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A COMPARISON OF SELF CONCEPT, ACADEMIC ACHIEVEMENT, ATTITUDE TOWARD SCHOOL AND ADAPTIVE BEHAVIOR OF ELEMENTARY SCHOOL CHILDREN IDENTIFIED AS EDUCABLE MENTALLY RETARDED IN FOUR DIFFERENT SCHOOL ENVIRONMENTS

by
Mary Elizabeth Bradley Lewis

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
(Education)
in The University of Michigan
1973

Doctoral Committee:

Associate Professor Percy Bates, Chairman
Professor M. Clemens Johnson
Associate Professor Frank Maple
Associate Professor Tony Milazzo

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The time had finally arrived, the long awaited "first committee meeting". Dr. Bates, the chairman, opened by asking, "Mary, what brought you to this point?" As I thought back over events to formulate the answer I found that I was giving grateful acknowledgment to the many people who had influenced my life to enable me to be at that "first committee meeting" - - -

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CHAPTER I

INTRODUCTION

Educators in the field of special education were abruptly shaken by Dunn (1968) when he dramatically proposed a moratorium on the expansion of classes for mildly mentally retarded students. Dunn took the position that; 1) "a large proportion of so called special education in its present form is obsolete and unjustifiable ..... 2) there needs to be an outline or blueprint for changing this major segment of education for exceptional children to make it more acceptable."

This position was viewed with alarm by those who were also feeling the impact of a growing body of litigation through which decisions affecting education were being made by judicial review. And, as always, the ever present problems of the rising costs cause educators to seek more economical ways of providing education for the handicapped.

As a result of these factors many school systems began to return the mildly mentally retarded student to the regular grades without due regard to their educational needs. It is in light of these problems that the present study has been undertaken. An attempt will be made to examine not only special class placement but also some alternatives which might be considered. The design of the present study differs from a controlled experimental study utilizing pretest and posttest. Rather, it is one of a comparative nature.

When Dunn (1968) reviewed the special class situation he pointed out that homogeneous grouping tends to work to the disadvantage of slow learners. However, when teachers and children were returned to regular classrooms complaints were received that the slow learners were frustrated by the more academic program and that the children were rejected by other students. An alternative might be placement in itinerant and/or resource rooms where there is a balance of contact between regular teachers and students and teachers of the mentally retarded and the educable mentally retarded student. He suggests that:

> There is an important difference between regular educators talking us into trying to remediate or live with the learning difficulties of pupils with which they haven't been able to deal; versus striving to evolve a special education program that is neither developmental in nature, wherein we assume responsibility for the total education of more severely handicapped children from an early age, or is supportive in nature, wherein general education would continue to have central responsibility for the vast majority of the children with mild learning disabilities-with us serving as resource teachers in devising effective prescriptions and in tutoring such pupils (p.11).

While educators were still reacting to Dunn's position on special classes they were further alarmed by litigation resulting from suits against public schools for placing certain children in special classes. Such suits have raised a basic question: Who will direct educational decisions, judicial or educational leaders?

Judicial opinions have been delivered concerning; the right of a child to an education even though excluded from school (Beattie v. Board of Education, 1967); the right of a child to not be segregated on basis of race (Brown v. Board of Education, 1954) the idea that homogeneous grouping can be detrimental to slow learners and the underprivileged (Judge Wright, 1967); the right of a child to be tested in his native language (Diana v. Board of Education, 1970); and the right of parents to refuse placement and to receive compensation if placement has been detrimental (Arreola v. Board of Education, 1968).

Decisions handed down as a result of these cases justifiably caused educators to look with some alarm at existing programs and plans for expansion of services.

The rapid expansion of special programs in the late 1960's has caused a drain on special tax monies. As a result there has been a more careful examination of programs and attempts made to lessen the hardening of categories which might limit the fair distribution of funds among the different programs. Legislators are asking for more definitive models for education and are demanding an accounting of the programs in terms of proper educational goals for the student for whom the program is designed.

Special classes for Educable Mentally Retarded are reported as long ago as seventy-five years with many criteria given for placement of children. Bloom (1964) reports work Galton and Pearson

carried out on the measurement of individual differences and the use of statistics in the study of these measures. This emphasized the widespread individual differences on almost any characteristic it was possible to measure. With the introduction of the intelligence test Binet and Simon (1905) gave great momentum to the whole movement of the measurement of intelligence. The contributions cited provide a sound basis for the development of the educational program for the EMR students since it is in the area of intellectual development that they show their greatest deviation and disability.

In 1967 Johnson reported $2\frac{1}{2}$ to 3 percent of school age children in the EMR range as being inadequately cared for in public schools. There has been much controversy over the type of service needed and how the service should be delivered.

Johnson stated:

> Most EMR children are normal or within the normal range in most areas of their development. Their primary deviation is in the area of intellectual growth where development is significantly retarded. Aside from this single deviation and the impact it may have in terms of growth and development where intelligence plays a significant role, EMR children appear, react, and grow in essentially the same ways and at approximately the same rate as their normal associates (p.201).

The effect of the teacher's perception of the labeled child is important, also. Rosenthal and Jacobsen (1966) report a study in which a sample of students was labeled "rapid learner." The teachers were told that these children would make unusual intellectual

gains during the year. While not all the differences were statistically significant the gains made by the group labeled "rapid learners" were generally greater than those of other pupils. Does the same apply to students labeled EMR and does this reduce the teachers expectations in academic gains and in expected adaptive behavior?

The development of special classes for educable mentally retarded students moved rapidly but at the present time it is in a state of uncertainty. On one hand there are those who would close all special rooms, others who would keep only the "hard core" children segregated and still others who advocate the opening of resource centers where children still undergo the labeling process but would be taught through a combination of regular and special class programs.

This study will focus on alternative placements for the education of mildly retarded elementary students. The need for this examination of placement has arisen as a result of issues which caused educators to move away from special class placement for the educable mentally retarded child. Often this move was made without consideration of questions such as:

> Does the child with a low self concept do well in a resource room?
>
> Do students make greater academic gains in the segregated classroom?
>
> Do students on waiting lists lose academically

because of delay in placement?

Does the label EMR affect the teacher's perception of the student?

Does the school placement seem to affect the student's attitude toward school?

This study examines criterion variables which could assist educators in selecting the appropriate program to meet the objectives of the individual educational plan of the student.

Examination of the data resulting from the testing of the major null hypotheses delineated in Chapter III will provide guidelines for educators attempting to make the "system fit the child rather than the child fit the system."

CHAPTER II

REVIEW OF THE LITERATURE

The problem presented in Chapter I grows out of debate generated by events concerned with: 1) alternatives to special class placement; 2) litigation and judicial review of practices involving inappropriate labeling and placement of mildly retarded children; 3) studies which question the academic achievement and social adjustment of EMR students; and 4) studies which examine the self expectations of children and the expectations of teachers. This chapter will review literature directly related to the topics mentioned.

Lilly (1970) defines the one common characteristic of special education students, they have all been referred from regular education programs because someone, a teacher, a parent, a principal perceived a behavioral or learning problem. He, Lilly, takes the position that all special classes should be discontinued immediately for all but the severely impaired. He further maintains that in order to return exceptionality to its rightful status as an explanatory concept rather than a psychological construct created to make order out of chaotic classroom situations, it must be made to adhere more closely to real school situations. It would then be defined as "exceptional situations within the school".....

> An exceptional school situation is one in which interaction between a student and his teacher has been limited to such an extent that external intervention is deemed necessary by the teacher to cope with the problem (p.48).

Reger, Schroeder and Uschold (1968) propose an overhaul of the self-contained special education program and have written a curriculum and materials book which stresses each individual's learning and behavioral needs. They say:

> The label applied to the child serves as a sanction for administrative action, meaning placement into a special class or into some other special program. The whole procedure tells us nothing about a child that we did not already know because nothing was added to our fund of knowledge about the child and we have no information about what to do with the child after placement changes are made. Moving a child from one classroom to another is an administrative action; it is not an act of understanding or explanation (p.16).

Dunn (1968) in summarizing improvements in general education, cites four forces which can be examined when looking for alternatives to special class placement:

1. Changes in school organization which accommodate team teaching, ungraded primary departments, and flexible grouping.
2. Curricular changes which include options when selecting methods for reading, contemporary mathematics programs, programmed textbooks and new approaches to teaching oral language such as those employed by Bereiter and Engelman (1966).
3. Changes in professional public school personnel to include more guidance workers, physical educators,

teacher aides and technicians.

4. Autoinstruction made possible by utilizing the hardware such as computerized teaching, teaching machines, feedback typewriters and videotapes.

Reger (1972) maintains that special classes should be maintained until there is something better to offer. To quote:

> Look at it from this viewpoint: research (most of which is highly suspect but in the current wave of events that doesn't seem to matter) may not "prove" that special classes are cure-alls; but then, no research has shown that alternative placements are better than special classes, either. In the balance of it, when it comes down to the brass tacks of the matter, special classes are the only places where many handicapped students can survive. We keep forgetting this; special classes were created for this very reason. Special classes for many students were the positive alternative to no school program at all.
>
> When we make our changes, let's consider the total picture. Most schools are organized and offer programs that cannot accommodate students who "don't fit". Disbanding special classes and placing students back into programs where they "don't fit" now any more then they did before is not progress. Before we disband the special classes, let's make sure the programs into which they will be placed will provide an adequate or hopefully better than adequate - educational service. New resources, new staffing patterns, new teacher training, new organizational patterns, revised expectations and a new philosophy are needed (p.70).

