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ABSTRACT

Reported were data from the first year of a 2-year project in which four elementary schools implemented a new organizational pattern that stressed individualized instruction and maintenance of mild to moderately handicapped children in regular classrooms. Schools were selected on the basis of the following criteria: school population of 600 to 900 students; existing psychological services and speech and hearing services; availability of space; and willingness of teachers and principals to implement the project model. Teachers selected to participate in the study were trained over a period of 30 weeks. Data from questionnaires were found to show an overall acceptance of the experimental design by principals, regular education teachers, and special education teachers, and to indicate that personnel in the experimental schools perceived their roles much differently than controls. It was reported that handicapped children in the experimental schools received more services than their controls, and that more handicapped pupils were served under the new design. Pre- and post-test data indicated that experimental groups scored significantly better than the control population on comprehension tests, although there were no significant differences between groups on vocabulary test scores. (GW)

ED 072604

A DESIGN FOR A CONTINUUM OF SPECIAL EDUCATION SERVICES

INTERIM REPORT

EC 051 170 E

MARYLAND STATE DEPARTMENT OF EDUCATION
DIVISION OF INSTRUCTION
OFFICE OF SPECIAL EDUCATION

DECEMBER 1971

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This interim report has been prepared to provide an overview of the first year's implementation of "A Design for a Continuum of Special Education Services."

The Continuum was implemented in four varied geographic areas. Four experimental schools and four control schools were selected. One experimental and one control school was selected from each of the following areas: Baltimore City, Baltimore County, Howard County and Prince George's County.

Results of the State's first year endeavor are promising. To date no final conclusions have been reached, thereby allowing for another year of research. Indications are that the Continuum during the school year 1972-73 will be expanded if the next year's results are as convincing as the first.

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Project Director

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Interim Report

This report contains evidence that the Maryland State Department of Education's plan entitled A Design for a Continuum of Special Education Services may be a means to meet the needs of handicapped children throughout the State.

In recent years considerable progress has been made in special education. The trend within the field of special education emphasizes making education special for all children and departing from the concept that special education is something distinct from the total school program.

Traditionally, special education has upheld the philosophy that the best approach for evaluating problems of behavior and achievement is that of a psycho-medically oriented team. The child is given a battery of standardized tests, the results of which are an appropriate category or label. Such labeling or categorization of children by functional area of handicap, rather than by degree of learning problem, tends to set up rigid programs which hinder movement from one level of education to another. Programs based on etiological information are of little value to the classroom teacher. What the regular classroom teacher needs is an educational assessment, profiling learning strengths and weaknesses, with an educational program in terms that are understandable, practical and helpful.

How to break this cycle is a problem, but it is evident that special education program development has reached the point where emphasis must shift its focus from a particular handicap to the individual child and his educational needs.

Therefore, the major problem of this two-year feasibility study focuses on insufficient educational services for handicapped children in terms of number, scope, and/or quality of programs within the State.

The need to develop a new organizational pattern which emphasizes maintaining the mild to moderately handicapped child in the mainstream of education (the regular classroom) is paramount for change in special education programs. Organizational change, however, is not sufficient. Philosophically, if the child is maintained in the regular classroom, the child and teacher must be provided with supplemental or supportive services if the tradition of segregating children in self-contained classes is to be eliminated. This need comes from the lack of an organizational scheme within the educational system to facilitate flexible programming which will allow a child to grow academically, socially, and emotionally.

A plan entitled, A Design for a Continuum of Special Education Services has been developed and was implemented during the school year 1970-71 in four pre-selected school systems throughout the State. The primary goal of this study is to encourage local education agencies to maintain children who are handicapped academically and/or behaviorally (to a mild to moderate degree) in the mainstream of education rather than in self-contained special education classes. Another goal will be to compare the types of services rendered to children in grades kindergarten through three (K-3) under a new organizational pattern with their counterparts under a traditional pattern of organization. Other critical issues which must be examined in order to ascertain the feasibility of implementing the Continuum model throughout the State focus on: 1) a cost effectiveness study regarding disbursement of State aid according to services provided children rather than categorical labels; 2) the elimination of some categorical labeling such as "educable mentally

retarded" (E.M.R.), "specific learning disabilities (S.L.D.), "emotionally disturbed" and/or "emotionally handicapped" (E.D. or E.H.); 3) the effects of special study institutes and inservice programs for the training of teachers, ancillary personnel, and parents; 4) a comparison of pupil achievement in reading and the development of their social skills (experimental versus control groups); and finally 5) an analysis of role perception in relation to the traditional versus changed organizational patterns.

As the Continuum model is implemented, four hypotheses will be investigated. These hypothese are:

1) The new organizational pattern will allow administrators and regular education and special education teachers the opportunity to change their attitudes positively toward handicapped children.
2) The changed organizational pattern will provide more services that administrators, regular education, and special education teachers may utilize to meet the needs of handicapped children.
3) Academic abilities, as measured by reading achievement, and social perceptions of self will improve significantly as a result of the new organizational pattern which stresses individualized instruction and integration within the regular classroom.
4) The social behavior of students participating in the experimental situation will improve significantly through participation in the program.

What Is the Continuum Model?

Maryland's Continuum is a theoretical model comprising a number of educational services. These services focus on support for the child and for the regular classroom teacher. For example, when a child in the regular

classroom is referred and the educational evaluation completed, ancillary services from psychologists, pupil personnel workers, diagnostic-prescriptive teachers, itinerant and resource room personnel may be available for the child as well as the child's regular teacher.

The unique feature of this plan is that the exceptional child will receive specialized service while retaining affiliation with the regular classroom (except in the case of those children whose learning and/or behavioral problems are so severe that they cannot benefit from regular classroom instruction and need the services of a very structured classroom environment). The Continuum plan has an inherent adaptability for the trend toward individualized instruction for all children. The plan provides for flexibility to allow a child to move from one service to another. This flexibility allows for more or less supportive help depending upon his individual needs.

A more detailed description of each of the various programs is contained in another publication entitled A Handbook for a Continuum of Special Education Services. In addition to a description for each program, the selection criteria for students who might benefit most from services within a program are outlined.

Chapter II

Implementation

Four experimental and four control schools were selected, with one experimental and one control school from each of the following areas: Baltimore City, Baltimore County, Howard County, and Prince George's County.

The criteria established as essential for the selection of an experimental school are listed as follows:

1. total school enrollment between 600-900 children
2. existing kindergarten in the school
3. existing self-contained special education classes
4. existing psychological services in the school
5. existing speech and hearing services
6. exhibited willingness on the part of the principal and his staff to attempt the implementation of the Continuum model and to work within the constraints of the model
7. available facilities (1-1/2 or 2 classrooms)

The schools selected were matched according to socioeconomic level and representative of various types of school areas: 1) rural, 2) urban, 3) inner-city, 4) a fast-growing county.

The local directors of special education were assigned the initial task of selecting possible cites to implement the model and forwarding their selections to the project coordinator. This was to be done in conjunection with the regular elementary supervisor.

These tentatively selected schools were visited by the project coordinator and local supervisor of special education. On one occasion the State Coordinator of Special Education participated ir one interview. During the interviews with principals, the model to be implemented and the objectives for the study were

outlined. Results of these interviews would determine the principal's attitude and whether the atmosphere of this particular school was appropriate for the model. In addition to the interview with individual principals, a presentation of the model and objectives was made to the entire kindergarten through grade three (K-3) faculty, ancillary personnel, and local supervisors. The purpose of this step was to determine teacher attitude and ascertain whether the atmosphere would be appropriate for the implementation of the model. All schools which were recommended by the local supervisors to act as the experimental school were evaluated in this manner. As a result, it was possible to eliminate certain schools. The control schools in the counties were selected on the basis of the principals' willingness to participate in a pilot study.

Training of Teachers

An integral part of the entire model was provision of adequate training for teachers who would be added to the faculty of the experimental school under Programs II and IV of the Continuum model.

To provide that training a three-phase workshop was developed to:

1. Alter the attitude of those participating teachers so that they may view children as individuals and break away from the need for etiological classifications

2. Provide adequate training in diagnostics and techniques of diagnoses that would enable a teacher to assess the child's learning strengths and weaknesses

3. Instill a level of competency in teachers that would stress DIAGNOSIS THROUGH TEACHING as opposed to diagnosis through testing

4. Provide teachers with enough information and thorough knowledge of materials and techniques which would enhance the teachers' ability to develop an educational program appropriate for a given child

5. Stress the need for continuous communication with the regular classroom teacher and ancillary personnel.

In order to accomplish the above global objectives, the training program was divided into three distinct phases which began the summer of 1969 continuing through the academic year and finally through the summer of 1970.

