3.6	.6	3.6	7.3	1.8	6.7	1.8	1.8	2.4	3.0	3.6	3.6	.6	1.8	2.4
UN	.0	.6	1.2	.6	3.0	.6	3.0	.0	1.2	.6	.6	.6	.0	1.8	.6	.0
D	.0	1.8	1.2	.0	1.8	.6	3.6	.0	1.2	.6	2.4	1.2	1.2	.6	.0	.0
SD	.0	.0	.0	.0	.0	.0	.0	.0	.0	.6	.6	.0	.0	.6	.6	.0
NA	.0	.0	.6	.0	.0	.0	.0	.0	.0	.6	.0	.6	.0	.0	.6	.0

DISTRICTS

Item #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Implementation (Assessment)																
1a.																
<25%	.0	.8	.8	.8	1.7	.0	.0	.0	.0	.6	.0	.0	1.7	.8	.8	.0
25	.0	.0	1.7	.0	.8	.8	1.7	.0	.0	.0	.8	.8	.0	.0	.0	.8
50	.8	.8	.8	1.7	.0	.0	.8	.0	.0	.8	.0	.8	.0	.0	.0	.0
75	1.7	.0	.0	.0	.8	.8	.0	.8	.0	.0	.0	.0	.0	.0	1.7	.0
>75	6.7	2.5	.0	2.5	7.6	1.7	10.1	2.5	5.0	6.7	6.7	3.4	7.6	2.5	3.4	2.5
1b.																
<25%	3.0	1.0	3.0	2.0	5.1	3.0	6.1	1.0	2.0	2.0	2.0	.0	5.1	1.0	2.0	2.0
25	1.0	.0	.0	.0	.0	.0	3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
50	.0	.0	1.0	.0	1.0	1.0	1.0	1.0	.0	.0	1.0	.0	.0	.0	.0	.0
75	1.0	.0	.0	.0	1.0	.0	1.0	1.0	.0	1.0	1.0	.0	.0	.0	.0	1.0
>75	1.0	7.1	1.0	1.0	4.0	.0	6.1	1.0	4.0	4.0	4.1	1.0	3.0	3.0	2.0	.0
1c.																
<25%	2.5	.8	.0	.8	.8	.8	1.7	.0	.0	.0	.0	.0	3.3	.8	.0	.0
25	.0	.0	.8	1.7	.0	1.7	1.7	.0	.0	.0	.8	.8	1.7	.0	.0	.0
50	.8	.8	2.5	.0	5.0	.0	2.5	.0	.0	.0	2.5	.0	.8	.0	1.7	1.7
75	.8	.0	.0	.8	.8	.8	2.5	.8	.0	.0	.0	.0	.0	.0	.8	.0
>75	5.8	2.5	.8	1.7	5.0	.0	5.8	2.5	5.0	5.8	4.2	4.2	3.3	1.7	3.3	1.7

FIG. 3. Variation of $\log_{10} K_{eq}$ with $1/T$.



$1/T \times 10^3$	$\log_{10} K_{eq}$
2.8	1.2

DISTRICTS

Item #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1d.																
<25%	.9	.0	.0	.0	2.6	.0	.9	.0	.0	.0	.9	.9	.9	.0	.0	.9
25	.0	.0	.0	.9	.9	.0	.9	.0	.0	.0	.0	.0	.9	.9	.0	.0
50	2.6	.0	.0	1.8	2.6	1.8	3.5	.9	.0	.0	2.6	.9	.0	.0	.0	.9
75	.0	.0	2.6	.0	.0	.0	.9	.0	.0	.9	.9	.9	.0	.0	.0	.0
>75	5.3	4.4	1.8	.9	5.3	.9	9.6	2.6	5.3	5.3	1.8	2.6	7.9	2.6	6.1	1.8
1e.																
<25%	3.2	2.1	.0	2.1	4.3	2.1	9.6	.0	.0	.0	3.2	.0	2.1	1.1	2.1	.0
25	.0	.0	.0	1.1	3.2	2.1	4.3	.0	1.1	.0	1.1	.0	2.1	.0	.0	1.1
50	.0	.0	2.1	1.1	2.1	.0	1.1	1.1	.0	1.1	1.1	.0	1.1	.0	.0	1.1
75	1.1	1.1	.0	.0	.0	.0	1.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
>75	1.1	2.1	2.1	1.1	2.1	.0	1.1	2.1	5.3	5.3	2.1	3.2	5.3	1.1	2.1	1.1
1f.																
<25%	1.8	.9	.0	2.7	.0	.9	1.8	.0	.9	.0	3.6	.0	1.8	.9	.9	.9
25	.0	.0	.0	.0	.0	.9	1.8	.0	.0	.9	.9	.9	1.8	.0	.9	.0
50	.9	.9	.9	.0	.0	.9	.9	.0	.0	.0	.0	.0	.9	.0	.9	.0
75	.9	.0	.0	.0	.9	.0	2.7	.0	.0	.0	.0	.9	.0	.0	.0	.0
>75	4.5	3.6	1.8	1.8	11.6	.9	7.1	2.7	4.5	6.3	1.8	4.5	6.3	.9	2.7	1.8

DISTRICTS

Item #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
lg.																
<25%	.0	.8	.8	.0	1.6	.0	.8	.0	.0	.0	1.6	.8	2.4	.8	.0	.0
25	.0	.0	3.2	.0	.8	.8	.8	.8	.0	.0	.8	.8	1.6	.0	.0	.0
50	.8	.0	.8	1.6	2.4	.0	1.6	.0	.0	.0	1.6	.8	.0	.0	.8	.8
75	.8	.0	.0	.0	.0	1.6	.0	.0	.0	.0	.8	2.4	.0	.0	.0	.8
>75	6.5	4.0	.0	1.6	8.1	.8	12.1	1.6	4.8	5.6	.8	2.4	5.6	1.6	4.8	1.6
lh.																
<25%	1.8	.9	.9	.9	.0	.0	.9	.0	.9	.0	1.8	.0	4.5	1.8	.0	.0
25	.9	.9	1.8	.0	.9	.9	.9	.0	.0	.0	1.8	.9	.0	.0	.0	.0
50	1.8	.0	.9	.0	3.6	1.8	.9	.0	.0	.0	.0	.0	.9	.0	.0	.0
75	.0	.0	.0	.9	1.8	.9	.8	.9	.0	.0	.0	1.8	.0	.0	.0	.9
>75	6.3	.9	.9	.9	5.4	.0	10.8	1.8	4.5	7.2	2.7	.9	4.5	.9	6.3	2.7
(Reassessment)																
la.																
25%	1.0	1.0	.0	1.0	1.9	.0	1.0	.0	1.9	.0	.0	.0	2.9	.0	1.0	.0
25	.0	.0	.0	1.0	1.0	.0	2.9	.0	.0	.0	1.0	1.0	.0	1.0	.0	1.9
50	1.0	1.0	.0	1.0	.0	1.0	3.9	1.0	.0	.0	.0	1.0	1.0	1.0	1.0	.0
75	1.9	.0	1.0	1.0	.0	1.0	1.0	1.0	.0	.0	.0	.0	.0	.0	.0	.0
75	5.8	2.9	.0	1.9	8.7	1.9	5.8	1.9	1.9	7.8	6.8	3.9	6.8	1.0	.0	1.9