Litigation and Judicial Review

Each of the 50 states includes constitutional provisions for education and while education is a state function much of the

operative responsibility has been delegated to local districts. However, there has been a marked growth of the state role in education in the last twenty years. This is partially attributed to greater dependence on the state for financing. Also, the growing number of education problems may have solutions which transcend local school district boundaries and thus require a statewide approach. The California State Supreme Court (1971) decision may be the first step in placing total fiscal responsibility for education on the states.

Litigation arising from suits against public schools for placing certain children in special classes has raised a basic question: Who will direct educational decisions, the judicial or educational leaders?

This question of decision responsibility was posed as long ago as 1893 in the Watson versus City of Cambridge Case. A Massachusetts Court ruled that the school committee could expel from school children who persisted in disorderly conduct, "either voluntarily or by reason of imbecility." In 1919 the Wisconsin Supreme Court ruled on the case of a handicapped child who was not a physical threat and was academically capable but who, because of his handicap produced "a depressing and nauseating effect on the teachers and school children" and took up an undue portion of the teachers' time. The court ruled that "the rights of the child of school age to attend the public schools of the state cannot be insisted upon, when its presence

therein is harmful to the best interests of the school". However, in 1967 the Wisconsin Attorney General in a reexamination of the State ex rel Beattie v. Board of Education while reaffirming the power of local school authorities to suspend or exclude a pupil did state that the obligation to provide children with a free public education does not cease upon exclusion and that other means of education must be provided.

Further evidence of judicial influence on educational decision is found in Fred G. Wolf, et al. v. The Legislature of the State of Utah (1969), Judge D. Frank Wilkens rendered a Third Judicial District Court of Utah decision concerning the denial of admission to the regular school system of two trainable mentally retarded children:

> Education today is probably the most important function of state and local governments. It is a fundamental and inalienable right and must be so if the right guaranteed to an individual under Utah's constitution and the United States constitution are to have any real meaning. Education enables the individual to exercise those rights guaranteed him by the constitution of the state of Utah and the constitution of the United States of America.
>
> Today it is doubtful that any child may reasonably be expected to succeed in life if he is denied the right and opportunity of an education. In the instant case, the segregation of the plaintiff children from the public school system has a detrimental effect upon the children as well as their parents. The impact is greater when it has the apparent sanction of the law for the policy of placing these children under the Department of Welfare and segregating them from the educational system can be and probably is usually interpreted as denoting their inferiority, unusualness,

> uselessness and incompetency. A sense of inferiority, and not belonging affects the motivation of a child to learn. Segregation, even though perhaps well intentioned, under the apparent sanction of law and state authority has a tendency to retard the educational, emotional and mental development of the children. The setting aside of these children in a special class affects the plaintiff parents in that under apparent sanction of law and state authority they have been told that their children are not the same as other children of the state of Utah which, to say the least, cannot have a beneficial effect upon the parents of these plaintiff children (p.13).

The Brown v. Board of Education of the City of Topeka (1954) decision stipulated that schools must not segregate children on the basis of race. This case was influencial in a later case Hobson v. Hansen (1967). In Hobson v. Hansen the United States District Court, District of Columbia held that the teaching system of the schools of the District must be abolished, that pupil placement should not discriminate among children on the basis of racial or economic status, that segregated schools should not be permitted to exist because of attendance zones and that faculties should be fully integrated. The court did express regret in having to decide a case involved with educational practices however, the court did insist that they were justified in providing protection for constitutional rights. In addition the court did not disconfirm the rationale for appropriate testing and pupil grouping practices. The opinion was expressed that such practices must not violate constitutional rights and that there is the expectation that all

children should have equal opportunity to participate in all educational services.

A misuse of test scores was the allegation in the case of Diana v. State Board of Education (1970). The plaintiffs argued that tests relied primarily on verbal aptitude in English thus ignoring ability in Spanish and that the tests were improperly standardized on white native Americans and therefore were culturally biased against Mexican-Americans. As a result of the settlement it was stipulated that:

1. All children whose primary home language is other than English must be tested in both their primary language and in English.

2. Mexican-American and Chinese children already in classes for the mentally retarded must be retested in their primary language and must be reevaluated only as to their achievement on nonverbal tests or sections of tests.

3. State Psychologists are to work on norming a new or revised IQ test to reflect Mexican-American culture. This test will be normed by giving it only to California Mexican-Americans so that in the future Mexican-American children tested will be judged only by how they compared to the performance of their peers, not the population as a whole.

The problem of racial imbalance was brought before the courts in Spangler v. Board of Education (1970). The court attributed the racial imbalance of the Pasadena School District to policies and practices which maintained disproportionate racial distribution. One practice was the interclass grouping based on intelligence

testing and teacher's recommendations. In part the opinion stated:

> The racial effect of the grouping procedures generally in use in the District is to increase segregation. At every secondary school a higher percentage of black than white students is in slow classes in every subject matter, and a higher percentage of white than black students is in fast classes..... The racial segregation that exists within integrated schools as a result of interclass grouping doubtless has numerous causes, not all of which are treated in the record.... One is that grouping assignments are based in part on scores obtained on achievement and "intelligence" tests. As the District's Assistant Superintendent for elementary education acknowledged, such tests are racially discriminatory, based as they are primarily on verbal achievement (p.159).

As a result of the findings in the Diana case and through arguments in the Covarrubias v. San Diego Unified School District suit any revision of testing methods based on Diana must be cognizant of the cultural influences of the ghetto environment in assessing a student's learning ability.

Two other important issues have been raised, that of parental participation in placement decisions and the compensation for damages as a result of misdiagnosis and placement.

Ross, DeYoung and Cohen (1971) summarize the two cases as follows:

> In 1968, 11 Mexican-American public school children, ages 5 through 18 years, filed a complaint (Arreola v. Board of Education) in the Superior Court of Orange County, California, seeking an injunction to prohibit the continuation of special

classes for the educable mentally retarded until the following reforms are instituted: (a) a hearing is provided before placement as required by the due process clause of the 14th Amendment to the United States Constitution and Article 1, Section 13 of the California Constitution, (b) the IQ tests used to determine placement must recognize cultural differences among students in general and the Mexican-American plaintiffs in particular; and (c) the classes for the mentally retarded provide an educationally meaningful curriculum and periodic retesting.

The complaint was filed in the Massachusetts Federal District Court in October 1970 and delineated three classes of plaintiffs; (1) all poor or black Boston public school students who are not mentally retarded but have been improperly placed in special classes for the mentally retarded; (2) all poor or black students who are mentally retarded and have been denied placement in educational programs created for their special educational needs; and (3) all parents of students placed in classes for the mentally retarded in the Boston public schools who have been denied opportunity to participate in the placement decision. The class (1) and (2) plaintiffs argue that the improper placement of students who are poor or black on the basis of tests which do not accurately measure the learning ability of these students and the denial of educational programs for their specific educational needs abridge their right to the equal protection of the laws as guaranteed by the 14th Amendment. Class (3) plaintiffs argue that the denial of the opportunity to be heard in relation to the placement of their children in classes for their mentally retarded deprives them of their right to due process of the law in violation of the 14th Amendment.

In so arguing, the plaintiffs seek $20,000 each in compensatory and punitive damages and ask that no student be placed in a special class until a "Commission on

> Individual Educational Needs" is established consisting of members appointed by the Commissioner of Education, the Commissioner of Mental Health, the President of the Massachusetts Psychological Association, and the Mayor of Boston. The purpose of the Commission would be to oversee the administration of a battery of psychological tests rationally related to an accurate determination of a student's learning ability, to devise educational programs to meet individual educational needs, to insure that the tests be administered by qualified psychologists, and to establish consultation procedures by which parents might participate in the placement of their children (p.8).

The judicial and legislative actions indicate that it is not an issue of whether handicapped children are entitled to an education but how equal educational opportunity can become a reality. It is important that states not only establish appropriate systems for delivery of service but that the laws and regulations create legal and administrative policies which reflect the intent to educate all children in an environment which provides for the handicapped to become self-fulfilling. The change in educational policy must also reflect the growing concern about rising costs and the increasing of the advocacy role on behalf of the handicapped by parents, professionals and other concerned individuals.

Academic Achievement and Social Adjustment of EMR

Joining the current trend toward a different approach to education is Dr. Louis Romano, a professor of administration and higher education at Michigan State University. Professor Romano (1972)

reports that more and more educators are beginning to think that maybe children learn better when they are not separated into classes only on the basis of age. It is somewhat of a return to the old country school but is given a fancy name, "Individually Guided Education". Other terms describing the same ideas are differentiated staffing, open classrooms and multiunit schools. Each program uses the technique of grouping students according to their ability, not their ages. At the beginning of the school year, students are tested and placed into groups according to their learning personalities. Each group is taught at its own level with at least five different activities used if necessary to teach the skill.

Dr. Romano reports that the traditional school only emphasizes failure whereas under the Individually Guided Education approach the student progresses at his own speed, knows what his goal is for each step and can see success. He reports results which show that academic performance improves, as do the student's leadership roles, their self concepts and their problem solving abilities.

Some alternatives to special class placement are based on research dealing with academic achievement of the retarded student. Cegelka and Tyler (1970) and Kirk (1964) report studies which typically found special class enrollees inferior to their regular class counterparts in academic areas but comparable or slightly superior on measures of classroom adjustment and personality. Blatt (1958) reports no significant differences between regular

and special class groups in achievement. In 1959 Cassidy and Stanton reported differences favoring the special student in the regular class.