Selection of Teachers - (for Programs II and IV)

Those teachers selected to participate in the training were recommended by the local director or supervisor of special education from each of the four pilot areas. In addition, teachers from the Eastern Shore participated during the first phase of the training. The total number of participants numbered thirty-one (31). Each teacher, with the exception of those selected from the Eastern Shore, was required to continue the training through the summer of 1970. At the end of Phase I, summer 1969, sixteen (16) teachers were invited to continue the training. A breakdown of those participating and results of the workshops will be discussed later in this report.

Activity

In September 1970 the model as developed was implemented in four experimental schools. Those schools were: Coleman Elementary (School #142) in Baltimore City, Deer Park Elementary in Baltimore County, Ellicott City Elementary in Howard County, and Mattaponi Elementary in Prince George's County.

Each school implemented the design in its entirety. This consisted of assuming new roles as outlined to school personnel throughout the course of the summer workshop and inservice days prior to school opening in September. (A handbook developed exclusively for this project is to be published under separate cover.)

The programs were established in the schools and the children assigned to the programs were referred by the regular classroom teachers.

Principals, regular classroom teachers, special education teachers, and ancillary personnel completed questionnaires pertaining to their attitudes toward integrating handicapped children into the regular class. These questionnaires were administered during the first days of the workshop and then again during June 1971. An interview schedule was developed as a follow-up to check answers submitted on the questionnaires.

Instrumentation

The instruments used to collect the data for this study were selected from existing questionnaires or standardized scales or tests. Some instruments had to be specifically developed by the author because there were no appropriate tests, scales, or questionnaires available to evaluate the hypotheses and objectives of this two-year feasibility study.

Principals were administered an attitudinal scale, modified for this design, used previously by Octavia Knight, North Carolina Central University, Durham, North Carolina.

Teachers filled out a questionnaire regarding role perceptions. This questionnaire was developed, field tested, and specifically designed for this study. The teachers were also asked to complete a case study designed to compare answers submitted previously through responses to attitudinal questionnaire. In addition, the teachers were asked to fill out individual rating scales for the children enrolled in the program. The scales pertained to social awareness skills and behavior.

These questionnaires which pertain to role perception attitudes, social awareness, and behavior were gathered through a pre-test/post-test

data-gathering schedule. The format for these questionnaires was a combination of open-ended responses and close-ended responses. The post-test data will hopefully yield some educators attitudinal change, changes in social awareness skills, and changes in the behavior of students.

Criterion Measures

Academic achievement, as measured through reading gains, and the social awareness skills of the children enrolled in the program were determined as a criterion measure since the questionnaires developed yielded qualitative information as opposed to quantitative or "hard" data. It was the opinion of both the project coordinator and a consultant from the Division of Research and Development to gather qualitative information since this data would be more effective in determining the effectiveness for implementing such a model in the public schools throughout the State.

Criterion Measure Subjects

Four hundred ninety-eight (498) subjects were selected. Two hundred fifty-eight (258) of these were the children in the experimental group. (For comparative purposes, approximately sixty-five (65) children were selected from each of the participating schools.) Two hundred forty (240) comprised the control group (sixty (60) from each control school).

However, it must be stated that the total number of children served in the four experimental schools exceeds the number selected for statistical analysis.

An attempt was made to match the children from the experimental schools with those from the control schools, but perfect matching was impossible.

The areas taken into consideration in order to match populations focused on: chronological age, mental age, and sex. The range of the experimental group in reference to CA was five years, eight months (5-8) to eleven years, four months (11-4). The CA range for children in the control groups was five years, seven months (5-7) to eleven years, ten months (11-10). The range of the MA was from seventy-eight (78) to one hundred eleven (111) for the experimental group and from seventy-two (72) to one hundred four (104) for the control group. The MA or IQ scores were not of prime importance for this study.

The majority of children selected as members of the experimental and control groups were referred by regular classroom teachers; the minority from special education. Those children referred by regular classroom teachers were referred because their teacher knew they were failing in one or more academic areas and suspected they had a learning problem. It also was apparent upon analysis that those children referred were at least one year behind in reading.

TABLE 1

THE CHRONOLOGICAL AND MENTAL AGE RANGES

FOR THE EXPERIMENTAL AND CONTROL SUBJECTS

SUBJECTS	Chronological Age Range	Mean Chronological Age	Mental Age	Mean Mental Age
Experimental	5-8 --- 11-4	7-9	78-111	95
Control	5-7 --- 11-10	7-2	72-104	88

Criterion Measure: Methodology

The subjects assigned to the program and those who acted as controls were children referred by regular classroom or special education teachers because of suspected learning problems. The term "learning problems" upon completion of initial evaluation was interpreted as "learning and behavior" problems without reference to the area(s) of learning most affected by the exhibited behaviors. The majority of the children referred were functioning much below their ability to learn; the child's performance ability was better than his verbal ability; the children had visual and auditory perceptual difficulties; the children were tolerated by their classmates (accepted passively); the children seemed afraid to take chances and make mistakes; the children feared criticism of being regarded as not "worth anything." These generalizations were summarized from a Teacher-Check List which was completed by teachers on each child referred by the classroom teachers.

Criterion Measure: Instrumentation

In both the experimental group and control group, all children referred as possibly having a learning problem were administered a non-validated screen device. This helped establish a learning profile and initially recommended children for supportive services. The learning profile (Chart 1- following page) was also helpful in determining an individual child's learning strengths and weaknesses. Children were randomly selected from the entire population and given the Social Awareness Skill Scale.

The screening device mentioned previously was not used diagnostically

CHART 1
EXAMPLE OF LEARNING PROFILE

Name _____ Birth Date _____ Age _____

School _____ Grade _____

Experimental _____ Control _____

Verbal Activities	1	2	3	4	5	6	7	8	9	10	11	12
Information												
Comprehension												
Vocabulary												
Similarities												
Digit Span												

Auditory Memory Raw Score _____ Age Norm _____

Auditory Association Raw Score _____ Age Norm _____

Auditory Decoding Raw Score _____ Age Norm _____

Reading Comprehension Raw Score _____ Grade Equiv _____

WRAT Sign Vocabulary Raw Score _____ Grade Equiv _____

Visual Perception

a) Poor - Fair
b) Fair - Good
c) Good - Excellent

* Circle _____

Square _____

Diamond _____

or statistically. It was simply given as a beginning step for the diagnostic teachers to build upon. The instrument itself is comprised of various subtests of standardized tests. For example, this instrument includes: five subtests of the WISC, four subtests of the ITRA, four administrations of the BVMGT, tests of auditory perception, the Gilmore Oral Reading Tests, and parts of the WRAT.

Reading achievement was measured through pre- and post-test administration of the Gates-MacGinitie Reading Tests. A period of eight months elapsed before the post-test was administered.

Social awareness of students was measured pre- and post-test on a scale previously developed for this purpose of determining actual growth in social awareness skills as well as including a sociometric evaluation.

Criterion Measure: Procedures

The pre-test informal screening instrument, which consists of various subtests, was administered by the project coordinator to children from the experimental schools. The pre-test informal screening instrument was administered to the control school children by a team of graduate students from Coppin State College, Special Education Department.

Each graduate student was given precise instructions about how and in what order the test was to be administered. The techniques of scoring were also discussed in order that a unified scoring procedure would be followed for all data gathered. Under supervision, the graduate students administered trial tests before testing the children from the control schools.

The students formed two teams. Team A screened "x" number of children as did Team B. Each team then switched the children in their group and retested. Scoring was analyzed and results were identical for both groups of team members; therefore, a check was established prior to testing in the control schools.

Pre-testing for reading achievement was done by the project coordinator and one other member from the State's Office of Special Education. Post-testing was done by the project coordinator and the diagnostic-prescriptive and resource room teachers. In each case the scoring was unified and a tally of correct responses notated. All data were kept in raw scores as opposed to grade norms.

Social awareness scales for randomly selected children, as with the behavior rating scale, were completed by the child's individual teacher. This was also done on a pre-test/post-test basis.

The results of the gathered data are discussed in the next sequence.

Chapter III

Results

The results of this study utilize data gathered through questionnaires distributed to principals, regular classroom teachers, special education teachers, and diagnostic-prescriptive and resource room teachers. Raw data gathered as a criterion measure from tests administered to children in the experimental and control situations will also be discussed. The raw scores were used to arrive at the children's position relative to the mean of the population selected. The reason for this was to discriminate placement above or below the mean for children.

The basic measures were in raw data. This permitted intergroup comparisons to be made without assignment of mathematical weights or scaled scores based on a population not a part of the original study.

Each principal, regular classroom, special education, diagnostic-prescriptive, and resource room teacher who participated in the study was asked to fill out a questionnaire about perception of roles of teaching personnel and ancillary personnel functioning within the new organizational pattern.