DISTRICTS

Item #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1b.																
<25%	5.9	1.2	1.2	2.4	7.1	2.4	5.9	1.2	3.5	2.4	1.2	.0	4.7	.0	1.2	2.4
25	1.2	.0	.0	.0	.0	.0	2.4	.0	.0	.0	.0	.0	.0	1.2	.0	.0
50	.0	.0	1.2	.0	1.2	1.2	1.2	3.5	1.2	.0	1.2	.0	.0	1.2	.0	1.2
75	1.2	.0	.0	.0	.0	.0	.0	1.2	.0	.0	.0	.0	.0	.0	.0	.0
>75	1.2	8.2	.0	1.2	3.5	.0	5.9	1.2	1.2	5.9	4.7	1.2	2.4	2.4	.0	.0
1c.																
<25%	3.8	.1	.0	.1	1.9	.0	2.9	.0	1.4	.0	.1	.0	3.8	.0	.0	.0
25	.1	.0	.0	2.9	.0	2.9	3.8	.0	.0	.0	.0	.1	1.9	.0	.0	.0
50	.1	.1	1.9	.0	4.8	.1	1.9	.0	.0	.0	1.9	.0	.1	.0	1.9	1.9
75	.1	.0	.1	.1	.0	.0	1.9	.1	.0	.0	.0	.0	.0	.0	.0	.0
>75	3.8	2.9	.0	.1	6.7	.0	2.9	2.9	1.9	5.8	3.8	4.8	3.8	1.9	.0	1.9
1d.																
<25%	2.0	.0	.0	.0	4.0	.0	.2	.0	.2	.0	.2	.1	.3	.0	.0	.1
25	.1	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
50	.2	.0	.0	.2	.1	.2	.4	.1	.0	.1	.1	.1	.0	.0	.2	.0
75	.1	.0	.1	.0	.0	.2	.3	.0	.0	.1	.0	.1	.2	.1	.0	.0
>75	.4	.5	.2	.1	6.9	.0	7.9	.3	.2	.5	.0	.3	6.9	.2	.1	.2

DISTRICTS

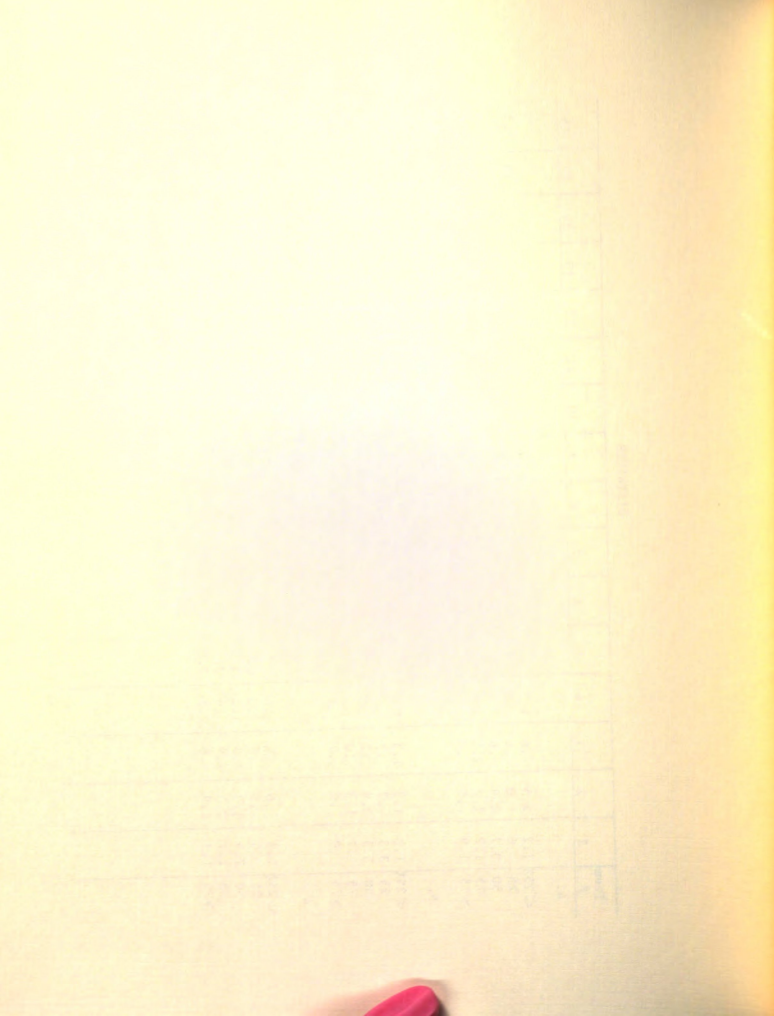
Item #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1e.																
<25%	3.6	2.4	.0	2.4	4.8	3.6	9.5	.0	2.4	.0	3.6	.0	4.0	.0	1.2	1.2
25	1.2	.0	.0	.0	3.6	1.2	2.4	.0	.0	.0	1.2	.0	1.2	.0	.0	.0
50	.0	.0	1.2	2.4	1.2	.0	2.4	1.2	.0	1.2	.0	1.2	.0	.0	.0	1.2
75	1.2	1.2	1.2	.0	.0	.0	1.2	.0	.0	.0	.0	.0	1.2	.0	.0	.0
>75	1.2	2.4	1.2	1.2	2.4	1.2	.0	2.4	2.4	6.0	1.2	3.6	4.8	1.2	.0	1.2
1f.																
<25%	.1	.3	.1	.0	.3	.1	.2	.3	.0	.2	.1	.3	.0	.3	.0	.1
25	.1	.0	.0	.0	.0	.1	.0	.1	.0	.0	.1	.0	.0	.0	.0	.0
50	.0	.0	.1	.1	.0	.0	.1	.3	.0	.0	.0	.1	.1	.0	.1	.0
75	.0	.2	.0	.0	.0	.1	.0	.3	.0	.0	.1	.1	.0	.0	.1	.0
>75	6.1	.3	.4	.1	.2	12.1	.0	5.1	.3	.2	.4	6.1	.0	.1	.1	.2
1g.																
<25%	.1	.1	.1	.0	1.9	.0	.1	.0	1.9	.0	.1	.1	3.8	.0	.0	.0
25	.1	.0	1.9	.0	.1	.0	.0	.1	.0	.0	.0	.1	.0	.0	.0	.0
50	.0	.0	.0	.1	1.9	1.9	2.9	.0	.0	.0	1.9	1.9	.1	.0	.1	1.9
75	1.9	.0	.0	.1	.0	.1	1.9	.0	.0	.0	.1	1.9	1.9	.1	.1	.0
>75	5.7	4.8	.0	1.9	7.6	.1	10.5	1.9	1.9	5.7	.1	2.9	4.8	.1	.1	1.9