Social adaptive behavior and attitudes of children toward school are two more factors which deserve review when one looks at the position of mentally handicapped students in either regular school or special placement. Johnson (1950) made a study of the social position of mentally handicapped in regular grades. Conclusions reported were: (1) The mentally handicapped children were less accepted than the typical children; (2) the mentally handicapped children were more rejected than the typical children; (3) the acceptance scores steadily increased from group to group as the mean intelligence quotient for the groups increased (this was after the mentally handicapped group had been divided into two subgroups, as had the typical group); (4) the mentally handicapped were seldom rejected because of low academic ability - rather for unacceptable behavior; (5) it was thought that the social position of the mentally handicapped may be dependent on factors other than low mentality.

Lapp (1957) reporting on social adjustment of slow learning children assigned to part-time regular classes used the sociometric questionnaire of Johnson. She reports: (1) The acceptance scores of the special children were significantly lower than could be expected from a group selected by chance from the regular classes;

(2) the special class children were different from so-called "normal" children in the regular class in that they were not sought out individually; (3) the low acceptance and rejection scores may indicate they tended to be more passive than active in the regular classroom situation; (4) the special class pupils were not overtly rejected. Baldwin (1958) in a study based on a small number - 31 - showed a trend toward a low degree of social acceptance by their classmates of the mentally retarded children placed in regular classes. The children in the study were presumably the less objectionable of the mentally retarded in the public schools but were still to a significant degree socially segregated by the attitude of their classmates toward them.

Which comes first, positive self concept or success, positive attitude toward school or success, positive academic growth or success, positive social behavior or success? What is success and how is it measured? By whose standards do we label an experience or segment of life successful? Is the goal of education measured in enjoyment of living or in monetary gain?

Self Expectation and Teacher Expectation

Is the student who has been placed in a special environment because of a defined handicap provided the opportunity to develop the optimal self which in turn results in more effective development and self fulfillment? If as William James (1890) has said one of the greatest needs of the individual is the feeling of being

appreciated should not the attempt be made to create the environment where this could take place? The general hypotheses that the more optimal the self concept the more effective the individual will function sounds simple but is very complex. Maslow (1968) suggests that individuals who are more self-actualizing are more able to realize their true potentialities and to function in a more creative and effective manner. George H. Mead (1934) centered on the self as a major part of his writing on the philosophy of society and described how the self is developed through transactions with the environment. He held the position that personality was determined by social-psychological factors rather than being grounded on biological variables. Self concept as described by Lewin (1935) was a self as a central and relatively permanent organization which gave stability to the entire personality.

Others who developed ideas of the self and self-actualization through the years were Goldstein (1939) who analyzed the processes of self-actualization, as contrasted to worry about the sick organism which must worry about bodily preservation; Lecky (1945) contributed the notion of self-consistency as a primary motivating force in human behavior; Bertocci (1945) emphasized the two aspects of the self, self as object, "me" and self as subject, "I"; Murphy (1947) discussed the origins and modes of self-enchantment and how the self is related to the social group; Hilgard (1949) says that all defense mechanisms imply a self-reference and that the self can be

a unifying concept in problems of motivation; and Allport (1961) who emphasized the importance of self built a case for a purposeful, rational man, aware of himself and controlling his future through his aspirations.

Carl Rogers (1947, 1951) builds a non-directive system around the importance of the self in human adjustment. In his theory the self is the central aspect of personality and is a pattern of conscious perception experienced by the individual and is of central importance to that individual's behavior and adjustment. Rogers describes the self as a social product which develops out of interpersonal relationships and strives for consistency. He says that there is a need for positive regard both from others and from one's self, and that every human being has a tendency toward self-actualization and growth as long as this is permitted by the environment.

Social acceptance of the EMR child has been a concern of parents and educators. There has been evidence of non-acceptance of unpopular students within the sheltered environment of the special class.

Chennault (1967) conducted a study in which the social acceptability of unpopular students in EMR special classes was increased by pairing them with popular students for presentation of a skit. In a followup study Rucker and Vincenzo (1970) attempted to determine if the increased acceptance of unpopular students was maintained once the special paring or treatment was terminated. They hypothesized that the pre to posttest sociometric gains made by

the experimental students would be greater than those for the control students but that the pre to post-posttest gains of the two groups would not differ. Their investigation indicated that the acceptance of unpopular students in EMR classes can be enhanced but that the gains diminish when the treatment is terminated. This information would seem to indicate that some technique needs to be devised which will raise the status of the student and which can be administered by the teacher for an indefinite time. If this were done clues would be gathered that could aid in the development of a program which would enhance the acceptance of special class students integrated into regular classes.

Sparks and Blackman (1965) discuss the assumption underlying the placement of educable mentally retarded children in special classes and in the special preparation of the teachers. This assumption is that special class teachers require instructional skills not normally required of teachers of the regular grades. A major source for support of the idea that courses in methods and a unique approach to the special child has come from the teacher competency study conducted by the U.S. Office of Education. Two methods were used in determining the skills needed by teachers of mentally retarded children. First, a committee of educators enumerated desirable skills and attitudes and second, a group of teachers all considered superior, rated the items (a) very important, (b) important, (c) less important or (d) not important. The

result was a list of competencies considered important for teachers of educable mentally retarded children (Mackie, Williams, and Dunn, 1953).

Kirk (1953) asserts that, "the development of special education is contingent upon the development of clinical teaching procedures." Clinical teaching would involve indentification of specific learning problems and the application of remediation according to effective principles of learning.

Dewey (1913) said:

> Strictly speaking, method is thoroughly individual. Each has his own instinctive way of going at a thing; the attitude and the mode of approach and attack are individual. To ignore this individuality of approach, to try to substitute for it, under the name of general method, a uniform scheme of procedure, is simply to cripple the only effective agencies of operation and to overlay them with a mechanical formalism that produces only a routine conventionality of mental quality (p.202).

Wyles (1959) asserts:

> Teaching method consists of judging each teaching situation - and there may be a thousand or more a day - and choosing at the moment the procedure deemed most likely to be successful. We are able to make the decisions intelligently and with assurance, if we have thought through our philosophy of teaching and have decided upon the function we should perform (p.30).

Thus, if as Dewey and Wyles seem to suggest teaching method is instinctive, creative and individual it may not be possible or necessary to instill a particular method of dealing with a particular

population such as the EMH.

Summary

The reviews, studies and court cases reported here have been cited in an attempt to establish the rationale for the present study. There is no conclusive evidence that one environment for learning will assure success for the handicapped. Nor, is there evidence that the self concept, the academic achievement, the adaptive behavior, and the attitude toward school of the EMR will be stable in any one placement. What is evident is the need for continued searching on the part of government, administration and the child advocate for ways and means to assure each handicapped child a fair share of the right to learn. In 1954, the United State Supreme Court ruled:

> In these days it is doubtful that any child may reasonably be expected to succeed in life if he is denied the opportunity of an education. Such an opportunity, where the state has undertaken to provide it is a right which must be made available to all on equal terms.
> (Brown v. Board of Education, 347 U.S. 483, 74 S. Ct. 686, 98 L.Ed.873).

CHAPTER III

HYPOTHESES

One focus of the literature reported over the last two decades has been the variations in models for delivery of service to EMR students. There has been much written and spoken about the efficacy of special class placement, about learning environments and about the goals of education for all students.

At one time special education was judged by how many new classes were opened per year or by how many referrals were received by the special education department. Another criteria popular was how many students had been integrated back into the regular program. This was followed by how many resource rooms a district had as a measure of its success or progressiveness.

Denno (1970) suggests that criteria for judgment should include (a) to what extent special education is serving those children who cannot reasonably be accommodated in a regular education program and (b) how the children it serves are progressing toward socially relevant goals.

Gozali (1969) in commenting on teacher expectation and the performance of the EMR suggests that since teachers of special classes approach their teaching tasks equipped with considerable information on the disability of their pupils, it may be that this information generates expectation below the potential of their students and consequently hampers the performance of the students.

If this is the case then perhaps there needs to be a change in teacher orientation from the disability to teaching strategies and skills.

Bruininks and Rynders (1971) feel "that polemical arguments for and against special class placement for EMR children have achieved their intended purpose of making special educators sensitive to the inadequacies of current practice". They suggest that there should be less emphasis on conceptualizing the educational difficulties of handicapped children in terms of categories and that special educators must aid general education in better accommodation of all children.

The hypotheses under investigation will hopefully aid in some delineation of the concerns being expressed.

Hypotheses

The purpose of this study is to conduct a comparative investigation of four school environments for young educable mentally retarded students. The criterion variables are listed under the hypotheses. The major questions to be investigated are:

1. Is there a difference in the mean scores of the four groups on self concept?
2. Is there a difference in the mean scores of the four groups on academic achievement?
3. Is there a difference in the mean scores of the four groups on attitude toward school?

4. Is there a difference in the mean scores of the four groups on social adaptive behavior?

Null Hypothesis I

The first hypothesis concerns the mean scores of the four groups as measured on self concept.

There will be no significant difference in the mean scores of the four groups on self concept.

Null Hypothesis II

The second hypothesis concerns the mean scores of the four groups as measured on academic achievement.

There will be no significant difference in the mean scores of the four groups in academic achievement on the criterion variables of listening for sounds, reading and numbers.

Null Hypothesis III

The third hypothesis concerns the mean scores of the four groups on attitude toward school.

There will be no significant difference in the mean scores of the four groups on attitude toward school as measured on the four criterion variables; school, school friends, teachers and school activities.