There are a number of hypotheses that can be made in connection with this study. They are:

1. The new organizational pattern will allow administrators, regular education, and special education teachers the opportunity to change their attitudes positively toward handicapped children.

2. The changed organizational pattern will provide more services that administrators, regular education, and special education teachers may utilize to meet the needs of handicapped children.

3. Academic abilities, as measured by reading achievement, will improve significantly as a result of the new organizational pattern which stresses individualized instruction and integration within the regular classroom.

4. The social behavior of students participating in the experimental situation will improve significantly through participation in the program.

Training Program

When the design for implementing the new organizational pattern in schools was completed, a three-phase training program was planned:

Phase I - The first workshop was held at Lone Oak Elementary School, Montgomery County, between June 22 and August 1, 1969.

The goals of this workshop were to orient selected teachers to the design itself; to orient participants of the new roles and expected roles associated with the design; to train teachers to observe and interpret children's classroom behavior effectively; to provide a broad overview of diagnostic and prescriptive teaching techniques; to provide financial and academic incentives for teacher participants.

Financial and academic incentives were accomplished by granting special study scholarships. These stipends provided a weekly stipend of seventy-five ($75.00) dollars for each participant plus tuition costs for six graduate credit hours. Contractual arrangements were made with Loyola College, Baltimore, Maryland, to establish two new courses. These courses are as follows:

S. Ed. 625 Introduction to Diagnostic and Prescriptive Teaching

S. Ed. 626 Psychological Aspects of Diagnostic-Prescriptive Teaching

Participants number thirty-two (32). The actual breakdown of the participants is as follows:

A. Special Education Teachers - Elementary

1) S.L.D. - 7
2) E.M.R. - 4
3) S.E.M. - 2

B. Regular Classroom Teachers - Elementary

1) Grade 1 - 6
2) Grade 2 - 1
3) Grade 3 - 0
4) Grade 4 - 1

C. Remedial Reading Specialist

1) Remedial Reading - 2
2) Remedial Math - 1

D. Floating Teachers - Elementary

1) S.L.D. and E.M.R. - 3

E. Special Education - Junior High

1) S.L.D. and E.M.R. - 4

F. Curriculum Specialist

1) Special Education - 1

Participants were chosen from the four selected areas. Eight Eastern Shore teachers who were interested in having some teachers trained for resource rooms to be established also participated.

As a result of this workshop, there were notable attitudinal changes of teachers toward children with learning problems. Teachers began to see how they could identify children with potential learning problems and effectively plan a program based on the child's needs. The presence of special education supervisors and periodic visitations

made by their principals heightened the interest teachers had for the model. The teachers realized that the principals were totally committed to this program and would provide as much assistance as they were able to give to insure success of the model.

Phase II - This phase was held at Loyola College, Baltimore, Maryland, bi-monthly on Saturdays between October 1969 and May 1970.

Further instruction in the area of diagnosis and prescriptions was given. Task analysis was the key stressed in consideration of an appropriate prescription.

Phase III - This phase was held at Bryant Woods Elementary School, Columbia, Maryland, between June 22, 1970 and July 31, 1970.

Practicum experience was stressed and provided.

Data Collection

In June 1970, all school personnel in the four areas were asked to complete a few questionnaires. The principals were asked to fill out three questionnaires. One questionnaire pertained to general background, personnel, and school. The second questionnaire was in regard to the perception of their role and the roles of regular classroom teachers, ancillary personnel, the diagnostic-prescriptive teacher (Program II), and the resource room teacher (Program IV). The third questionnaire pertained to their attitudes toward the first year's implementation of A Design for a Continuum of Special Education Services.

The regular classroom teachers and ancillary personnel were asked to complete two questionnaires. One questionnaire pertained to a year-end evaluation of the Continuum model. The second was in regard to

the perception of their role and the roles of principals, ancillary personnel, diagnostic-prescriptive and resource room teachers.

Data from Principals (Experimental)

The data gathered from the general questionnaire indicated that all four principals from the experimental schools held principal certificates for elementary schools. The number of years as a principal in all cases was less than five (5) years. Enrollment, kindergarten through grade three (K-3), ranged from two hundred eighty-one (281) to four hundred fifty (450). Teachers receiving services from supportive services outlined in the Continuum numbered forty-three (43). Three of the four experimental schools were listed as county schools and one was listed as an inner-city school serving a variety of socio-economic levels within the school.

In all four schools there were existing special education classes. These classes were designated as either "E.M.R." or "S.L.D."; E.M.R. representing classes for the "educable mentally retarded" and S.L.D. representing classes for children with "specific learning disabilities." However, these classes were so located that segregated classes for exceptional children were noticeable.

The feeling toward placement in special education classes for behavior problem children or for children failing academically was "extremely favorable." By this, the traditional concept of special education was upheld. The feeling centered around the belief that special classes would correct the child's problem even if the child had to remain in these classes throughout the elementary grades. Since this statement is true and special class placement is desirable

for severely handicapped children, further questioning indicated that some children in these classes were placed as early as the first grade with little or no opportunity to be integrated in the regular classroom. Placement in the special class was based primarily on the recommendation of the school psychologist's report and findings of "below normal intelligence."

A concern noted by all principals was the lack of funds and trained personnel which restricted them from providing services to children.

When the philosophy and rationale of the Continuum design for this study was explained, all four principals from the experimental schools expressed the desire that the design be implemented in their schools. They stated that they were willing to attempt almost anything to bring more services to children.

Although the principals accepted the philosophy of integrating exceptional children into regular classes, responses from the questionnaire revealed that these children were only being integrated with normal children the following activities: 1) physical education, 2) music, 3) assemblies, and 4) certain clubs at the school (examples: Cub Scouts and Brownies).

Perceptions of Principals (Experimental)

The roles of principals, regular classroom teachers, ancillary personnel, and diagnostic-prescriptive teachers have been listed in a Handbook for the Continuum (Appendix A).

In reference to their own roles, principals viewed themselves as decision makers providing leadership within the organization of the school. The perceived role of the principal included the following items which were heavily stressed by all principals. These included:

1. Coordinating curriculum development
2. Assigning professional duties and teacher responsibilities
3. Coordinating ancillary services and assisting with scheduling of pupils for these services
4. Providing service to the education team; acting as chairman
5. Communicating with parents about the individual needs of their children (what services are taking place within the school and what services they may avail themselves outside the public school)
6. Coordinating purchasing for the school and its faculty and overseeing building maintenance and school modifications.

As one peruses these itemized perceptions of roles, one sees that the principal is a generalist. The principal sees himself as responsible for the total organization and operation of his school.

Principals' perceptions of regular classroom teachers, diagnostic-prescriptive teachers (Program II), and resource room teachers (Program IV) follow:

1. The role of the regular classroom teacher, from the principal's viewpoint, is one of a generalist.
2. The teacher is responsible for providing educational opportunities for children in her class.
3. The regular class teacher provides avenues for curriculum change. She must relate positively to the children in her class and utilize existing ancillary services in the school if the need arises.

In specific reference to the implementation of the Continuum model, the principal perceives the responsibility of the regular classroom

teacher to be expanded to include:

1. Observing and making referrals for children suspected of having a learning or behavioral problem

2. Implementing an educational program developed by the diagnostic teacher

3. Gathering additional information about the child from discussions with parents which, when communicated to the diagnostic teacher, confirms suspicions derived from diagnostically teaching the child, leading to a more accurate diagnosis and educational program

4. Communicating with parents about:

   a) The nature of the pupil's learning problems as explained to her by the diagnostic-prescriptive teacher

   b) The school's role in correcting and remediating the pupil's problem

   c) The parent's role in assisting their child in the home

In regard to the diagnostic-prescriptive and resource room teachers, the principal understood the roles of these teachers to be:

A. As Program II Teacher -

1. Educationally assess children referred by the regular classroom teacher or other personnel

2. Identify, through teaching strategies, the academic strengths and weaknesses of the referred child (then develop a learning profile)

3. Demonstrate the use of suggested materials to the regular classroom teacher.

B. As Program IV Teacher -

1. Group one to six children based on similarities as illustrated by the learning profiles

2. Provide intensive tutorial and/or remedial services to children

3. Communicate with principal, regular classroom teachers, and parents about the progress the child is making.

These statements are the result of pre-test data gathered in October 1970. Post-test data was gathered in June 1971 from principals regarding their role and the roles of regular classroom teachers, from the two additional teachers added to the faculty, and from the ancillary personnel.

Basically, the role of the principal, as is perceived by him, has not altered; however, it was commonly stated that as coordinator of all school activities and necessary modifications in class size, curriculum, etc., it appeared easier for him to plan since he is more aware of the variety of learning patterns at the primary level. Principals were not only acutely aware of children who needed specialized services, but were also familiar with programs that, when initiated, would hopefully meet the children's needs.