DISTRICTS

Item #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1h.																
<25%	3.2	1.1	.0	1.1	1.1	.0	1.1	.0	2.1	.0	1.1	.0	4.2	.0	.0	.0
25	1.1	1.1	1.1	.0	2.1	.0	1.1	.0	.0	.0	1.1	1.1	1.1	.0	.0	1.1
50	2.1	.0	.0	1.1	4.2	3.2	2.1	.0	.0	.0	.0	1.1	1.1	.0	1.1	.0
75	.0	.0	.0	.0	.0	1.1	4.2	1.1	.0	.0	.0	2.1	.0	.0	1.1	.0
>75	6.3	1.1	.0	1.1	6.3	.0	8.4	2.1	2.1	7.4	3.2	.0	5.3	1.1	1.1	3.2
2.																
<25%	.0	.0	.6	.0	.0	.0	.0	.0	.0	.6	1.8	.0	.0	.0	.0	.0
25	.0	.0	.0	.0	.6	.0	1.2	.0	.0	.6	.6	.0	.0	.0	.0	.0
50	1.2	2.4	.0	.0	1.2	.0	1.2	.6	.0	.6	.6	.6	.0	.0	.0	.0
75	2.4	.6	.6	.0	1.8	.6	1.8	.6	.0	.0	1.8	.6	.0	.0	.6	.6
>75	4.8	3.6	.3	4.8	3.4	2.4	9.6	1.2	3.6	.6	4.2	4.8	7.8	.3	3.6	1.8
3.																
<25%	1.2	2.4	.6	.6	.6	.6	.6	.0	1.8	2.4	3.6	1.2	.6	1.2	1.2	.6
25	.6	.0	.0	.0	.6	.0	1.8	.0	1.2	.0	.6	.6	.0	.0	.0	.0
50	1.8	2.4	2.4	.0	5.4	1.2	2.4	.6	.6	.0	.6	1.8	1.2	1.2	1.8	.0
75	2.4	1.2	.6	2.4	1.2	.6	3.6	.6	.0	1.8	1.2	1.2	4.2	.0	.0	1.8
>75	2.4	.6	.6	1.8	4.2	.6	5.4	1.2	.0	4.2	1.8	1.2	1.8	1.2	1.2	.0

DISTRICTS

Item #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
4.																
<25%	1.2	2.5	.6	1.2	1.9	.6	1.2	.0	1.2	3.1	3.1	1.9	3.7	.6	.6	1.2
25	.6	.0	.6	.0	.6	.6	3.1	.0	1.9	.0	1.2	1.2	.0	.0	1.2	.0
50	3.7	2.9	.6	.0	6.3	.6	3.1	1.2	.0	1.2	1.9	1.9	.6	1.9	1.9	1.2
75	1.2	1.2	2.5	3.1	1.9	1.2	1.9	.0	.6	1.9	1.2	1.2	.0	.6	.0	.0
>75	1.9	.6	.0	.6	1.9	.0	.5	1.2	.0	1.9	1.2	.0	.0	.6	.6	.0
5.																
<25%	1.3	1.3	1.3	1.3	1.3	.7	.7	.0	2.6	1.3	3.9	1.3	.7	.2	.7	.0
25	3.3	.7	.7	.7	.2	1.3	3.9	.7	.0	.2	1.3	.7	.7	1.3	.2	.7
50	3.3	3.9	.2	1.3	3.9	1.3	3.9	.7	1.3	.2	.7	.7	.2	.7	.0	1.3
75	.7	1.3	.0	.2	3.9	.0	3.3	1.3	.0	.0	1.3	.0	.2	.0	.0	.7
>75	.0	.0	.7	.0	1.3	.0	3.3	.0	.0	2.6	.0	1.3	2.6	.0	.7	.0
6.																
<25%	1.3	.6	.6	.6	.6	.0	1.3	.0	1.3	.6	2.5	.6	.6	.6	3.1	.6
25	.6	.6	.0	.0	2.5	.0	.6	.0	1.3	1.1	.6	.0	1.3	1.3	1.3	.6
50	2.5	1.3	1.3	1.3	3.1	1.3	4.4	1.3	.6	1.3	3.1	1.9	1.3	.6	.6	.6
75	2.5	2.5	1.9	.6	2.5	1.3	1.9	1.3	.6	.6	1.3	1.3	1.3	.6	.0	.6
>75	1.3	1.9	.6	2.5	3.8	.6	6.3	.0	.0	.5	1.3	.6	3.1	.6	.6	.0



APPENDIX F
OUTLINE OF POC SECTIONS*

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OUTLINE OF SECTION 1: PHYSICAL

- 100 Neuromuscular Development
 - 101 Primitive Reflex Integration
 - 102 Righting and Protective Reactions

- 110 Motor Development
 - 111 Postural Control
 - 112 Locomotor Development
 - 113 Mobility Physically Impaired

- 120 Fundamental Skills
 - 121 Running
 - 122 Jumping, Hopping and Rhythmic Locomotion
 - 123 Catching and Throwing
 - 124 Kicking
 - 125 Striking

- 130 Gymnastics
 - 131 Gym Mat
 - 132 Trampoline
 - 133 Balance Beam

- 140 Swimming
 - 141 Water and Pool Adjustment
 - 142 Primary Skills
 - 143 Functional Strokes
 - 144 Water Therapy
 - 145 Adapted Swimming

- 150 Team Sports
 - 151 Basketball

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- 160 Fitness
 - 161 Toning Exercises
 - 162 Endurance Exercises