Null Hypothesis IV

The fourth hypothesis concerns the mean scores of the four groups on social adaptive behavior scales.

There will be no significant difference in the mean scores of the four groups on social adaptive behavior on the seven criterion variables of:

physical development

economic development

language development

number and time concept

self direction

responsibility

socialization.

CHAPTER IV

METHOD AND PROCEDURE

This chapter will define the population and method of selection of the subjects for the study. The environment of each of the four groups will be described. The instruments employed, procedure of data collection, research design and statistical procedures will also be presented. The purpose of the study is to conduct a comparative investigation of four school environments for young educable mentally handicapped students.

The subjects for this study were selected by the following process. A composite list representing all elementary mentally retarded students from twenty-six of the twenty-eight school districts of Oakland Intermediate Schools was compiled. All of the subjects reside in distrcits which meet the requirement for eligibility for funds for the economically deprived (1969). All are attending school in one of the following school placements:

1. Waiting List: The subjects of this group are students who have been declared eligible for special education but have not been placed in any special learning environment. Even though they have been declared eligible they have not for all intents and purposes been labeled retarded. They are attending school in a regular grade placement.
2. Type A Non-Integrated: These students have

been placed in a special education self-tained, one teacher classroom. These students have a minimum contact with other teachers and adults throughout the school day. These contacts are generally limited to lunchroom and playground activities.

3. Type A Integrated: These students have been declared eligible and have been placed in special education classes with a high degree of integration. This integration is in the area of music, art and gym classes with other students from the regular grades and of the same chronological age. Some students are also integrated into reading, arithmetic and social studies classes whenever there is a reasonable expectation of success for the special student.
4. Resource Room: These students have been identified as EMR and have been assigned to resource rooms or learning centers, while maintaining membership in a regular class with children of similar chronological age. Their program is designed to enable them to receive special help from the resource

teacher in addition to the program being conducted in their assigned room.

Children were eligible for participation if they: (1) had been in the school placement for at least one school year; (2) were between the ages of seven years, six months; ten years, nine months; and (3) had been identified as educable mentally retarded under R340.171 Rules and Regulations: (Type A, B, and C) (1968).

> R340.171. A pupil shall be considered as enrolled as a member of the program under this act, as determined through adequate diagnostic study, if (a) he is mentally handicapped and potentially socially competent, (b) he is mentally handicapped but prognosis is such that he may appear neither academically educable nor potentially socially competent but who may with training become at least partially self-supporting. Excluded under this act is the pupil who is intellectually able but is not making satisfactory progress and adjustment. No more than 15 pupils per teacher may be counted for additional special education membership (p.90).

Subjects were drawn from lists of students in each of the four school settings. These lists were compiled as follows:

1. All names of all students in Type A Integrated, Type A Non Integrated, students on Waiting Lists and students in resource rooms were listed under each heading.
2. Contact was made with directors of each program represented.
3. The names of children from those districts

which did not wish to participate were dropped.

This process resulted in a pool of subjects for each category:

1. Group I-Waiting List - twenty subjects were selected from a list of 30 names.
2. Group II-Type A Non-Integrated - twenty subjects were selected from a list of 40 names.
3. Group III-Type A Integrated - twenty subjects were selected from a list of 50 names.
4. Group IV-Resource Room - twenty subjects were selected from a list of 30 names.

The discrepancy between the number selected and those reported is accounted for by loss of subjects due to absence and/or moving out of district previous to testing date.

1.	Group I Waiting List	N=16
2.	Group II Type A Non-Integrated	N=20
3.	Group III Type A Integrated	N=20
4.	Group IV Resource Room	N=19
	Total	75

The subjects from Group I Waiting List are students in regular classrooms. They have been identified and declared eligible for programs for the EMR but have not been placed for reasons which vary with the individual and with the local district. The 16 subjects of Group I Waiting List in this study represent 13 different rooms in four separate local school districts. Twelve regular

teachers completed the A.B. Scale teacher's report for these students. (Two teachers had two students, one reading teacher completed the scale for one student). The Waiting List student in the regular classroom does not receive any special instruction other than as is offered to any slow learner in the classroom. It is the writer's observation that there was wide variation in the acceptance and instruction of these subjects in the regular classroom.

Group 2 Type A Non Integrated is represented by students from three classrooms from three local school districts. One classroom teacher has a fulltime aide. The program of instruction in these rooms centers around academic instruction, enrichment activities, activities of daily living and social growth. The special class students have contact with regular students during recess and lunch hour. They are transported on regular school busses.

The students of Group 3 Type A Integrated are from three schools in three separate districts. Three teachers and two student teachers are responsible for their basic instruction. All of these students are integrated in at least two subjects such as art and gym. Approximately half of the group are also integrated into a regular class for social studies or any other subject in which there is a reasonable expectation of success.

The students of Group 4 Resource Room attend school in one district which has recently completed an educational park to house over 2,000 elementary students. As a part of this educational park a special learning center called a resource room has been designated as the supportive service for EMR students assigned to the regular classroom. The 19 students of this study are each a part of a team assignment of 130 students who receive their basic instruction from a team of four teachers. The EMR student is also eligible for individual instruction from the resource room teacher. The amount of time spent with the resource room teacher varies with the educational plan for each child.

Thirteen teachers completed the A.B. Scale for this group of subjects. Of this number two teachers each completed 3 scales.

An attempt was made to gather the following information on each subject:

Years in special assignment

Date of first referral for special help

Date of declared eligible for special help

Date of placement in special assignment

Identifiable secondary handicap

Number of siblings

Place of student in family: oldest, middle, youngest

Living with at least one natural parent

Number of years in placement other than in special class.

Because of lack of information in school records it was impossible to collect this data. The scant information available revealed that school attendance of students ranged from always being in special classes to never having been assigned to a special class.

Instrumentation

This study was designed to compare four areas considered important to EMR students: (1) self concept; (2) academic achievement; (3) attitude toward school; and (4) social adaptive behavior.

After reviewing possible instruments for obtaining information the following instruments were chosen:

1. The Metropolitan Achievement Test, Primer Battery, Form F.
2. The Piers-Harris Children's Self Concept Scale (The Way I Feel About Myself)
3. A Semantic Differential Scale
4. Adaptive Behavior Scale for Children 12 Years or Younger

Metropolitan Achievement Test

To select an appropriate level for children in the age range of 7-6 to 10-9 Form F of the Metropolitan Achievement Test Primary

Battery I was administered to 10 subjects who met the requirements for participation in the study but who were not selected. It was found that many of these subjects failed to score on the reading items and could obtain only one or two correct responses on the arithmetic section. Therefore, the Primer Battery, Form F was chosen for administration. This instrument was selected since the three batteries Listening for Sounds, Reading and Numbers have the prime emphasis on the basic skills involved in reading and arithmetic. Dyer (1965) reports that "one can probably assume with some confidence that a reasonably serious effort was made to determine the kinds of learning material to which pupils are most commonly exposed and to shape the tests around these materials".

The reading section of the Primer Battery consists of two parts, Listening for Sounds and Reading.

Listening for Sounds uses 39 items to measure student's knowledge of beginning and ending sounds and sound letter relationships. Twenty-two of these items are based on pictures; eight items are based on letters and nine items use single words.

Reading uses 33 items to measure student's beginning reading skills. Eleven items require students to identify letters; fourteen items require students, when given a picture of a common object, to select from four words the one word that describes the picture; five items require students to select one of three sentences which best describes a picture.

The Numbers section of the Primer Battery contains 34 items to measure student's understanding of basic mathematical principles and relationships. Twenty items cover counting, measurement, and numeral recognition, and fourteen items measure student's ability to add and subtract one digit numbers.

The Metropolitan Achievement Test Primer Battery is primarily intended for students in grades kindergarten, seven months through first grade, four months. Norms for the test were developed in such a way that each battery can be used in grades above and below those for which the battery was primarily intended and this is seen as an advantage when testing students who are very atypical in achievement for their age or grade placement.

Self Concept

Wylie (1961) in discussing the wide variety of instruments for measuring self concept reported that many instruments were used only for one study, also many were lacking in a description of the instruments, had no reliability estimate and presented only face validity.

The Piers-Harris Children's Self Concept Scale-"The Way I Feel About Myself" was selected to assess the self concept of young school age children. It is a self report instrument which can be administered in a group setting to children having approximately third grade reading level. However, on an individual basis it can be used with children of lower reading ability and may be read to

the student.

The scale is a measure of self concept containing 80 items which are simple declarative statements concerning the self. The subject answers by circling "yes" or "no." The statements are worded in such a way that a positive self concept may sometimes be indicated by a "yes" and sometimes by a "no." A total score is obtained on a basis of the number of responses made to indicate a positive self concept. Piers and Harris (1969) are of the opinion that self attitudes are relatively stable. They also state that it is unwise to assume that special groups will necessarily show differences in mean self concept. The scale has been used to measure self concept of two populations similar in two respects to this study. Smith (1968) used the scale in a study to determine the effects of a nine month pilot program designed to raise the self concepts of economically deprived students. Lewis (1968) employed the scale when examining the self concept of children in second and third grades in a school district similar to those in the present study.

The Piers-Harris Self Concept Scale "The Way I Feel about Myself" was standardized on a population of 457 students covering a wide age range. Eighty-eight of the subjects were institutionalized retarded children whose mean I.Q. was 69.6 and the remainder were fourth, sixth and tenth grade public school students. The authors indicate that a cross-section of socioeconomic levels was used in the standardization process. The Kuder-Richardson Formula used to test

internal consistency by grade and sex showed a correlation of .78 to .93 (Piers, Harris, 1969).