Regarding regular class teachers' roles, the principals' perceptions remained primarily the same; however, the principal did note that the regular class teacher provided greater educational opportunities for children in her class. The regular class teacher was consulting more frequently with the diagnostic-prescriptive and resource room teachers than when the program began. The attitudes of the regular class teachers toward special education had altered slightly. (The regular class teacher accepted mild or moderately handicapped children back into her class because she was able to utilize services never before offered.)

The perception of the role of diagnostic-prescriptive and resource room teachers was confirmed by the principal. The responsibilities and functions of these people as first outlined were actually taking place. The teacher in Program II was in fact providing educational assessment

for children referred to her. She was identifying children with potential learning problems early, utilizing a variety of teaching techniques.

Under Program IV intensive remedial and tutorial services were being provided to those in the resource room. Small groups of three to six children would be scheduled throughout the day to receive that which would allow them to compete with their peers in the regular classroom. The attitudes of children toward school changed, their self-confidence grew, and they were motivated to do well in their school work. Behavior, which was once inappropriate, was empirically modified and children were returned to their regular classroom.

In a follow-up interview with the principals about the design and the feasibility for expanding the model, comments were gathered concerning their role in the program and the roles of the personnel.

During the average school month, with one school's exception, approximately twice a week the principal would visit and discuss the children's progress and unsolved problems with the diagnostic-prescriptive and resource room teachers. This was done formally or informally. The principals observed the children in the resource rooms as often as in the regular classroom. This perhaps is a most significant step forward. Prior to the implementation of this design, the principals rarely, if ever, observed children in special classes.

The two additional faculty members were perceived as experimentalists and consultants. These teachers supplied the principal with accurate and up-to-date information regarding children assigned to them.

Finally, the third questionnaire principals were asked to complete is summarized below. (This questionnaire is also in the Appendix.)

In four of seven responses made by principals and vice-principals, their attitude toward the Continuum model was "Highly Positive." The remaining three responses were "Positive" in their attitude toward the Continuum.

Comments made by some administrators have been extracted from the questionnaire and presented here as testimony for a positive attitudinal set.

Said one principal:

> "As I reflect on the strengths and weaknesses of the Continuum program this last year, the results ... gratifying, ... I personally feel most of the objectives were achieved, and our pupils derived much benefit from the program."

Another principal mentioned:

> "I would prefer both of the above (diagnostic-prescriptive and resource room teachers) to the elimination of some existing services in the schools."

From the inner-city school comes the following remark:

> "If I had no other choice, I would request a diagnostic-resource room teacher who is capable of working with teachers, providing suggestions, and working with children using remedial techniques."

The above excerpts confirm, at least in the author's mind, that with a strong understanding of the Continuum design among administrators, a strong flexible program and services evolve.

The preceding has focused on the principal's perception of his role and the roles of regular class teachers and diagnostic-prescriptive and resource room teachers. The following will be a discussion and summarization of the regular class teachers' perception of their role and the roles of principal and diagnostic-prescriptive and resource room teachers.

Perception of Regular Class Teachers (Experimental)

In regard to the perception of their own roles, regular classroom teachers saw themselves working with a set or established curriculum. Further they viewed themselves as classroom management specialists which means the class was divided into groups according to performance ability during certain school periods. The regular class teachers adhered to the policies and regulations set forth by the principal. These policies and rules set forth ways in which the regular class teacher was to discipline the children in her class, as well as the record keeping expected by the principal.

The regular class teachers' perception of the principal centered on the coordination of all school activities. The principal is the key for providing innovative changes either in the structure of the school or the curriculum of studies. He is responsible for keeping the faculty informed of all changes that will take place in the school and is a liaison between parents and the community. He is to provide for conferences either formally or informally to discuss problems and to provide supervision for the regular class teacher. Perhaps most importantly, he encourages teachers to continue and carry out their ideas for innovation in the classroom.

The diagnostic-prescriptive and resource room teachers were perceived as rendering consultative services to them (the regular class teachers) as well as educationally assessing children referred by them. Educational programs would be developed for children who might be aptly served in the regular classroom with a slight curricular change or a technique to modify behavior. Demonstrations of materials and techniques were perceived as the responsibility of the two additional faculty members. More specifically,

the regular classroom teachers perceived the resource room teachers responsibility as one which provided direct remedial or tutorial services to small groups of children. Material, once identified that would help the child, would be sent to the regular classroom for follow-up acvitities; modified materials may be sent to the regular classroom; and recommendations might also be suggested to the regular class teacher as part of her role. Finally, these teachers are members of an educational team providing needed services for referred children.

Post-test data from regular class teachers regarding their perceptions of themselves as teachers, of principals, and of the two additional faculty members remained primarily the same; however, there were some positive changes noted. The regular class teacher perceives herself as the key to the success of the implementation of the Continuum. She has become more aware of children's individual differences regarding academic, social, and emotional growth. She has become an observer, attempting to identify and interpret certain behavioral patterns and responses. The regular class teacher through consultation with the diagnostic-prescriptive and resource room teachers, has become an innovator and experimentalist within her classroom. But most importantly she has been able to find out for herself that she is capable of handling mild to moderately handicapped children in her classroom. This last statement indicates a positive change in attitude associated with handicapped children.

The principal's role, as the regular classroom teacher views it, has changed very little, although he does participate in a staffing and is more aware of the needs of the children.

The diagnostic-prescriptive and resource room teachers have provided

the regular classroom teacher with educational programs and materials. The resource room teacher has also provided intense tutorial and remedial services to children identified as having learning problems. This teacher provides individualized instruction for children previously labeled "educable, mentally retarded", "emotionally disturbed" and/or "specific learning disability." According to the regular class teacher, the two teachers added to the faculty under the Continuum, plus their summer workshop, are primarily responsible for her change in attitude.

A follow-up interview revealed and confirmed the role of the diagnostic-prescriptive and resource room teachers to be consultative, tutorial, and remedial. Competencies as a material specialist were also noted. In view of the entire program, the regular classroom teacher viewed herself as part of an educational team trying to help children learn better. The working relationship between regular class teachers and the two additional teachers under the Continuum is due to the additional services provided children in the regular class of the teacher. At least once a month and as frequently as thrice a month, the regular class teacher will discuss the progress or in some cases the lack of progress their children are achieving while enrolled in the program (Program II or IV).

According to the regular class teachers, this design provides individual help for children who need help, builds self-confidence, provides specially adapted materials, necessitates communication among all school-based professionals, and finally, affords the opportunity for demonstrations of a variety of teaching techniques.

In addition to the role perception questionnaire, teachers were asked to react to a six-question open-ended questionnaire. The results of this questionnaire and comments from teachers follow:

1. Have you used the services of the diagnostic-prescriptive teacher or the resource room teacher?

   If not, why not?

   Comments are as follows:

   "Yes, constantly."

   "Yes, I feel that they have helped my children a great deal."

   "I have used the diagnostic-prescriptive teacher but not the resource room teacher. I have not had the need for her services."

   "Yes, the diagnostic-prescriptive teacher has been helpful in identifying children with special learning problems. She has also assisted in coordinating learning problems of children assigned to S.L.D. but who also work in the regular instructional program part of the day. The resource room teacher has provided a crisis resource room center for children lacking emotional control."

In brief, approximately ninety-five (95) percent of all teachers served have made a referral to the diagnostic-prescriptive teacher (Program II) or to the resource room teacher (Program IV). Of these children referred by the regular classroom teachers, principals, etc., approximately seventy-seven and one-half (77½) percent received services.

2. If you have worked with the diagnostic-prescriptive teacher or the resource room teacher, was she helpful? How?

   Comments follow:

   "Yes. Both have rendered commendable service to children who have had difficulty functioning in a regular classroom."

   "Absolutely"

   a) Giving suggestions regarding weaknesses and strengths of my students.

   b) Reinforced my "clinical impressions and hunches with testing in certain areas."

   c) "Team approach" in planning programs for my students.

In brief, of the approximately ninety-five (95) percent of the regular classroom teachers receiving services, all felt that the diagnostic-prescriptive teacher was helpful in identifying problems children had, developing individualized programs, preparing material, suggesting activities in their classroom, meeting the individual needs of children, offering practical approaches and workable techniques with children on a small-group basis, interviewing referring teachers for follow-up.

3. Do you feel the diagnostic teaching program or the resource room program duplicates other services available to you through the school system? If so, which ones? If not, how is it unique?

Comments follow:

"All teachers utilize diagnostic techniques to improve instruction but the regular classroom teacher cannot be expected to conduct a diagnostic-prescriptive program such as a diagnostic-prescriptive teacher might provide. The diagnostic-prescriptive program is <u>not</u> a duplication of the services."

"I believe the diagnostic-prescriptive teacher is unique because she is especially trained to deal with all types of learning problems."