- 170 I CAN-Basic Skills
 - 171 Locomotor Skills and Rhythm
 - 172 Object Control
 - 173 Body Awareness
 - 174 Body Control
 - 175 Fitness and Growth
 - 176 Posture
 - 177 Basic Swimming Skills
 - 178 Swimming and Water Entry

- 180 I CAN-Sports and Activities
 - 181 Backyard/Neighborhood Activities
 - 182 Team Sports
 - 183 Outdoor Activities
 - 184 Dance and Individual Sports

OUTLINE OF SECTION 2: PERCEPTUAL

- 200 Auditory Discrimination
 - 201 Discriminating Environmental Sounds
 - 202 Discriminating Voices
 - 203 Sound Recognition
 - 204 Auditory Memory for Sounds

- 210 Visual Discrimination
 - 211 Discriminating Environmental Stimuli
 - 212 Visual Memory

- 220 Manipulative Development
 - 221 Eye-Hand Coordination

DATE	AMOUNT	BALANCE
1911	100	100
1912	100	200
1913	100	300
1914	100	400

DATE	AMOUNT	BALANCE
1915	100	500
1916	100	600
1917	100	700

DATE	AMOUNT	BALANCE
1918	100	800
1919	100	900
1920	100	1000

OUTLINE OF SECTION 3: LANGUAGE

- 300 Receptive Language
 - 301 Commands
 - 302 Listening Skills
 - 303 Understanding Words
 - 304 Understanding Relationships Between Words
 - 305 Understanding Inflections
 - 306 Questions

- 310 Expressive Language
 - 311 Preverbal Communication
 - 312 Early Verbal Communication
 - 313 Vocabulary Development
 - 314 Sentence Development
 - 315 Inflections
 - 316 Fluency
 - 317 Articulation

- 320 Nonvocal Communications Systems
 - 321 Sign Language
 - 322 Symbol Systems

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OUTLINE OF SECTION 4: CONCEPTUAL

- 400 **Basic Concepts**
 - 401 Same-Different
 - 402 Color Concepts
 - 403 Shape Concepts
 - 404 Size Concepts
 - 405 Space Concepts
 - 406 Time Concepts
 - 407 Tactile Concepts

- 410 **Numerical Concepts**
 - 411 Quantity
 - 412 Operations
 - 413 Functional Arithmetic

- 420 **Money**
 - 421 Coin and Bill Values
 - 422 Using Money

- 430 **Time**
 - 431 Time Divisions
 - 432 Using Clocks

- 440 **Reading**
 - 441 Reading Readiness Skills
 - 442 Basic Reading Skills
 - 443 Functional Reading

- 450 **Commercial Reading Programs**
 - 451 Dolch Reading Program
 - 452 Distar Reading Program
 - 453 Edmark Reading Program
 - 454 Peabody Rebus Reading Program
 - 455 Rosner Perceptual Skills Curriculum
 - 456 Ginn Reading Program
 - 457 Michigan Language Program
 - 458 Tutorphonics Program
 - 459 1969 Distar Reading Program (copyright 1969)

- 460 **Writing**
 - 461 Orthography
 - 462 Spelling
 - 463 Composition
 - 464 Functional Writing

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OUTLINE OF SECTION 5: PERSONAL

500 Eating and Drinking

- 501 Drinking
- 502 Eating
- 503 Assisted Drinking - Motor Impaired
- 504 Independent Drinking - Motor Impaired
- 505 Assisted Eating - Motor Impaired
- 506 Independent Eating - Motor Impaired

510 Self-Help Skills

- 511 Dressing
- 512 Toileting
- 513 Washing and Drying
- 514 Grooming
- 515 Female Hygiene

520 Daily Living Skills

- 521 Traveling
- 522 Doors and Locks
- 523 Tablesetting and Clearing
- 524 Kitchen Clean-Up
- 525 Food Preparation
- 526 Nutrition
- 527 Bedmaking
- 528 House Cleaning
- 529 Clothing Care

1911-12

1912-13

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1969-70

OUTLINE OF SECTION 6: RECREATIONAL

- 600 Playground Equipment
 - 601 Playground Safety
 - 602 Use of Playground Equipment

- 610 Environment
 - 611 Wildlife
 - 612 Pet Care

- 620 Art
 - 621 Safety, Preparation and Clean-Up
 - 622 Cutting
 - 623 Pasting
 - 624 Drawing (and Painting)
 - 625 Coloring (and Painting)
 - 626 Sculpting

- 630 Music
 - 631 Singing and Whistling
 - 632 Rhythm Activities
 - 633 Instrumental
 - 634 Unstructured Dance
 - 635 Structured Dance
 - 636 Records and Tapes
 - 637 Bell Choir

- 640 Crafts
 - 641 Sewing
 - 642 Macrame
 - 643 Gift Wrapping

- 650 Community Sports
 - 651 Bowling
 - 652 Roller Skating
 - 653 Miniature Golf

- 660 Social-Leisure Activities
 - 661 Photography
 - 662 Pool (Billiards)

OUTLINE OF SECTION 7: VOCATIONAL

- 700 Work Habits and Relationships
 - 701 Work Relationships
 - 702 Work Behaviors
 - 703 Career Awareness

- 710 Woodworking
 - 711 General Safety
 - 712 Hand Tools (Group I)
 - 713 Hand Tools (Group II)
 - 714 Portable Electric Hand Tools
 - 715 Power Equipment
 - 716 Clamps
 - 717 Fasteners
 - 718 Sanding/Finishing/Stripping
 - 719 Painting/Varnishing/Staining

- 720 Gardening and Farming
 - 721 Planting
 - 722 Maintenance and Harvesting
 - 723 Power Garden Equipment
 - 724 Greenhouse Plants
 - 725 Barnyard Animals

- 730 Building Services
 - 731 Lawn Care
 - 732 Snow Removal

- 740 Work Samples
 - 741 Selection
 - 742 Sorting
 - 743 Disassembly and Assembly
 - 744 Collating
 - 745 Folding
 - 746 Stuffing
 - 747 Packaging
 - 748 Stacking
 - 749 Quality Control

- 750 Vocational Experience
 - 751 Community Involvement

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OUTLINE OF SECTION 8: SOCIAL

800 Identity

- 801 Physical Identity
- 802 Ownership
- 803 Independence
- 804 Emotional Identity
- 805 Humor

810 Relationships

- 811 Relationships with Family
- 812 Relationships with school Personnel
- 813 Relationships with Peers
- 814 Play

820 Social Conventions

- 821 School Behaviors
- 822 Nonverbal Courtesy
- 823 Conversational Conventions
- 824 Telephone
- 825 Modesty
- 826 Table Manners
- 827 Manners in Public Places