Attitude Toward School

A semantic differential with the stimulus concepts: school, school friends, teachers and school activities was used to measure the attitude of the subjects toward these concepts. Each of the concepts was measured with the same ten bipolar adjective pairs which had evaluation factor loadings of 75 or above (Osgood et al. 1967). A five point scale was used instead of the usual seven point scale because "grade school children seem to work better with a five step scale, and there is probably some relation here to intelligence differences." (Osgood, p.85). DiVesta and Dick (1966) studied the reliability of the semantic differential for use with elementary school children. On a test-retest basis they reported a correlation of .75 for fourth grade students. With a similar instrument Roth (1969) reported a reliability coefficient of .75 on a test-retest basis for twenty-six fifth grade students.

In a study of EMR students Dick and Lewis (1972) reported no difficulty on the part of the subjects in understanding the concepts school, school friends, teachers and school activities.

Adaptive Social Behavior

The Adaptive Behavior Scale was chosen as an instrument which would provide teachers with a consistent way of reporting pupil behavior. This scale is designed to provide an objective description and assessment of an individual's adaptive behavior and of the

effectiveness of the individual in coping with the demands of his environment.

Part I of the A.B. Scale is the result of a comprehensive review of the existing behavior rating scales in the United States and Great Britain (Leland, Shellhaas, Nihira, and Foster, 1967) and has undergone numerous modifications as a result of the intensive item analysis (Leland, Nihira, Foster, Shellhaas and Kagin, 1966,) (Nihira, Foster and Spencer, 1968). Part I consists of ten behavior domains to assess the individual's skills and habits considered important in maintaining personal independence in daily living.

I. Independent Functioning
   - A. Eating Skills
   - B. Toilet Use
   - C. Cleanliness
   - D. Appearance
   - E. Care of Clothing
   - F. Dressing and Undressing
   - G. Locomotion
   - H. General Independent Functioning

II. Physical Development
   - A. Sensory Development
   - B. Motor Development

III. Economic Activity
   - A. Money Handling and Budgeting

B. Shopping Skills

IV. Language Development

A. Speaking and Writing

B. Comprehension

C. General Language Development

V. Number and Time Concept

VI. Occupation-Domestic

A. Cleaning

B. Kitchen Duties

C. General Occupation-Domestic

VII. Occupation-General

VIII. Self-Direction

A. Sluggishness in Movement

B. Initiative

C. Persistance

D. Planning and Organization

E. Self-Direction (General)

IX. Responsibilities

X. Socialization

Of these domains Independent Functioning was not used because these skills are part of the criterion for admission to most public school classes for EMR children. It was felt that parts VI and VII were not applicable to young children in public school setting and therefore were not rated.

Part II of the scale is the result of an extensive survey of the social expectations obtained empirically from an analysis of a large number of critical incident reports provide by ward attendents in residential institutions, day-care center instructors and special education teachers in public school systems.

Part II measures maladaptive behavior related to personality and consists of fourteen domains:

A. Violent and Destructive Behavior

B. Antisocial Behavior

C. Rebellious Behavior

D. Untrustworthy Behavior

E. Withdrawal

F. Stereotyped Behavior and Odd Mannerisms

G. Inappropriate Interpersonal Manners

H. Inappropriate Vocal Habits

I. Unacceptable or Eccentric Habits

J. Self-Abusive Behavior

K. Hyperactive Tendencies

L. Sexually Aberrant Behavior

M. Psychological Disturbances

N. Use of Medications

Each A.B. Scale was completed by the teacher most familiar with the student. The writer was present to aid in interpretation of terms and an attempt was made to assist the rater in objective

selection of the description presented.

The mean reliability of Part I of the A.B. Scale is reported to be .74 and the mean reliability of Part II is .61. The mean reliability for the entire scale is .67 (Manual, 1970).

Procedure

In November and December (1972) the author with the assistance of three consultants in Special Education administered the Metropolitan Achievement Test Primer Battery Form F, the Semantic Differential and The Way I Feel About Myself Scale to 75 subjects. All instruments were administered only once as this study was designed to seek relationships and comparisons. All subjects had been in their school placement at least one year and were grouped as follows:

Group I Waiting List
Males 12
Females 4
Total 16

Group II Type A Non Integrated
Males 13
Females 7
Total 20

Group III Type A Integrated
Males 12
Females 8
Total 20

Group IV Resource Room
Males 11
Females 8
Total 19

The tests were administered either individually or in groups of two or three depending upon the number of subjects in one school.

All directions for administering the Metropolitan Achievement Test were carefully followed.

Prior to the administration of the Semantic Differential the procedure was carefully explained and demonstrated. In addition markers were used to assist the subject in following the sequence of responses.

The Way I Feel About Myself Scale was read to the children, again adult supervision was used to ensure that the items were followed sequentially.

The A.B. Scale Answer Sheets were completed by the subject's teacher. The writer was present during the completion of each scale.

Statistical Procedure

The technique of analysis of variance was used to test the null hypotheses. To reject the null hypotheses significance level of .05 was chosen. The Pearson product-moment correlation was used to show relationship of the 18 criterion variables. Also, a tabulation of additional criterion variables was performed.

The design used in this study does not allow one to make causal interpretations. All interpretations reflect only scores which were obtained from the particular instrument at the one particular time of testing. No data was gathered which could lend itself to casual inferences and there is no attempt made to suggest that any one school environment is superior to another.

Some possible interpretations of the comparisons and relationships found in examination of the data could be that the school environment is not as crucial as it might appear to be and that further study of the individual student and environment would seem to be needed before selecting a proper placement for the student.

Summary

The writer and three consultants in Special Education administered The Metropolitan Achievement Test Primer Battery Form F, The Way I Feel About Myself and A Semantic Differential to seventy-five subjects with the fourth instrument, the A.B. Scale being completed by the subject's teacher under the supervision of the writer.

All subjects were given individual supervision to prevent penalty for losing place, not paying attention or not being able to read the items on the Semantic Differential and The Way I Feel About Myself Scale.

The statistic used to test the null hypotheses was the analysis of variance and the Pearson product-moment correlation. Also, a tabulation of additional low response criterion variables was performed.

The results of the testing of the null hypotheses, and interpretation and discussion of the data are presented in the next chapter.

CHAPTER V

RESULTS AND DISCUSSION

This chapter will present the results of the statistical analysis of the data with discussion of the results accompanying each analysis report. The design of this study permits an examination of the differences between groups and relationships but does not allow for comparison of differential pupil change between groups since pre and post data were not collected. Also, the 75 students in this study were enrolled in 32 different classrooms or groups and received instruction under the direction of many different teachers. The interpretation of the data is thus somewhat limited and the reader is cautioned against drawing causal inferences from the results such as might be possible in a controlled experiment. The results will be presented according to the following organization:

1. Results of the analysis of variance of The Way I Feel About Myself Concept Scale scores
2. Results of the analysis of variances of academic achievement scores
3. Results of the analysis of variance of attitude toward school scores
4. Results of the analysis of variance of adaptive behavior reported on the A.B. Scale scores
5. The results of the intercorrelation of the eighteen criterion variables
6. A descriptive analysis of the tabulation of

behavior.

All analysis of variance procedures were additionally treated by the Tukey Pairwise Comparison Test. Kirk (1968) states that the "Tukey HSD (honestly significant difference) test was designed for making all pairwise comparisons among means. In addition, the N's in each treatment level must be equal or approximately equal" (p.88). The Tukey procedure was utilized to determine the true significant difference and has value only when the F is significant.

Results of the Analysis of Variance of The Way I Feel About Myself Concept Scale Scores

The first null hypothesis concerns the mean scores of the four groups as measured by the criterion variable self concept: There will be no significant difference in the mean scores of the four groups on the criterion variable self concept.

The mean scores and standard deviations as well as the F values for the criterion variable self concept are presented in Table 1. The analysis of variance showed no significant difference among the four groups. The null hypothesis is retained. It should be noted that these scores were obtained from one administration of the test and do not represent a pretest and posttest comparison, thus it is not possible to make any definitive statement as to the effect of the four school settings on the self concept of the pupils involved. While the results do not show statistically significant differences among the groups a lower mean score (50.74) is reported by Group IV, (Resource Room) students.

Resource Room students are those who are members of regular classrooms who have been identified as mentally handicapped and receive instruction from both regular and special teachers. Hammill and Wiederholt (1972) define a resource room as, "Basically, a resource room is any instructional setting to which a child comes for specified periods of time, usually on a regularly scheduled basis. The key difference between a resource room and a special class is that the child attends the resource room only on a part-time basis, remaining for at least a portion of the day in his regular class." (p.13). The placement of students in a resource room could be contingent on several things; a policy of all special students being part of the regular school; a lack of special rooms therefore they by necessity had to remain in regular rooms; or, they might have shown greater potential for good social adjustment. It could be speculated that the lower mean score reported by these students was a result of their being labeled and perceived as retarded and/or their own comparison of their abilities with the abilities of their normal peers. The data might suggest that administrators and other members of Educational Planning Committees obtain some information on the total school acceptance of the resource room concept before placing a student in this school setting.

Further group by sex analysis of the criterion variable self concept shown in Table 2 reports a statistically significant

difference between the male and female students. The mean self concept scores over all four groups ranged from 52.58 to 56.91 for the male students and from 42.25 to 57.13 for the female students.