"I think it is unique in its ability to diagnose special physical problems and prescribe corrective programs. It not only services the pupils, but the teachers as well."

"It is unique in that the trend is toward individualized instruction for children. There is a specialized professional personnel available to attempt to prevent learning handicaps through early identification and diagnosis to keep the child in the regular classroom."

In brief, eighty-give (85) percent of the teachers receiving services under the Continuum felt that the services provided through the diagnostic-

prescriptive teacher and resource room teacher were unique. Fifteen (15) percent of the teachers felt the resource room services might be duplicated through corrective reading.

4. What, in your opinion, is the most important thing the diagnostic-prescriptive teacher does?

Comments follow:

"Diagnostic teaching with individual children."

"She provides a supplementary, enrichment program for needy pupils."

"She is able to work on a one-to-one relationship in trying to remediate specific learning problems. The contact can be very intimate and the instruction highly individualized."

"Helps the teacher find the best method for teaching individual children."

"Diagnoses the learning problem and helps the regular classroom teacher work more effectively with the child."

In brief, the majority of the teachers saw the importance of the diagnostic-prescriptive teacher in terms of supplemental and supportive help to the regular classroom teacher. Examples of support are viewed as recommended new teaching techniques, materials, educational programs.

5. What, in your opinion, is the most important thing the resource room teacher does?

Comments follow:

"She works very effectively in helping children with basic learning skills, and helps them to gain self-confidence."

"Individual attention to children's "specific" disabilities -- intervenes remediation instead of the "hit and miss" situation in the classroom."

In brief, the majority of the teachers visualized the importance of the resource room teacher as one who works individually or in small groups with children. She initiates and implements the educational

program and may also supply material to the regular classroom teacher.

6. How do you think the Continuum program can be improved?

Responses to this question will be discussed under the subtitle of Recommendations in Chapter IV.

Perceptions of Diagnostic-Prescriptive and Resource Room Teachers (Experimental)

The diagnostic-prescriptive teachers who had attended workshops to develop certain competencies and skills viewed their role as an educational diagnostician, working independently and jointly with the regular class teacher and other personnel. The diagnostic-prescriptive teachers (Program II) are responsible for preparing learning profiles, educationally assessing children referred, developing educational programs, preparing materials the regular classroom teacher might utilize in her class, and finally, demonstrating various teaching techniques to the regular classroom teacher.

In light of the above, the regular classroom teacher was viewed as a constant source of referrals and agreeable to curriculum adjustments since the teacher already had the child in her class. The regular classroom teacher was viewed also as one working with a set curriculum with a number of children within the framework of the public school; but most importantly, the regular class teacher was viewed as the key for the success of the program.

The principal was viewed as a member of the staffing team to review and finalize placement for the children in the program. He was the liaison among parents, community, and services within the school. The principal was viewed as an authority and the coordinator of all school activities.

Post-test information from the two additional teachers (Programs II and IV of the Continuum) had not altered greatly. During the pre-inservice days prior to school opening, the Continuum services were presented to teachers. These teachers provided educational assessments and developed learning profiles for those children referred from regular classes. These teachers regularly observed the referred children in their classrooms. Materials were prepared and distributed to regular classroom teachers so that they would be able to retain children in their classes. The resource room teacher (Program IV) did in fact provide tutorial or remedial services for those children she had scheduled to come to her room. Finally, they acted as consultants to regular class teachers and other personnel.

The regular classroom teacher still remained a constant referral source but, according to the diagnostic-prescriptive and resource room teachers, was more aware of the individualized needs of the children in the regular class. The regular classroom teacher modified her approach to learning and curriculum presentation through consultation with the diagnostic-prescriptive teacher. The regular classroom teacher utilized a variety of teaching strategies, rather than simply continuing with a technique proven to work over a period of years with a small percentage of "normal" children in the class. Even more emphatically than before, the regular classroom teacher was viewed as the key for the success of the project.

The principal from the experimental schools now actively participated as a member of a staffing which reviews the progress of the child and finalizes recommended placement. He was more aware of the children's needs, in essence the school's needs, and he visited these classes more frequently than the self-contained classes of the past. The principal

was still responsible for coordinating all school activities and, in some cases, for initiating curriculum changes in the school.

A follow-up interview which was conducted after the questionnaires were returned reinforced answers given in the questionnaire. Results of this interview supported the role of the regular class teacher as a teacher-educator with all children, a constant referral source open to curriculum change, and the key to the success of the program.

According to the interview, the diagnostic-prescriptive and resource room teacher's perceived notions of how the principals viewed them ranged from "just another special education teacher" to an educational diagnostician and consultant.

All diagnostic-prescriptive and resource room teachers reported that they were helping children achieve academically, modifying their behavior, developing good self-concept, and working directly with the teachers by providing materials and assistance in lesson planning and innovative methodology for presentations.

The preceding views were gathered from principals, regular classroom teachers, and special education teachers who include the two additional teachers (Program II and IV) in an experimental setting. The following are views of roles gathered from principals, regular classroom teachers, and special education teachers (not to include additional teachers as under Program II and IV) in a control situation.

Data Collection (Control)

As with the principals from the experimental schools, principals from the control schools were asked to fill out a general questionnaire.

The results of this questionnaire follow. All four control school principals held principals' certificates for elementary schools. The approximate number of years ranged from less than five years to thirteen years. The enrollment in the four schools (K-3) ranged from two hundred seventy-five (275) to four hundred thirty-one (431). The number of K-3 teachers ranged from eleven (11) to fifteen (15). Three of the four schools were county schools, while one was an inner-city school.

In all four schools there were special programs for educable mentally retarded children and/or children with specific learning disabilities. Three of the four control principals advocated self-contained classes; i.e., these principals believed the best way children who were "mentally defective" or "behavior problems" could be educated was in segregated, self-contained classes. The fourth control principal advocated the philosophy of the Continuum but was unable to move in this direction due to manpower shortage.

Control principals advocated integrating children in special classes during music periods and school assemblies. Two principals favored integration of children in special classes during physical education, athletics, and socials, while two did not.

Perceptions of Principals (Control)

The principal, as reported, was responsible for coordinating all school activities, acting as the decision-making head for the school. He planned faculty meetings to keep his faculty aware of any change to be initiated in the school. He scheduled conferences either formally or informally with his teachers, listening to their problems and complaints. He kept in close contact with the county or city Board of Education to

keep abreast of changes (either academic or physical) in the hope of adding better quality to "regular" education.

The regular classroom teacher was viewed as having several exacting competencies. She was not only to know what the grade requirements were but also to act as a mother, a disciplinarian, and a recorder. A regular classroom teacher had to have an innate love for children and work well with other teachers. Further, she is a person who adheres to the rules of the school, often times is a member of the community, and is certified as a teacher of elementary children in that state.

The principals viewed the special education teacher as a regular classroom teacher who had taken some course work in "exceptional children" and wanted to work in smaller classes. In essence, the principals' attitudes toward special education teachers were that they were "lazy" or that they were strictly remedial reading or math teachers. They did not work with a regular class curriculum supposedly geared to meet the needs of the child, but instead they utilized a variety of materials of workbooks while remediating the child.

Post-test data gathered in June 1971 showed little change in role responsibility.

Perceptions of Regular Class Teachers (Control)

From regular class teachers' questionnaire response, it was obvious that they perceived their role as providing and directing learning for all children in their classes. They must also provide guidance and counseling. They work within the framework of goals set forth by the school and established by the local boards of education; they work with

ancillary personnel only when the need arises.

As reported by regular class teachers, principals are responsible for coordinating all school activities and providing leadership within the school. They are the spokesmen for the entire faculty and a liaison among parents, community, and the school. They develop yearly budgets and set the stage for learning.

According to the regular class teacher, the special education teacher is assigned to teach "behavioral" problem children referred by the classroom teacher in a segregated environment. She utilizes a variety of materials and possesses a "special love for these types of children." Finally, the special education teacher is a remedial teacher providing tutorial services or play opportunities for these children.

Little variation in role perception was noted in post-test results in June 1971.

In addition to these items listed previously, the regular class teacher feels that she is responsible for teaching a variety of subjects in order to develop certain competencies within the child. She follows rules and adjusts her teaching to the goals of the administration. She must be, and is, aware of the needs of the children in her class. Finally, she practices new and innovative ideas only with the permission of the principal.

The principal, however, has the role of visiting classes, supervising instruction, and supporting the teacher in time of need.

Perceptions of Special Education Teachers (Control)

Some adverse feelings were noted concerning the role of the special education teacher in the June questionnaire. According to data gathered,

responses indicate that special education is primarily a haven for all children who are unable to work within a regular class. It is also thought that the special education program is not educationally oriented but merely a "baby-sitting" service. Special education teachers perceive themselves responsible for providing intensive tutorial services for children assigned them. They are responsible for modifying behaviors, correcting academic problems (if possible), and determining whether the child may return to the regular class the following year.