830 Behavior Management

- 831 Self-Abusive Behaviors
- 832 Self-Stimulating Behaviors
- 833 Withdrawal Behaviors
- 834 Abusive Behaviors to Others or Objects
- 835 Socially Unacceptable Behaviors

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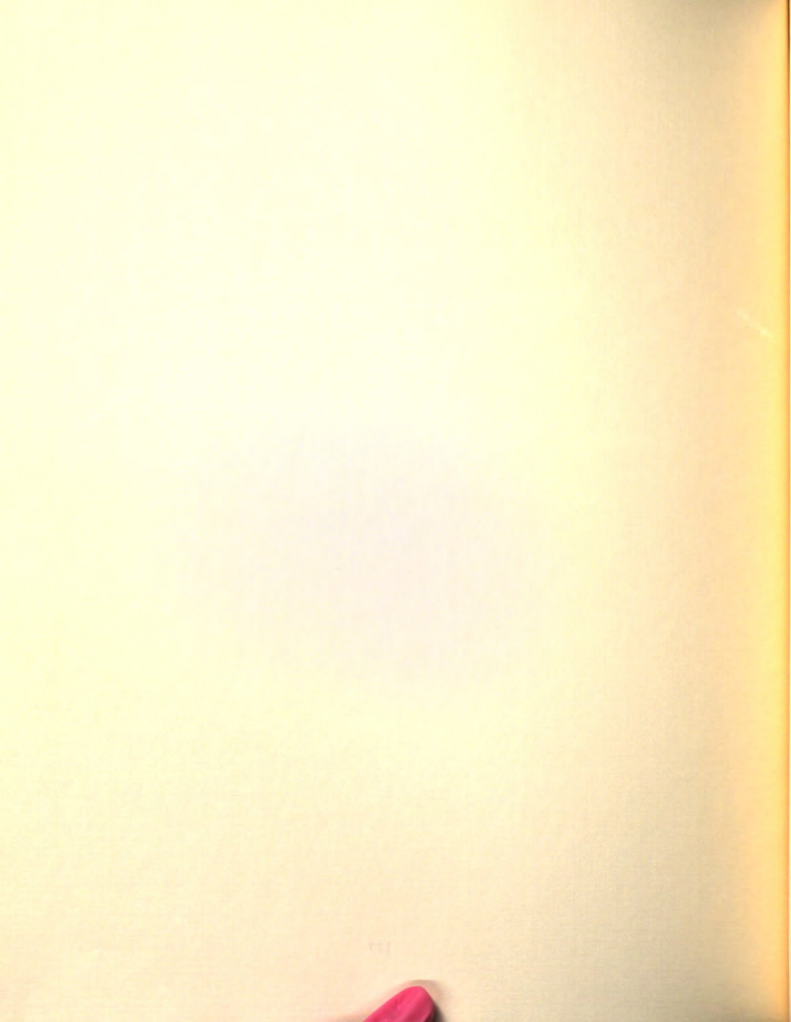
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APPENDIX G
MULTIPLE-REGRESSION SUMMARY TABLE



Multiple Regression Summary Table of the Results When Entering
Each Independent Variable in the Stepwise Procedure for Each
One of the Implementation Components ($M_1 - M_6$)

M_1 (Assessment)

STEP	ENTERED VARIABLE	MULTIPLE R	R SQUARE	R SQUARE CHANGE	OVERALL F	SIGNIFICANCE
1	T4 Inservice	.28105	.07899	.07899	14.23642	.001
2	T3 Preservice	.32159	.10342	.02443	9.51643	.001
3	C4 Appropriateness	.34371	.11813	.01471	7.32311	.001
4	A3 Encouragement	.35959	.12930	.01117	6.05155	.001
5	C1 Flexibility	.36959	.13660	.00730	5.12595	.001
6	A1 Monitoring	.37318	.13926	.00266	4.34144	.001
7	A2 Involvement	.37503	.14065	.00139	3.74103	.001
8	C3 Clarity	.37565	.14112	.00047	3.26548	.002
9	C5 Sequencing	.37668	.14189	.00078	2.90287	.003
10	T1 Improvement	.37703	.14215	.00026	2.60160	.006
11	C2 Utility	.37718	.14227	.00012	2.35227	.010

M_2 (Reassessment)

STEP	ENTERED VARIABLE	MULTIPLE R	R SQUARE	R SQUARE CHANGE	OVERALL F	SIGNIFICANCE
1	T4 Inservice	.22266	.04958	.04958	8.65916	.004
2	T3 Preservice	.30718	.09436	.04478	8.59545	.000
3	T1 Curriculum Im- provement	.32616	.10638	.01202	6.50781	.000
4	A2 Involvement	.34400	.11833	.01195	5.46930	.000
5	A3 Encouragement	.34861	.12153	.00319	4.48212	.001
6	T2 Teaching Stra- tegies	.35050	.12285	.00132	3.75817	.002
7	C5 Sequencing	.35213	.12400	.00115	3.23541	.003
8	C4 Appropriateness	.35419	.12545	.00145	2.85103	.005
9	C2 Utility	.35504	.12606	.00060	2.53216	.010
10	C3 Clarity	.35546	.12636	.00030	2.27069	.016
11	C1 Flexibility	.35569	.12651	.00016	2.05403	.027

M₃ (Objectives)

STEP	ENTERED VARIABLE	MULTIPLE R	R SQUARE	R SQUARE CHANGE	OVERALL F	SIGNIFICANCE
1	C4 Appropriateness	.34610	.11979	.11979	22.59052	.001
2	A3 Encouragement	.38549	.14860	.02882	14.39959	.001
3	T3 Preservice	.42831	.18345	.03484	12.28131	.001
4	C3 Clarity	.44380	.19696	.01351	9.99458	.001
5	T4 Inservice	.45211	.20441	.00745	8.32429	.001
6	A1 Monitoring	.45555	.20753	.00312	7.02695	.001
7	C2 Utility	.45747	.20928	.00175	6.04953	.001
8	T1 Improvement	.45896	.21064	.00137	5.30376	.001
9	C1 Flexibility	.45951	.21115	.00050	4.69901	.001
10	T2 Teaching Strategy	.45981	.21143	.00028	4.20943	.001

M₄ (Use materials)