A more critical examination of the data reveals that the female subjects in Group 1 (Waiting List, 45.75) and Group 4 (Resource Room 42.25) account for the greatest difference in means as they scored considerably lower than the male subjects. Interestingly, the subjects in these two groups have the most contact with normal peers and teachers of regular students. Of those subjects in special rooms for the EMR both males and females in Group 2 (Type A Non Integrated) reported nearly identical self concept mean scores (M=54.62; F=54.43). In contrast the female subjects in Group 3 (Type A Integrated, 57.13) reported the highest mean self concept score of any of the four groups.

It was noted by the writer during the testing situation that the females of Group 1 (Waiting List) and Group 4 (Resource Room) showed more physical developmental lag than would have been expected of children of similar ages. They also were very passive and appeared to be lethargic. They showed a lack of curiosity about why they were being tested, readily accepting the explanation that the writer needed their help for a project.

There is a temptation to make comparisons of the perceived self concept of the 75 subjects of this study and the perceived self concept of their peers in the regular school setting. From

observation the students of this study as a whole did not appear to have a lower self concept than the other children in the school. In particular, the students in Group 2 (Type A Non Integrated) and Group 3 (Type A Integrated) seem to feel very good about their school placement and in some instances it would appear they have been "over-sold" on their specialness. It might be that the protective environment of the special class is important in providing the setting that Rogers (1951) says is needed for positive regard both from others and from ones self.

The results of the analysis of variance of The Way I Feel About Myself scores would suggest that these students are very similar in regard to feelings about themselves with the exception of the females from Group 1 (Waiting List) and Group 4 (Resource Room) which are statistically significantly different (Table 2).

The Waiting List placement and Resource Room environment does not appear to protect the self-concept of the passive immature females. This should be taken into consideration in the placement of the student with these personality characteristics.

Table 1

Analysis of Variance Summary of the Criterion Variable Self Concept

Criterion	Group	N	M	S.D.
Self Concept	I Waiting List	16	53.13	9.60
	II Type A Non-Integrated	20	54.55	7.96
	III Type A Integrated	20	54.40	11.70
	IV Resource Room	19	50.74	12.03

ANOVA Table

Source of Variation	DF	SS	MS	F
Between Groups	3	180.43	60.14	0.547
Within Groups	71	7795.25	109.79	
Total	74	7975.68		

* Significant at the .05 level of significance.
An F value of 2.76 was required.

Table 2

Group by Sex Analysis of Variance Summary of the Criterion Variable Self Concept

Criterion	Group	N	M	S.D.
Self Concept	I Waiting List			
	Male	12	55.58	9.37
	Female	4	45.75	6.55
	II Type A Non-Integrated			
	Male	13	54.62	8.37
	Female	7	54.43	7.79
	III Type A Integrated			
	Male	12	52.58	10.51
	Female	8	57.13	13.37
	IV Resource Room			
	Male	11	56.91	9.49
	Female	8	42.25	10.05

ANOVA TABLE

Source of Variation		DF	SS	MS	F
Rows	Sex	1	415.08	415.08	4.338*
Columns	Group	3	351.97	117.32	1.2262
Interaction		3	944.64	314.88	3.290**
Within Cells		67	6410.75	95.68	

* Significant at the .05 level of significance.
An F value of 4.00 was required with 1,60 D.F.
An F value of 2.76 was required with 3,60 D.F.

Results of the Analysis of Variance of Academic Achievement Score

The second null hypothesis concerns the mean scores of the four groups as measured by the criterion variables listening for sounds, reading and numbers: there will be no significant difference in the mean scores of the four groups on the criterion variables measuring academic achievement.

Listening for Sounds

The mean scores, standard deviations and F value raw scores of the criterion variable Listening for Sounds are presented in Table 3. This criterion variable measures the student's knowledge of beginning and ending sounds and sound letter relationships. Twenty-two of the items are based on pictures, eight items are based on letters and nine items use single words.

The analysis of variance showed no statistically significant difference among the four groups on the criterion variable sounds; thus the null hypothesis is retained.

However, while the analysis does not show statistically significant difference, inspection of the scores by groups does show some differences. Group 2 (Type A Non Integrated) and Group 3 (Type A Integrated) do report higher scores in sounds (27.80 and 26.95 respectively). One possible inference which could be implied is that Group 1 (Waiting List) students who are in regular classrooms and Group 4 (Resource Room) students who are members of resource rooms do not receive individual instruction in sounds and

this could account for this difference. The smaller class size, usually limited to less than 15 of Group 2 (Type A Non Integrated) and Group 3 (Type A Integrated) provide more opportunity for the teacher to work individually with the students.

Further analysis of group by sex for the criterion variable sounds reported in Table 4 is statistically insignificant but upon inspection of the data it is found that the mean scores of the female subjects in Group 1 (Waiting List, 28.75), Group 2 (Type A Non Integrated, 29.86) and Group 3 (Type A Integrated, 30.88) are greater than the mean scores of the male subjects. The females of Group 1 (Waiting List) were observed to be rather passive and it could be assumed were more amenable to instruction. Analysis of the data for Group 4 (Resource Room, 23.58) female subjects shows that they have lower mean scores than the males and females of Group 2 and 3. Educationally, this could imply that the resource room program placement might not be feasible for those students who are tractable and thought to be socially competent because that program might not provide the individual supportive help which these students seem to need to succeed as well as their peers in the area of listening for sounds which is a basic component of the reading process.

Table 3

Analysis of Variance Summary of the Criterion Variable Sounds Raw Scores

Criterion	Group	N	M	S.D.
Sounds Raw Scores	I Waiting List	16	24.75	9.33
	II Type A Non-Integrated	20	27.80	8.21
	III Type A Integrated	20	26.95	8.79
	IV Resource Room	19	23.58	7.14

ANOVA Table

Source of Variation	DF	SS	MS	F
Between Groups	3	217.59	72.5325	1.035
Within Groups	71	4973.78	70.05	
Total		5191.38		

* Significant at the .05 level of significance.
An F value of 2.76 was required.

Table 4

Group by Sex Analysis of Variance Summary of the Criterion Variable Sounds, Raw Score

Criterion	Group	N	M	S.D.
Sounds Raw Score	I Waiting List			
	Male	12	23.42	9.93
	Female	4	28.75	6.75
	II Type A Non-Integrated			
	Male	13	26.69	7.84
	Female	7	29.86	9.12
	III Type A Integrated			
	Male	12	24.33	8.72
	Female	8	30.88	7.79
	IV Resource Room			
	Male	11	24.91	6.53
	Female	8	21.75	7.98

ANOVA TABLE

Source of Variation		DF	SS	MS	F
Rows	Sex	1	144.42	144.42	2.10
Columns	Group	3	236.83	78.94	1.15
Interaction		3	228.99	76.33	1.11
Within Cells		67	4591.25	68.52	

* Significant at the .05 level of significance.
An F value of 4.00 was required with 1,60 D.F.
An F value of 2.76 was required with 3,60 D.F.

Reading

The mean scores, standard deviations and F value raw score of the criterion variable reading are presented in Table 5. This criterion variable measures the student's beginning reading skills by requiring them to identify letters, select the word which represents a pictured common object and to select one sentence of three which best describes a picture. The analysis of variance showed no statistically significant difference among the four groups and thus the null hypothesis is retained. However, a difference is shown upon inspection of the scores by groups. Group 2 (Type A Non Integrated) and Group 3 (Type A Integrated) represented by those students in special class placement report higher scores.

Further analysis of group by sex of the criterion variable reading is shown in Table 6. The data shows that female subjects scored significantly higher then the male subjects on the criterion variable of reading. A further inspection by group shows that the difference was reported by Group 1 (Waiting List M=18.33; F=25.25), Group 2 (Type A Non Integrated M=24.00; F=28.71) and Group 3 (Type A Integrated M=22.17; F=29.00) while Group 4 (Resource Room M=22.09; F=22.50) reported male and female subjects as almost equal. The standard deviation for Group 1 is slightly greater than for the other three groups. This implies that Group 1 reflects a wider range of performance.

The findings reported in Table 5 and Table 6 are in agreement with numerous reports in the literature that females score higher

on reading tests than do males. However, it is interesting to note that the females of Group 4 (Resource Room) did score lower than all other females and scored equal to the males. This could be interpreted to be a result of the passivity of the subjects and/or their placement in a resource room program and therefore should be taken into consideration when an education environment is being selected for the student.

A certain amount of independence and initiative are needed for success in this school setting, thus the passive student who exhibits lack of interest, lack of curiosity and appears to be developmentally retarded might not be a "good" candidate for a resource room.

Table 5

Analysis of Variance Summary of the Criterion Variable Reading Raw Score

Criterion	Group	N	M	S.D.
Reading Raw Score	I Waiting List	16	20.06	9.58
	II Type A Non-Integrated	20	25.65	7.61
	III Type A Integrated	20	24.90	7.11
	IV Resource Room	19	22.26	7.11

ANOVA Table

Source of Variation	DF	SS	MS	F
Between Groups	3	349.02	116.34	1.899
Within Groups	71	4348.97	61.25	
Total	74	4698.00		

* Significant at the .05 level of significance.
An F value of 2.76 was required.