The regular class teacher is responsible for providing general education for all children. The regular classroom teacher is more concerned with the normal children in her class and is usually too busy to provide individualized instruction for those who deviate from the norm.

According to special education teachers, the principals are responsible for coordinating all school activities, setting down the rules for the staff and school, and holding faculty meetings to keep his staff up to date. He provides little supervision because he is unsure of what special education is trying to do.

Post-test data from the control schools showed little change in role perception first gathered in October, 1970.

Analysis of Data

Before proceeding further, a discussion of the questionnaire results relating to the first two hypotheses of the study follow.

The first hypothesis as stated follows: The new organizational pattern will allow administrators, regular education teachers, and special education teachers the opportunity to change their attitudes positively toward handicapped children.

Pre-test and post-test data confirm this hypothesis. As the model was implemented in September 1970, the theory expounded during the workshop became a reality. In March 1971, when principals actively participated in staffings about children with learning problems, they attempted to introduce appropriate youngsters into the design. They also saw the feasibility of integrating exceptional children back into the regular class. Regular classroom teachers, by virtue of the supplemental services provided them, were more willing to accept once-referred children back into their class. They also began to consider the individual differences of children in their class. They also developed certain competencies regarding the interpretation of behavior and potential problems associated with certain behaviors.

The second hypothesis reads: The changed organizational pattern will provide more services that administrators, regular education teachers, and special education teachers may utilize to meet the needs of handicapped children.

In each experimental school, two additional teachers with diagnostic-prescriptive competencies were assigned to the school. As a result, the regular classroom teacher referred different children to the diagnostic-prescriptive teacher (Program II) or consulted either teacher (Program II or IV) about techniques or materials with which she might avail herself. Inservice teacher meetings provided the regular classroom teacher with information concerning behavior exhibited by children in the classroom. Principals also availed themselves of the additional services. They made more visits to resource rooms and self-contained classes and discussed the progress of children in the new program. As a number of the staffing principals became more aware of children needing special services, they reviewed the progress of those children in the program and assisted

in recommending placement for others. The diagnostic-prescriptive teacher and resource room teacher not only provided the principal and the regular class teacher with additional information about children they were working with, but they also provided the "educational assessment." The emphasis is on "how" because in the past months elapsed before a child with a potential learning problem could be seen by a psychologist. Therefore, with this data, hypothesis two is affirmed.

Tables 2 through 5 summarize data in regard to hypothesis three which states: Academic abilities, as measured by reading achievement will improve significantly as a result of the new organizational pattern which stresses individualized instruction and integration within the regular classroom.

Individually, the results of reading achievement will be discussed as follows:

Table 2 illustrates mean, standard deviation, and level of significance between experimental and control groups on pre-test testing for Baltimore County (Vocabulary and Comprehension).

The mean pre-test score for the experimental group for vocabulary was 12.375. The control group's mean score was 16.411. Post-test mean scores for the experimental group were 29.375 and 28.893 for the control group. The difference between pre-test and post-test scores for the experimental group was 17.000 and12.964 for the control group. There is no level of significance. In comprehension the mean pre-test score for the experimental group was 5.161. The control group's pre-test mean was 10.714. Post-test scores show a post-test mean of 20.786 for the experimental group compared to a 19.964 post-test mean for the control group. The gain difference of 15.625 for the experimental compared with gain difference of 9.250 for the control yielded experimental/ control significant at the .01 level.

Table 3 illustrates mean, standard deviation, and level of significance between experimental and control groups on pre-post-testing for Baltimore City (Vocabulary and Comprehension).

The mean pre-test score for the experimental group in vocabulary was 9.836. The control group's mean pre-test score was 11.559. Post-test mean scores were 22.455 for the experimental group and 19.221 for the control group. The difference between pre-test and post-test scores yielded a Probability (P) of 3.13. This means that the experiment group/control group for vocabulary significant at the .01 level. In comprehension the mean pre-test score for the experimental group was 3.273 compared with 4.500 for the control group. Post-test means yielded a mean score of 12.073 for the experimental group and 8.912 for the control group. The difference between pre-test and post-test scores was 8.800 for the experimental group compared with a difference of 4.412 for the control group. Results indicate the experiment/control significant at the .01 level.

Table 4 illustrates mean, standard deviation, and level of significance between experimental and control groups on pre-post-testing for Howard County (Vocabulary and Comprehension).

The mean pre-test score for the experimental group in vocabulary was 13.839. The control group's mean pre-test was 16.262. Post-test mean scores were 20.823 for the experimental group and 25.786 for the control group. Difference between pre- and post-test scores for the experimental group was 6.984 compared with gain difference of 9.524 for the control. The results indicate there is no statistical significance. In comprehension, the mean pre-test score for the experimental group was 9.371 and 9.976 for the control group. Post-test values

show mean scores of 12.694 for the experimental group and 16.214 for the control group. The difference indicates control/experimental significant at the .05 level.

Table 5 illustrates mean, standard deviation, and level of significance between experimental and control groups in pre-post-testing in Prince George's County (Vocabulary and Comprehension).

The mean pre-test score for the experimental group was 14.282 and 13.108 for the control group in vocabulary. Post-test means show the experimental group received a mean score of 24.294 compared with 26.243 for the control group. The results are not significant. In comprehension, the experimental group received a pre-test score of 8.918 compared with control group's score of 5.5186. Post-test data show the means of the experimental group to be 14.871 compared with 15.554. The results indicate that control/experimental significant at the .01 level.

Tables 6 and 7 summarize data gathered in all schools for vocabulary and comprehension.

The results, as indicated in these tables, substantiate that in fifty (50) percent of the experimental schools hypothesis three, was affirmed; fifty (50) percent rejected this hypothesis.

Reference to hypothesis four reads: The social behavior of students participating in the experimental situation will improve significantly through participation in the program.

TABLE 2

MEAN, STANDARD DEVIATION, AND LEVEL OF SIGNIFICANCE BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON PRE-POST TESTING FOR BALTIMORE COUNTY

VOCABULARY AND COMPREHENSION

Group	*N	VOCABULARY Mean Pre	VOCABULARY Mean Post	VOCABULARY Standard Deviation Pre	VOCABULARY Standard Deviation Post	VOCABULARY Level of Significance Values	VOCABULARY Level of Significance L.S.	COMPREHENSION Mean Pre	COMPREHENSION Mean Post	COMPREHENSION Standard Deviation Pre	COMPREHENSION Standard Deviation Post	COMPREHENSION Level of Significance Values	COMPREHENSION Level of Significance L.S.
Deer Park (Experimental)	56	12.375	29.375	9.411	9.280	30.091	P=2.28 N.S.	5.161	20.786	6.193	9.043	21.996	** P= 4.52
Randallstown (Control)	56	16.411	28.893	10.171	10.336	26.737		10.714	19.964	10.048	10.667	16.736	

* = Number
** P <.01

E/C

TABLE 3

MEAN, STANDARD DEVIATION, AND LEVEL OF SIGNIFICANCE BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON PRE-POST TESTING FOR BALTIMORE CITY

VOCABULARY AND COMPREHENSION

Group	N*	VOCABULARY Mean Pre	VOCABULARY Mean Post	VOCABULARY Standard Deviation Pre	VOCABULARY Standard Deviation Post	VOCABULARY Level of Significance Values	VOCABULARY Level of Significance L.S.	COMPREHENSION Mean Pre	COMPREHENSION Mean Post	COMPREHENSION Standard Deviation Pre	COMPREHENSION Standard Deviation Post	COMPREHENSION Level of Significance Values	COMPREHENSION Level of Significance L.S.
Coleman #142 (Experimental)	55	9.836	22.455	4.311	8.214	24.979	P=3.13**	3.273	12.073	2.628	5.422	14.485	P = 3.50*
Druid Hill #137 (Control)	68	11.559	19.221	5.692	7.631	20.518		4.500	8.912	4.369	3.619	10.543	

* = Number
** P < .01
E/C

TABLE 4

MEAN, STANDARD DEVIATION, AND LEVEL OF SIGNIFICANCE BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON PRE-POST TESTING FOR HOWARD COUNTY

VOCABULARY AND COMPREHENSION

		VOCABULARY						COMPREHENSION					
Group	N*	Mean		Standard Deviation		Level of Significance		Mean		Standard Deviation		Level of Significance	
		Pre	Post	Pre	Post	Values	L.S.	Pre	Post	Pre	Post	Values	L.S.
Ellicott City Elementary (Experimental)	62	13.839	20.8	6.384	8.368	20.497	P=2.06 N.S.	9.371	12.694	5.135	6.925	11.222	**P = 2.53
Elkridge (Control)	42	16.262	25.786	4.983	9.493	23.735		9.976	16.214	2.942	6.827	14.357	