STEP	ENTERED VARIABLE	MULTIPLE R	R SQUARE	R SQUARE CHANGE	OVERALL F	SIGNIFICANCE
1	C4 Appropriateness	.32060	.10278	.10278	19.01687	.001
2	C2 Utility	.35781	.12803	.02524	12.11309	.001
3	A3 Encouragement	.39330	.15469	.02666	10.00363	.001
4	T3 Preservice	.41994	.17635	.02166	8.72469	.001
5	A2 Involvement	.42719	.18249	.00614	7.23255	.001
6	T4 Inservice	.43226	.18685	.00436	6.16586	.001
7	C5 Sequencing	.43578	.18991	.00306	5.35829	.001
8	C1 Flexibility	.43999	.19359	.00368	4.77121	.001
9	T1 Curriculum Im- provement	.44159	.19500	.00142	4.25270	.001
10	T2 Teaching Stra- tegies	.44284	.19610	.00110	3.82987	.001
11	C3 Clarity	.44361	.19679	.00069	3.47465	.001
12	A1 Monitoring	.44427	.19737	.00058	3.17631	.001

M₅ (Criteria)

STEP	ENTERED VARIABLE	MUTLIPLE R	R SQUARE	R SQUARE CHANGE	OVERALL F	SIGNIFICANCE
1	C5 Sequencing	.15801	.02497	.02497	4.25092	.041
2	T3 Preservice	.20000	.04000	.01503	3.43750	.034
3	A1 Monitoring	.23838	.05683	.01683	3.29362	.022
4	C2 Utility	.26179	.06854	.01171	2.99836	.020
5	C3 Clarity	.28221	.07964	.01111	2.80374	.019
6	T1 Improvement	.29690	.08815	.00851	2.59398	.020
7	A2 Involvement	.34034	.11583	.02769	2.99491	.006
8	C4 Appropriateness	.34843	.12140	.00557	2.74633	.007
9	T4 Inservice	.35572	.12654	.00513	2.54327	.009
10	A3 Encouragement	.36296	.13174	.00520	2.38219	.012
11	T2 Teaching Strategies	.36690	.13461	.00287	2.20603	.017
12	C1 Flexibility	.36735	.13495	.00033	2.01499	.026

M₆ (Record)

STEP	ENTERED VARIABLE	MULTIPLE R	R SQUARE	R SQUARE CHANGE	OVERALL F	SIGNIFICANCE
1	T3 Preservice	.14800	.02190	.02190	3.71733	.056
2	A2 Involvement	.22251	.04951	.02761	4.29759	.015
3	T1 Curriculum Improvement	.24110	.05813	.00861	3.37373	.020
4	A1 Monitoring	.26441	.06991	.01179	3.06308	.018
5	C2 Utility	.27244	.07423	.00431	2.59775	.027
6	T2 Teaching Strategy	.28058	.07872	.00450	2.29294	.038
7	C3 Clarity	.28480	.08111	.00238	2.01755	.056
8	C5 Sequencing	.28884	.08343	.00232	1.80906	.079
9	T4 Inservice	.29169	.08508	.00166	1.63262	.110
10	C4 Appropriateness	.29291	.08580	.00071	1.47342	.154
11	A3 Encouragement	.29339	.08608	.00028	1.33573	.210

APPENDIX H
RATIONALE FOR USING LIKERT SCALE

Rationale for Using Likert Summative Rating Scale

There are three main types of rating scales: (1) Equal Appearing Interval Scale: Thurstone, (2) Cumulative Scales: Guttman, and (3) Summated Rating Scales: Likert (McIver, 1981). The focus will be on the third one: Summated Rating Scales by Likert. A brief summary of the other two scales precedes a detailed discussion of Summated.

1. Equal Appearing Interval Scales: Thurstone. This method uses a set of attitude items. Each item is assigned a scale value, and the scale value indicates the strength of agreement with the item. The universe of the item is considered to be an ordered set; that is, items differ in scale value. The scaling procedure finds these scale values. In addition, the items of the final scale used are so selected that the intervals between them are equal, a most important and desirable psychometric feature.

2. The Cumulative or Guttman Scale. The scale consists of relatively small sets of homogeneous items. It is called cumulative because of the cumulative relation between items and the total scores of individuals.

3. Summated or Likert Ratings. In this method, Ss are presented with a list of statements, a set of items about a single topic, and they respond to each statement in terms of their degree of agreement or disagreement. Each item has an equal number of favorable and unfavorable statements. Usually the Ss are asked to select one of five responses: strongly agree, agree, undecided, disagree, or strongly disagree.

10/10/1919

Dear Sir,

I am in receipt of your letter of the 10th inst.

(2) I am sorry to hear that

on the 10th inst.

of the 10th inst.

of the 10th inst.

of the 10th inst.

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Advantages of Likert Scale Over the Other Methods

In brief, the following is an outline of some of the advantages of using the Likert Scale method over the other scaling methods:

1. It is easy to construct, while Thurstone's is more complicated.
2. It can be adapted to the measurement of many different kinds of attitudes.
3. It has produced meaningful results in many studies to date.
4. In this scale, individuals are placed somewhere on an agreement continuum based on their attitude toward the item in question.
5. It gives equal values to the items (alternatives).
6. The summated scale concentrates on the subjects and their places on the scale, while the interval scale (Thurstone) concentrates on the items and the place of the item. However, both summated and interval scales give the same results in terms of reliability and the placing of individuals in rank orders. On the other hand, the cumulative (Guttman) scale concentrates on scale positions of individuals. In general, the cumulative scale is considered less useful and less applicable.
7. The summated scale gives the subject alternatives from which to choose. In obtaining responses from subjects, it permits them to use any one of five categories: strongly agree, agree, undecided, disagree, or strongly disagree. For any given statement, the available proportion of subjects giving each of the five categories