Table 6

Group by Sex Analysis of Variance Summary of the Criterion Variable Reading, Raw Score

Criterion	Group	N	M	S.D.
Reading Raw Score	I Waiting List			
	Male	12	18.33	9.66
	Female	4	25.25	8.30
	II Type A Non-Integrated			
	Male	13	24.00	8.05
	Female	7	28.71	6.07
	III Type A Integrated			
	Male	12	22.17	6.77
	Female	8	29.00	5.78
	IV Resource Room			
	Male	11	22.09	6.44
	Female	8	22.50	8.40

ANOVA TABLE

Source of Variation		DF	SS	MS	F
Rows	Sex	1	364.47	364.47	6.294*
Columns	Group	3	259.40	86.46	1.493
Interaction		3	114.08	38.02	0.656
Within Cells		67	3879.42	57.90	

* Significant at the .05 level of significance.
An F value of 4.00 was required with 1,60 D.F.
An F value of 2.76 was required with 3,60 D.F.

Numbers

The mean scores, standard deviations and F value scores of the criterion variable numbers are presented in Table 7. The items of this criterion variable measure the students understanding of basic mathematical principles and relationships. The items cover counting, measurement, numeral recognition and the student's ability to add and subtract one digit numbers. The analysis of variance showed no statistically significant difference among the four groups on the criterion variable, thus the null hypothesis is retained. Inspection of the score does reveal however, that Group 2 (Type A Non Integrated) has a higher mean score (23.15) than any of the other three groups (1 - 19.44, 3 - 21.60, 4 - 22.47). This might be accounted for by two factors, 1) the acquisition of number skills is rote memorization and 2) the relatively uninterrupted day of a Type A Non Integrated room enhances this type of learning.

Inspection of the further analysis of group by sex of the criterion variable numbers, (Table 8) again follows the previous finding that the females of Group 4 (Resource Room) have lower mean scores. In the other three groups the mean scores for females were higher than the mean scores for the males. Group 4 (Resource Room,18.25) females exhibited the opposite pattern and the males of Group 4 (Resource Room,25.55) were the highest of all the males. This again could possibly be attributed to the inability of the

females to cope with the more mobile, less structured approach to education which is found in many resource rooms.

The male subjects of this study as observed by the writer seemed to exhibit initiative and independence,two factors which it would appear are needed for success in the resource room environment.

One other exception is noted here also. The males of Group 1 (Waiting List) have a low mean score (19.33). This low score might be attributed to the fact that males are often referred for special services early in their school careers since they do not traditionally adapt to school rules as well as females. If they (the males) have been referred early and there was no placement available they would remain in regular classrooms and be put on a waiting list. This could then affect their instruction in basic mathematical procedures as measured by the criterion variable since they would be in a regular program where instruction in these concepts has been previously presented. Educational planning for Group 1 (Waiting List) students should include consideration of the level of achievement as revealed by the individual scores and further individual item analysis of measures should be noted.

In summary of the analysis of variance of the criterion variables sounds, reading and numbers, and the group by sex analysis of these same criterion variables it would appear that Group 1 (Waiting List), Group 2 (Type A Non Integrated), Group 3 (Type A Integrated) and

Group 4 (Resource Room) did not show statistically significant differences. However, it has been noted that there are extensive individual differences within the groups.

This similarity should evoke a note of caution. The fact that no one school setting reflected greater academic growth than another should not lead the reader to conclude that they are all adequate for teaching the EMR child. This research does not reflect a controlled experiment wherein inference can be made that one school setting is better than another. Rather, the study has implications that the educator needs to examine school placement and determine where the academic skills needed by the individual child could be obtained.

Analysis of variance and analysis of group by sex of the three criterion variables sounds, reading and numbers was also conducted on the standard scores of these variables. As would be expected parallel results were obtained and are reported on Tables 36 - 41 and can be found on pages 141 - 146 in the appendix.

Table 7

Analysis of Variance Summary of the Criterion Variable Numbers Raw Score

Criterion	Group	N	M	S.D.
Numbers Raw Score	I Waiting List	16	19.44	8.85
	II Type A Non-Integrated	20	23.15	7.44
	III Type A Integrated	20	21.60	7.51
	IV Resource Room	19	22.47	9.20

ANOVA Table

Source of Variation	DF	SS	MS	F
Between Groups	3	135.12	45.04	.0663
Within Groups	71	4822.02	67.91	
Total	74	4957.14		

* Significant at the .05 level of significance.
An F value of 2.76 was required.

Table 8

Group by Sex Analysis of Variance Summary of the Criterion Variable Numbers, Raw Score

Criterion	Group	N	M	S.D.
Numbers, Raw Score	I Waiting List			
	Male	12	18.83	9.11
	Female	4	21.25	9.03
	II Type A Non-Integrated			
	Male	13	21.23	7.30
	Female	7	26.71	6.75
	III Type A Integrated			
	Male	12	19.83	6.62
	Female	8	24.25	8.41
	IV Resource Room			
	Male	11	25.55	8.09
	Female	8	18.25	9.44

ANOVA TABLE

Source of Variation		DF	SS	MS	F
Rows	Sex	1	25.79	25.79	0.399
Columns	Group	3	126.66	42.22	0.653
Interaction		3	418.83	139.61	2.161
Within Cells		67	4327.55	64.59	

* Significant at the .05 level of significance.
An F value of 4.00 was required with 1,60 D.F.
An F value of 2.76 was required with 3,60 D.F.

Results of the Analysis of Variance of Attitude Toward School Scores

The third null hypothesis concerns the mean scores of the four groups on attitude toward school.

The null hypothesis states that: There will be no significant difference in the mean scores of the four groups on the criterion variables of: 1) school, 2) school friends, 3) teachers, 4) school activities. Attitude toward school was measured by four criterion variables: 1) school, 2) school friends, 3) teachers, 4) school activities as the stimulus concepts employing the semantic differential technique. Each concept was measured with the same ten bipolar adjective pairs. The adjective pairs were placed at opposite ends of a five point scale. The scoring of the semantic differential was done by assigning a value from one to five for each pair of adjectives. The positive end of the scale was assigned five and the negative end was assigned one. Summing all ten scales provided a range of scores from 10 to 50 with higher scores being more positive.

The analysis of variance showed no statistically significant differences among the four groups on any of the four criterion variables school, school friends, teachers and school activities. While the null hypothesis is retained for all four criterion variables dealing with attitude toward school there are some differences which should be examined.

School

The stimulus concept "school" was used to measure the attitude

of the students toward the global concept of school. The higher score would reflect the more positive attitude.

The mean scores, standard deviations and F value of the criterion variable school are reported in Table 9.

While there is no statistically significant difference among the means of the groups it is noted that Groups 1 (Waiting List) and Group 4 (Resource Room) students have lower mean scores (41.44 and 39.89). The breakdown of the mean scores of the group by sex analysis reveals an interesting contrast. Here it is found (Table 10) that the females of Group 2 (Type A Non Integrated, 46.29) and Group 3 (Type A Integrated, 44.63) show higher mean scores than their male peers (Group 2 M=42.54; Group 3 M=42.58). In contrast, the females of Group 1 (Waiting List 40.00) and Group 4 (Resource Room, 39.88) scored lower than the females of Groups 2 and 3 and also scored lower than their male peers. In addition, the variability of the scores of Groups 1 and 4 was greater as evidenced by the standard deviation of Group 1 (Waiting List) of 8.75 and for Group 4 (Resource Room) of 10.45. The group by sex analysis of variance further supports the differences revealed earlier in the academic criterion variables that the passive females appear to have a less positive attitude toward school.

Table 9

Analysis of Variance Summary of the Criterion Variable Attitude Toward School

Criterion	Group	N	M	S.D.
Attitude Toward School	I Waiting List	16	41.44	7.68
	II Type A Non-Integrated	20	43.85	6.74
	III Type A Integrated	20	43.40	5.09
	IV Resource Room	19	39.89	8.46

ANOVA Table

Source of Variation	DF	SS	MS	F
Between Groups	3	193.50	64.50	1.297
Within Groups	71	3529.12	49.70	
Total	74	3722.62		

* Significant at the .05 level of significance.
An F value of 2.76 was required.

Table 10

Group by Sex Analysis of Variance Summary of the Criterion Variable Attitude Toward School

Criterion	Group	N	M	S.D.
Attitude Toward School	I Waiting List			
	Male	12	41.92	8.75
	Female	4	40.00	3.16
	II Type A Non-Integrated			
	Male	13	42.54	7.77
	Female	7	46.29	3.50
	III Type A Integrated			
	Male	12	42.58	5.45
	Female	8	44.63	4.57
	IV Resource Room			
	Male	11	39.91	7.25
	Female	8	39.88	10.45

ANOVA TABLE

Source of Variation		DF	SS	MS	F
Rows	Sex	1	15.15	15.15	0.295
Columns	Group	3	224.87	74.95	1.462
Interaction		3	74.40	24.80	0.483
Within Cells		67	3434.25	51.25	

* Significant at the .05 level of significance.
An F value of 4.00 was required with 1,60 D.F.
An F value of 2.76 was required with 3,60 D.F.

School Friends

The stimulus concept "school friends" was used to measure how the students felt about their peers whom they considered to be friends in the school setting as opposed to those people considered to be friends in the neighborhood or within the family acquaintances. The higher scores would reflect a more positive attitude toward this concept.

The mean scores, standard deviations and F value of the criterion variable school friends are reported in Table 11. There is no statistically significant difference among the means of the four groups. Two groups; Group 2 (Type A Non Integrated) and Group 4 (Resource Room) report identical scores (41.00). Group 1 (Waiting List) and Group 3 (Type A Integrated) are very close also, (41.44 and 40.90). This would seem to indicate that this criterion variable is not affected by school placement. However, caution again should be exercised in making an inference that this is a positive attribute since this study does not report a control group. Rather, at this time and under this measure these groups show a positive attitude toward school.