* = Number
** P<.05
C/E

TABLE 5

MEAN, STANDARD DEVIATION, AND LEVEL OF SIGNIFICANCE BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON PRE-POST TESTING FOR PRINCE GEORGE'S COUNTY

VOCABULARY AND COMPREHENSION

Group	N*	VOCABULARY Mean Pre	VOCABULARY Mean Post	VOCABULARY Standard Deviation Pre	VOCABULARY Standard Deviation Post	VOCABULARY Level of Significance Values	VOCABULARY Level of Significance L.S.	COMPREHENSION Mean Pre	COMPREHENSION Mean Post	COMPREHENSION Standard Deviation Pre	COMPREHENSION Standard Deviation Post	COMPREHENSION Level of Significance Values	COMPREHENSION Level of Significance L.S.
Mattaponi (Experimental)	85	14.282	24.294	7.863	11.019	23.652	P=2.23 N.S.	8.918	14.871	5.844	8.279	13.687	**P= 3.11
Berwyn Heights (Control)	74	13.108	26.243	6.287	8.688	26.437		5.5176	15.554	5.920	8.017	16.754	

* = Number
** P <.01
C/E

TABLE 6

VOCABULARY - POST

	1	2	3	4
EXP.	24.3	20.8	29.4	22.5
CONT.	26.2	25.8	28.9	19.2

School 1 = Prince George's County

2 = Howard County

3 = Baltimore County

4 = Baltimore City

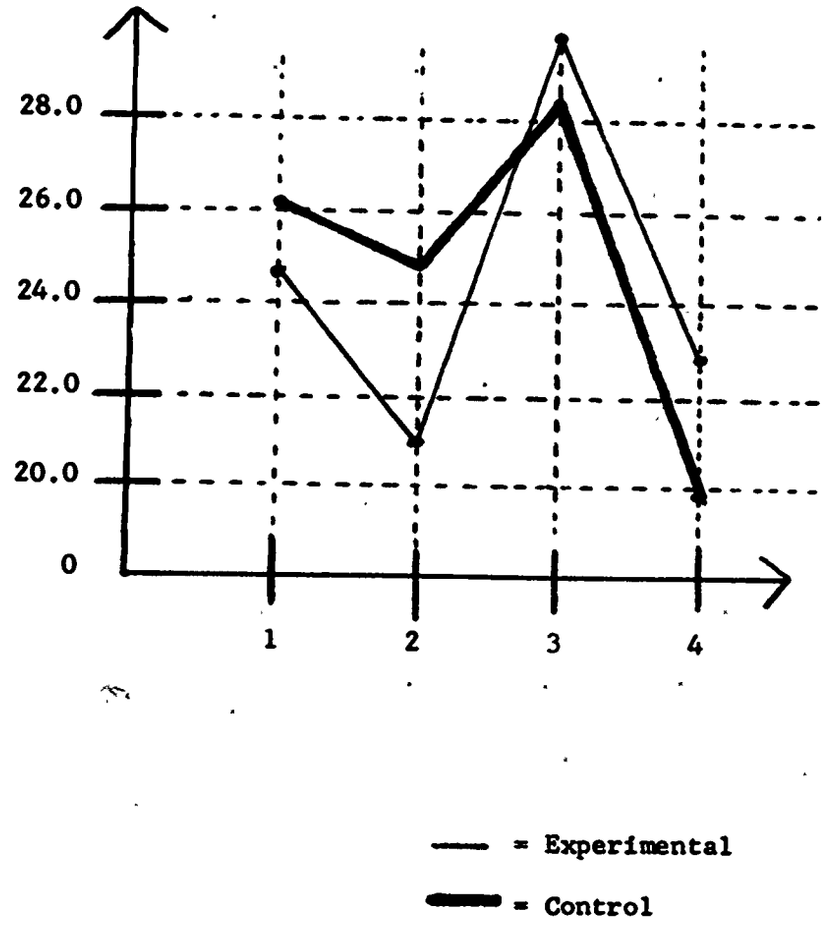


TABLE 7

COMPREHENSION - POST

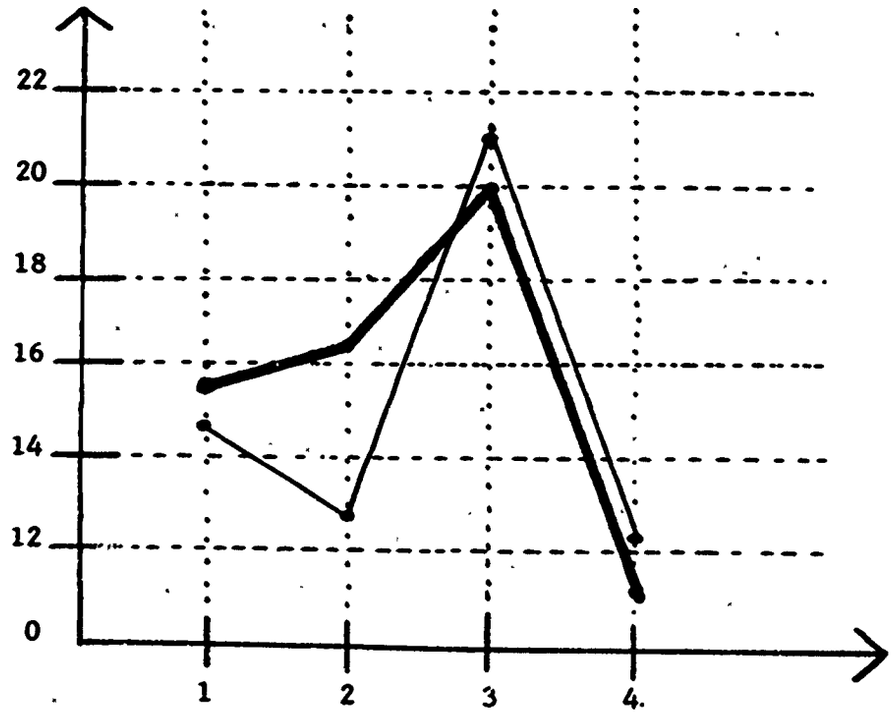
	1	2	3	4
EXP.	14.8	12.7	20.8	12.1
CONT.	15.5	16.2	20.0	9.0

School 1 = Prince George's County

2 = Howard County

3 = Baltimore County

4 = Baltimore City



= Experimental

= Control

To test this hypothesis, children enrolled in the first-grade classrooms of the experimental and control schools of two of the four participating school districts were included in this study. The social status scores of three hundred twenty-eight (328) children were included in the analysis of data. These children represented eight groups, four of which included seventeen (17) educationally handicapped children each. The remaining four groups each contained sixty-five (65) noneducationally handicapped children. The experimental school in Baltimore City and the experimental school in Howard County each contained seventeen (17) educationally handicapped children and sixty-five (65) noneducationally handicapped children. Similarly each control school had seventeen (17) educationally handicapped children and sixty-five (65) noneducationally handicapped children.

The results of the post-test analysis support hypothesis four as written. The mean social status scores of the educationally handicapped group enrolled in the Continuum were significantly superior ($P \leq .05$) to those of the educationally handicapped group who did not receive the services of the Continuum for Criterion 2 (cooperation in academics), Criterion 3 (team membership), and the Composite (total). The difference between the means of the latter two groups on Criterion 1 (proximity in seating) was not significant. The results also indicated the mean social status scores of the noneducationally handicapped group were significantly superior ($P < .05$) to the mean social status scores of the educationally handicapped children who were not enrolled in the Continuum. In addition, no significant ($P < .05$) differences were found between the educationally handicapped subjects who received the services of the Continuum and the

noneducationally handicapped children, both of whom were in the same classes with the exception of Criterion 3 (team membership) results. The latter finding actually indicated that the Criterion 3 mean of the educationally handicapped group enrolled in the Continuum was significantly superior ($P < .05$) to that of the noneducationally handicapped group. The results indicate the value of the Continuum program as a means of enhancing social behavior of physically integrated, educationally handicapped youngsters in the regular classroom. The findings also suggest the absence of a comprehensive program of intervention as the Continuum may cause integrated educationally handicapped youngsters to assume a lower social status position relative to their classmates.

Table 8. Analysis of Variance of Post-test Criterion 1 Scores.

Source	Degrees of Freedom	Mean Square	F
Category	1	631.099	6.907**
District	1	656.390	7.184**
Treatment	1	35.561	0.389
C x D	1	0.269	0.003
C x T	1	430.830	4.715*
D x T	1	86.049	0.942
C x D x T	1	64.954	0.711
ERROR 29239.873	320	91.375	

*p .05 Critical F for 1 and 320 degrees of freedom = 3.89.