1. Introduction

2. Methods

3. Results

4. Discussion

5. Conclusions

6. References

7. Appendix

8. Index

9. Glossary

10. Acknowledgments

11. Author's Address

12. Correspondence

13. Notes

14. Figures

15. Tables

16. Summary

17. Abstracts

18. References

19. Index

20. Glossary

21. Acknowledgments

22. Author's Address

23. Correspondence

24. Notes

25. Figures

26. Tables

27. Summary

28. Abstracts

29. References

30. Index

31. Glossary

32. Acknowledgments

33. Author's Address

34. Correspondence

35. Notes

36. Figures

37. Tables

38. Summary

39. Abstracts

40. References

41. Index

42. Glossary

43. Acknowledgments

44. Author's Address

45. Correspondence

46. Notes

47. Figures

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49. Summary

50. Abstracts

51. References

52. Index

53. Glossary

54. Acknowledgments

55. Author's Address

56. Correspondence

57. Notes

58. Figures

59. Tables

60. Summary

61. Abstracts

62. References

63. Index

64. Glossary

65. Acknowledgments

66. Author's Address

67. Correspondence

68. Notes

69. Figures

70. Tables

71. Summary

72. Abstracts

73. References

74. Index

75. Glossary

76. Acknowledgments

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80. Figures

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84. References

85. Index

86. Glossary

87. Acknowledgments

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103. Tables

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105. Abstracts

106. References

107. Index

108. Glossary

109. Acknowledgments

110. Author's Address

111. Correspondence

112. Notes

113. Figures

114. Tables

115. Summary

116. Abstracts

117. References

118. Index

119. Glossary

120. Acknowledgments

121. Author's Address

122. Correspondence

123. Notes

124. Figures

125. Tables

126. Summary

127. Abstracts

128. References

129. Index

130. Glossary

131. Acknowledgments

132. Author's Address

133. Correspondence

134. Notes

135. Figures

136. Tables

137. Summary

138. Abstracts

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140. Index

141. Glossary

142. Acknowledgments

143. Author's Address

144. Correspondence

145. Notes

146. Figures

147. Tables

148. Summary

149. Abstracts

150. References

151. Index

152. Glossary

153. Acknowledgments

154. Author's Address

155. Correspondence

156. Notes

157. Figures

158. Tables

159. Summary

160. Abstracts

161. References

162. Index

163. Glossary

164. Acknowledgments

165. Author's Address

166. Correspondence

167. Notes

168. Figures

169. Tables

170. Summary

171. Abstracts

172. References

173. Index

174. Glossary

175. Acknowledgments

176. Author's Address

177. Correspondence

178. Notes

179. Figures

180. Tables

181. Summary

182. Abstracts

183. References

184. Index

185. Glossary

186. Acknowledgments

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188. Correspondence

189. Notes

190. Figures

191. Tables

192. Summary

193. Abstracts

194. References

195. Index

196. Glossary

197. Acknowledgments

198. Author's Address

199. Correspondence

200. Notes

201. Figures

202. Tables

203. Summary

204. Abstracts

205. References

206. Index

207. Glossary

208. Acknowledgments

209. Author's Address

210. Correspondence

211. Notes

212. Figures

213. Tables

214. Summary

215. Abstracts

216. References

217. Index

218. Glossary

219. Acknowledgments

220. Author's Address

221. Correspondence

222. Notes

223. Figures

224. Tables

225. Summary

226. Abstracts

227. References

228. Index

229. Glossary

230. Acknowledgments

231. Author's Address

232. Correspondence

233. Notes

234. Figures

235. Tables

236. Summary

237. Abstracts

238. References

239. Index

240. Glossary

241. Acknowledgments

242. Author's Address

243. Correspondence

244. Notes

245. Figures

246. Tables

247. Summary

248. Abstracts

249. References

250. Index

251. Glossary

252. Acknowledgments

253. Author's Address

254. Correspondence

255. Notes

256. Figures

257. Tables

258. Summary

259. Abstracts

260. References

261. Index

262. Glossary

263. Acknowledgments

264. Author's Address

265. Correspondence

266. Notes

267. Figures

268. Tables

269. Summary

270. Abstracts

271. References

272. Index

273. Glossary

274. Acknowledgments

275. Author's Address

276. Correspondence

277. Notes

278. Figures

279. Tables

280. Summary

281. Abstracts

282. References

283. Index

284. Glossary

285. Acknowledgments

286. Author's Address

287. Correspondence

288. Notes

289. Figures

290. Tables

291. Summary

292. Abstracts

293. References

294. Index

295. Glossary

296. Acknowledgments

297. Author's Address

298. Correspondence

299. Notes

300. Figures

301. Tables

302. Summary

303. Abstracts

304. References

305. Index

306. Glossary

307. Acknowledgments

of responses, it weights these categories of response in such a way that the response made by individuals with the most favorable attitudes will always have the highest positive weight. For the favorable statements, it is assumed that this is the "strongly agree" category and for the unfavorable statements, it is assumed that it is the "strongly disagree" category.

8. In the summated scale, unbiased weights are given for the favorable statements. The weights given to "strongly agree," "agree," "undecided," "disagree," and "strongly disagree" are 4, 3, 2, 1, and 0, respectively. For unfavorable statements, the weights are 0, 1, 2, 3, and 4, respectively. Thus, agreement with favorable statements and disagreement with unfavorable statements are treated as equivalent.

9. It can be used as a graphic scale and/or numerical scale, which helps to make it simple to understand and easy to administer. The presence of a graphic scale may help to convey the idea of a rating continuum.

From the materials reviewed previously, these conclusions can be drawn regarding the Likert Scale:

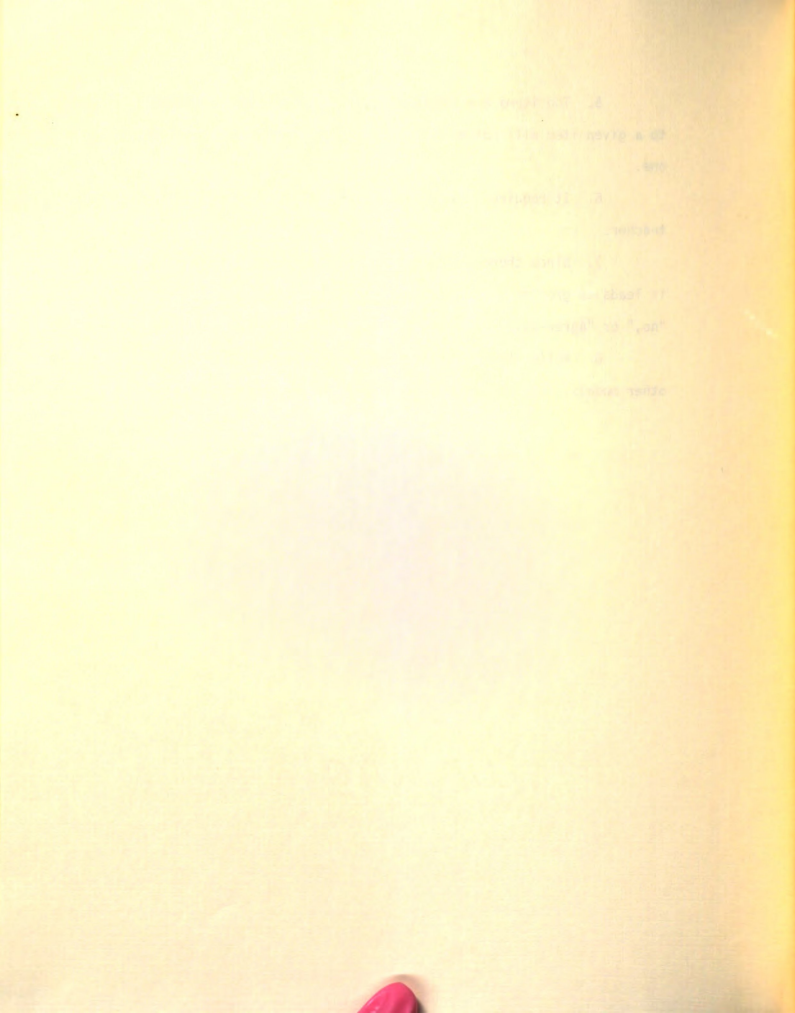
1. Of the three scales mentioned, the Likert appeared to be the most appropriate for this research.
2. Likert is easily understood by teachers and administrators, the population of this study.
3. It gets the same results as the more complicated scales.
4. It can be adapted to various research needs.