**p .01 Critical F for 1 and 320 degrees of freedom = 6.76.

Table 9. Analysis of Variance of Post-test Criterion 2 Scores.

Source	Degrees of Freedom	Mean Square	F
Category	1	6.125	0.107
District	1	869.378	15.172*
Treatment	1	30.488	0.532
C x D	1	0.201	0.004
C x T	1	936.958	16.352*
D x T	1	35.561	0.621
C x D x T	1	70.419	1.229
ERROR 18336.320	320	57.301	

*p $<$.01 Critical F for 1 and 320 degrees of freedom = 6.76.

Table 10. Analysis of Variance of Post-test Criterion 3 Scores.

Source	Degrees of Freedom	Mean Square	F
Category	1	134.12	1.786
District	1	662.06	8.816*
Treatment	1	164.10	2.185
C x D	1	158.36	2.109
C x T	1	1363.46	18.157*
D x T	1	147.56	1.965
C x D x T	1	99.92	1.331
ERROR 24030.16	320	75.09	

*p .01 Critical F for 1 and 320 degrees of freedom = 6.76.

Table 11. Analysis of Variance of Post-test Composite Scores.

Source	Degrees of Freedom	Mean Square	F
Category	1	273.9	0.531
District	1	5680.6	11.016*
Treatment	1	437.9	0.849
C x D	1	178.2	0.346
C x T	1	7876.2	15.274*
D x T	1	625.6	1.213
C x D x T	1	663.3	1.286
ERROR 165010.1	320	515.7	

*p $<$ .01 Critical F for 1 and 320 degrees of freedom = 6.76.

Chapter IV

Summary, Conclusions, and Recommendations

Special education throughout the decade has concerned itself with children labeled mentally retarded or subnormal. Those children with specific learning disabilities and/or emotional disorders have also been candidates for the self-contained special education class.

Today there is a need to alter the traditional concept of special education. This study proposes a new organizational pattern that provides a variety of services to meet the needs of handicapped children. The philosophy of this pattern stresses the elimination of categorical labeling (at least for the educable mentally retarded, specific learning disability, and emotionally disturbed).

The lack of an adequate and flexible organizational pattern for handicapped children in the Maryland public schools prompted the research for this two-year study.

The problem associated with this study focuses on the development of an organizational pattern, flexible in nature, that could provide principals, regular education teachers, and special education teachers with a variety of services to meet the needs of handicapped children.

The theoretical positions of Ernest Willenberg and Maynard Reynolds, which outline steps and programs for exceptional children, reinforce the need for a model which alters the traditional concept of special education.

There are five programs contained within the model proposed in this study. These programs provide services for the mild to the most severe handicapping conditions found in the public schools.

The primary purpose of this study was to ascertain whether a model equipped with flexible programming might be implemented in public school. The reactions on the part of local superintendents, supervisors of special education, principals, regular class teachers, and special education teachers were studied and noted. The cognitive area, as well as the affective area, of children participating in the study was tested and analyzed. The roles of principals, regular class teachers, and special education teachers in the experimental schools were compared with their counterparts in four control schools.

This study took place in four experimental schools throughout the State:

a) Baltimore City - Coleman Elementary #142

b) Baltimore County - Deer Park Elementary

c) Howard County - Ellicott City Elementary

d) Prince George's County - Mattaponi Elementary

The selection of the schools which implemented the new organizational pattern was based on the total school population being between six hundred (600) and nine hundred (900); existing psychological services as well as itinerant speech and hearing services; availability of space; existing special education classes; and finally, a willingness on the part of the principals and the teachers to work within the constraints of the model. The schools which acted as controls had all of the above mentioned services with the exception of teachers under Programs II and IV of the Continuum.

Teachers selected to participate in the study under Programs II or IV were trained over a period of thirty weeks. The regular class teachers

from participating experimental schools were invited to attend a summer workshop for three weeks. Approximately half of the regular class teachers chose to participate.

In September 1970, the design was implemented in the schools. All children in grades one through three had been screened the preceding spring to identify those suspected of having a learning problem.

The results, as discussed in Chapter III, indicate an overall acceptance of the design by principals, regular education teachers, and special education teachers. Roles of personnel in the experimental schools have a marked contrast with their control schools. It is clearly evident that personnel in the experimental schools expect more from all school-based personnel than do those in the control population.

There is ample evidence to support the hypothesis that those handicapped children in the experimental schools received more services than their counterparts in the control schools, and further, that more handicapped children were served under this new design. There is also evidence to suggest that more services were afforded regular classroom teachers under the Continuum model than in control schools.

The first two hypotheses of this study were affirmed:

1. The new organizational pattern will allow administrators, regular education teachers, and special education teachers the opportunity to change their attitudes positively toward handicapped children.

2. The changed organization pattern will provide more services that administrators, regular education teachers, and special education teachers may utilize to meet the needs of handicapped children.

Children under the two types of organizational patterns were compared on academic achievement (reading achievement). Hypotheses three

and four:

3. Academic abilities as measured by reading achievement will improve significantly as a result of the new organizational pattern which stresses individualized instruction and integration into the regular classroom.

4. The social behavior of students participating in the experimental situation will improve significantly through participation in the program.

The results of the pre-post-test analysis between experimental and control on the vocabulary subtest of the reading test indicated there were no significant differences with the exception of the Baltimore City experimental school which was significant at the .01 level. Upon analysis of the comprehension subtest of the pre-post-test results, indications were that two experimental groups were significantly better than the control population. The level of significance was at the .01 level.

Principals, regular classroom teachers, and special educators have expressed a continued enthusiasm for this model. It was apparent through the follow-up interview with the personnel in the experimental schools that they favored this approach to educate handicapped children rather than the traditional special education self-contained approach to educate the handicapped child.

Some school-based statistics are related to this. Approximately ninety-five (95) percent of all teachers served have made a referral to the diagnostic-prescriptive teacher under Program II or the resource room teacher under Program IV. A total of five hundred thirty-four (534) children were referred by regular classroom teachers, principals, etc., out of a total school (K-3) population of fifteen hundred and nine (1509). Four hundred fifty-one (451) children of the five hundred thirty-four (534)

were seen indicating that approximately seventy-seven and one-half (77½) percent received specialized services.

A breakdown of referrals by reason of referral follows:

1)	Academic (learning)	228
2)	Behavior	93
3)	Behavior and Learning (Combination)	150
4)	Auditory Perception	9
5)	Visual Perception	4
6)	Motor (Fine and Gross)	14
7)	Physical (Multiple)	1
8)	Intellectually Limited	35

A breakdown of referrals by grade level:

Kindergarten	155
Grade One	157
Grade Two	98
Grade Three	95
Grade Four	10
Grade Five	4
Grade Six	1
Special Education	18

Some general recommendations that have been made to the regular classroom teachers by the Continuum staff include the following:

1) curriculum changes - including suggestions for sequencing material and word attack skills

2) elimination of some services already existing by virtue of an overabundance of services

3) recommending different materials be used in the regular classroom including more extensive use of audio-visual material and the library

4) some grade and class changes

5) methods for approaching classroom management

6) implementing a "physiology of readiness" for all kindergarten children

7) initiating cursive writing in second grade

8) parental involvement at home and school

9) utilization of different teaching strategies and techniques.

Some changes which principals, regular classroom teachers, and ancillary personnel have associated with the implementation of the Continuum in their respective schools follow:

1) a decrease in "grade-level only" teaching

2) a decrease in the need to follow a set curriculum--as the teacher became more aware of task analysis and individualization of instruction

3) an increase of teachers sharing ideas and materials

4) greater tolerance by regular class teachers for children with learning problems or those children who are slow (a more realistic goal expectation system was established jointly)

5) an increase in teacher awareness regarding individuality of children's learning patterns

6) greater flexibility to use other existing services

7) more informal interaction between teachers and teachers and students

8) better referrals from regular classroom teachers and awareness of children needing services

9) a mild change in the faculty's perception of special education.

Although it is too early to accept or reject this model in its entirety, further time and study are needed to explore all ramifications this design offers. Some other issues or research questions which need to be studied and are directly related to the successful implementation of this design are as follows:

1) certification requirements which would facilitate better and more appropriate teacher training in colleges and universities

2) a need to revise teacher training and teacher education at both the undergraduate and graduate levels

3) a need for continuous and expanded teacher re-training as EPDA has provided

4) a longitudinal study to continue for at least three years after the feasibility study has ended

5) the need to develop an additional step to the model to take into consideration those children which, for all intensive purposes, have been eliminated from receiving services because of the criteria we have established for each of the programs.

As a result of this study, the Maryland State Department of Education will continue the feasibility study for another year making changes based on the recommendations acquired over the past year.