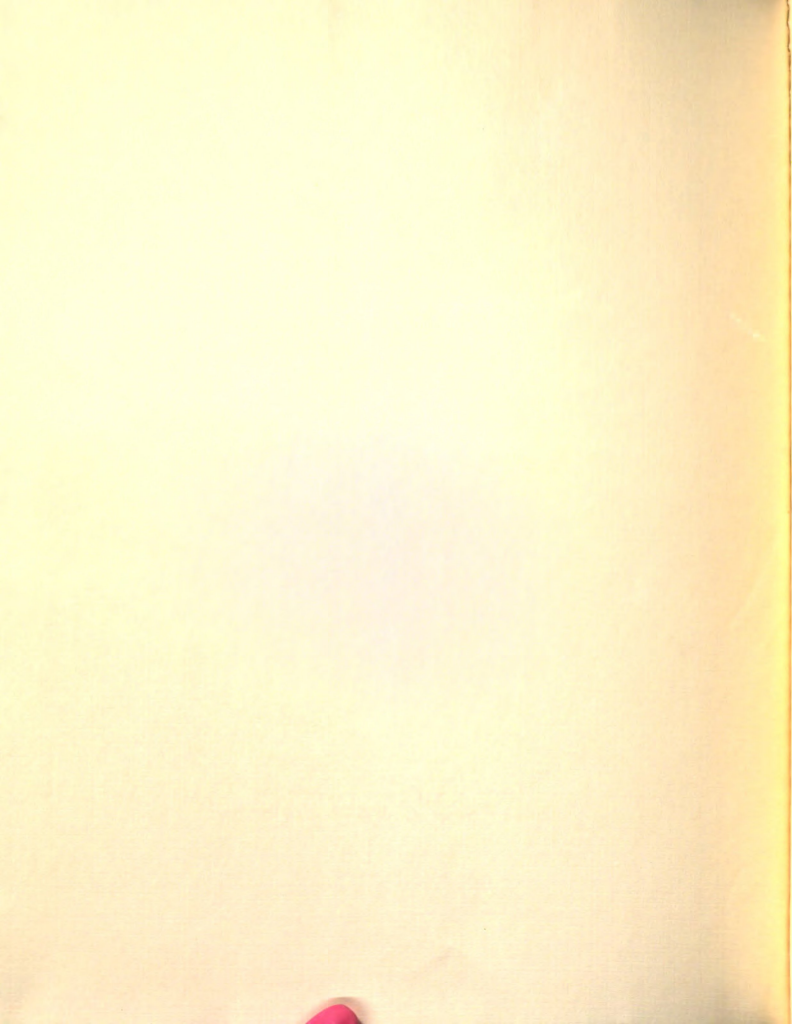
5. The items are independent; i.e., the teacher's response to a given item will not be influenced by his/her response to another one.

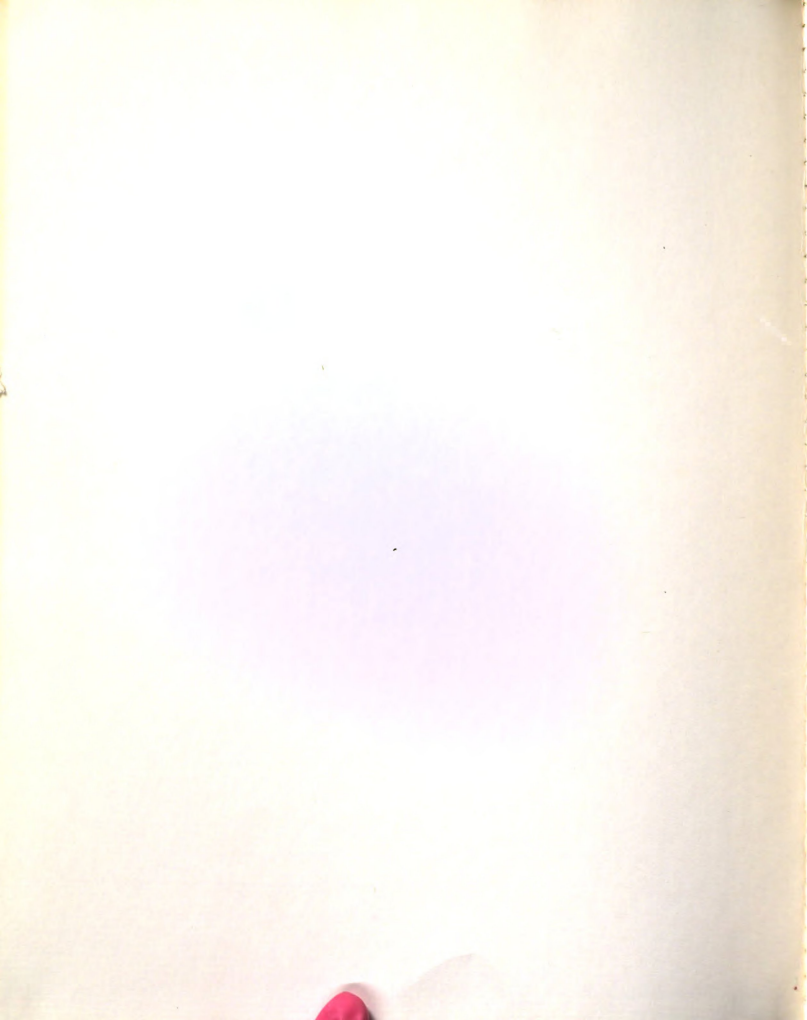
6. It requires less time, effort, and motivation from the teacher.

7. Since there are more steps on the items (alternatives), it leads to greater variance results than does the use of "yes," "no," or "agree-disagree."

8. Reliability is expected to be higher than when using other models. However, this also depends on the number of items.







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