This conclusion is based on the assumption that a score of 50 revealed a positive attitude toward school. No comparison is made between the subjects of the four groups of this study and the total school population since this is not a controlled experiment. A further analysis of group by sex (Table 12) does reveal that

the minor differences which appear are accounted for by the females in Group 1 (Waiting List,40.00) and Group 4 (Resource Room,39.00). This once again supports the trend that the students in these two groups are either more passive or are more immature than their peers.

Table 11

Analysis of Variance Summary of the Criterion Variable Attitude Toward School Friends

Criterion	Group	N	M	S.D.
Attitude Toward School Friends	I Waiting List	16	41.44	8.67
	II Type A Non-Integrated	20	41.00	11.64
	III Type A Integrated	20	40.90	9.30
	IV Resource Room	19	41.00	8.27

ANOVA Table

Source of Variation	DF	SS	MS	F
Between Groups	3	2.93	.0979	0.010
Within Groups	71	6577.75	92.644	
Total	74	6580.68		

* Significant at the .05 level of significance. An F value of 2.76 was required.

Table 12

Group by Sex Analysis of Variance Summary of the Criterion Variable Attitude Toward School Friends

Criterion	Group	N	M	S.D.
Attitude Toward School Friends	I Waiting List			
	Male	12	41.92	8.60
	Female	4	40.00	10.07
	II Type A Non-Integrated			
	Male	13	37.00	12.50
	Female	7	48.43	4.16
	III Type A Integrated			
	Male	12	37.58	10.45
	Female	8	45.88	4.02
	IV Resource Room			
	Male	11	42.45	7.23
	Female	8	39.00	9.67

ANOVA TABLE

Source of Variation		DF	SS	MS	F
Rows	Sex	1	210.70	210.70	2.526
Columns	Group	3	39.51	13.17	0.158
Interaction		3	669.12	223.04	2.674
Within Cells		67	5587.25	83.39	

* Significant at the .05 level of significance.
An F value of 4.00 was required with 1,60 D.F.
An F value of 2.76 was required with 3,60 D.F.

Teachers

The stimulus concept "teacher" was used to measure the attitude of the students toward adult instructors with whom they had daily contact.

Summing of the scores provided a range of scores from 10 to 50. Using this range it was assumed that the higher the score the more positive would be the attitude toward the concept.

The mean scores, standard deviations and F value of the criterion variable attitude toward teachers are reported in Table 13. There is no statistical difference among the means of the four groups but Group 4 (Resource Room) shows greater variability with a standard deviation of 10.05 and a considerably lower mean score (40.63 as compared to 44.13, 45.00 and 44.80). The group by sex analysis (Table 14) supports the previous difference in that the mean scores of the females in Group 1 (Waiting List,43.50) and Group 4 (Resource Room,41.63) are considerably below the mean score of females of Group 2 (Type A Non Integrated,48.29) and Group 3 (Type A Integrated,49.00). Furthermore the standard deviation is greater for the females of Groups 1 and 4. It is interesting to note that this trend is counter to the traditional view that girls like teachers and feel comfortable with them.

The scores of the males of Group 4 (Resource Room) show the lowest mean score, 39.91, and also display the greatest variability with a standard deviation of 11.05. Group 4 (Resource Room) both

males (39.91) and females (41.63) show the least positive scores in the measurement of attitude toward teachers. This could perhaps be accounted for by a school setting in which they do not have a strong identification with one teacher in a controlled setting. If this is true this should be noted when resource placement is being considered.

Table 13

Analysis of Variance Summary of the Criterion Variable Attitude Toward Teachers

Criterion	Group	N	M	S.D.
Attitude Toward Teacher	I Waiting List	16	44.13	4.51
	II Type A Non-Integrated	20	45.00	7.41
	III Type A Integrated	20	44.80	5.55
	IV Resource Room	19	40.63	10.05

ANOVA Table

Source of Variation	DF	SS	MS	F
Between Groups	3	239.56	79.85	1.510
Within Groups	71	3753.43	52.86	
Total		3993.00		

* Significant at the .05 level of significance.
An F value of 2.76 was required.

Table 14

Group by Sex Analysis of Variance Summary of the Criterion Variable Attitude Toward Teachers

Criterion	Group	N	M	S.D.
Attitude Toward Teachers	I Waiting List			
	Male	12	44.33	3.68
	Female	4	43.50	7.19
	II Type A Non-Integrated			
	Male	13	43.23	8.51
	Female	7	48.29	3.15
	III Type A Integrated			
	Male	12	42.00	5.38
	Female	8	49.00	2.14
	IV Resource Room			
	Male	11	39.91	11.05
	Female	8	41.63	9.13

ANOVA TABLE

Source of Variation		DF	SS	MS	F
Rows	Sex	1	171.31	171.31	3.389
Columns	Group	3	258.70	86.23	1.706
Interaction		3	148.67	49.55	0.980
Within Cells		67	3386.25	50.54	

* Significant at the .05 level of significance.
An F value of 4.00 was required with 1,60 D.F.
An F value of 2.76 was required with 3,60 D.F.

School Activities

The stimulus concept "school activities" was the term used to identify the student's attitude toward activities related to school. Through discussion with the students the writer established the concept of "school activities" as being those times such as recess, lunch hour, free time, special assemblies and holiday parties. The higher score would indicate a more positive attitude.

The mean scores, standard deviations and F value of the criterion variable attitude toward school activities are reported in Table 15. There is no statistical significant difference among the means of the four groups however, Group 4 (Resource Room) once again has the lowest score (38.11). Group 2 (Type A Non Integrated) also reported a low mean score (40.65). This could be accounted for by their lack of participation in the total school environment and the protectiveness of a self-contained school setting. The analysis of group by sex (Table 16) continues to support the trend of low mean scores of the female subjects of Group 1, 39.00 and Group 4, 36.50. Furthermore a comparison of the mean scores of the female subjects of Group 2 (Type A Non Integrated, 46.57) and Group 3 (Type A Integrated, 48.63) are very positive with small standard deviations of 1.77 and 2.76 respectively. The deviations for the female subjects of Groups 1 and 4 are 8.87 and 13.27 respectively. This indicates that the females in Groups 1 and 4 show a wide variation in their attitude toward school activities.

The males in Groups 1 (Waiting List) and 4 (Resource Room) are more positive in their attitude toward school activities than the females in the same groups. (Group 1, (Waiting List) mean scores, M=43.17; F=39.00 and Group 4 (Resource Room) mean scores, M=39.27; F=36.50). In contrast the males in Group 2 (Type A Non Integrated) and Group 3 (Type A Integrated) are less positive in their attitude toward school activities. (Group 2 (Type A Non Integrated) mean score, M=37.46; F=46.57 and Group 3 (Type A Integrated) mean scores, M=40.00; F=48.63).

Since school activities involve the total student body and males are traditionally expected to be the "all American boy" these scores might reflect the ability of these students to cope with school activities. This finding would indicate that school placement officials should carefully examine all components of the placement and treatment offered to students identified as educable mentally retarded.

Table 15

Analysis of Variance Summary of the Criterion Variable Attitude Toward School Activities

Criterion	Group	N	M	S.D.
Attitude Twoard School Activities	I Waiting List	16	42.13	5.49
	II Type A Non-Integrated	20	40.65	11.26
	III Type A Integrated	20	43.45	7.69
	IV Resource Room	19	38.11	11.95

ANOVA Table

Source of Variation	DF	SS	MS	F
Between Groups	3	301.56	100.52	1.088
Within Groups	71	6555.12	92.32	
Total	74	6856.68		

* Significant at the .05 level of significance.
An F value of 2.76 was required.

Table 16

Group by Sex Analysis of Variance Summary of the Criterion Variable Attitude Toward School Activities

Criterion	Group	N	M	S.D.
Attitude Toward School Activities	I Waiting List			
	Male	12	43.17	3.86
	Female	4	39.00	8.87
	II Type A Non-Integrated			
	Male	13	37.46	12.86
	Female	7	46.57	2.76
	III Type A Integrated			
	Male	12	40.00	8.22
	Female	8	48.63	1.77
	IV Resource Room			
	Male	11	39.27	11.42
	Female	8	36.50	13.27

ANOVA TABLE

Source of Variation		DF	SS	MS	F
Rows	Sex	1	119.39	119.39	1.395
Columns	Group	3	348.61	116.20	1.358
Interaction		3	627.17	209.05	2.443
Within Cells		67	5732.75	85.56	

* Significant at the .05 level of significance.
An F value of 4.00 was required with 1,60 D.F.
An F value of 2.76 was required with 3,60 D.F.

Results of the Analysis of Variance and Group by Sex Analysis of the A.B. Scale Scores

The fourth null hypothesis states: There will be no significant difference in the mean scores of the four groups on the seven criterion variables: 1) physical development, 2) economic development, 3) language development, 4) number-time concept, 5) self direction, 6) responsibility, and 7) socialization. Each criterion variable will thus be either retained or rejected as part of the major hypothesis.

The mean scores, standard deviations and F values of the criterion variables are presented in tables showing both the analysis of variance and the analysis of group by sex. On those criterion variables which show significance an additional analysis using the Tukey Pairwise Comparison of means is given.

The Adaptive Behavior Scale scores which hereafter will be referred to as the A.B. Scale are scores which reflect the teacher's perception of student performance. This is in contrast to the scores of the Metropolitan Achievement Test Primer Form F, The Way I Feel About Myself, and Semantic Differential Attitude Toward School scores which were written pupil report. The A.B. Scale is an instrument which attempts to provide educators with an objective way of reporting pupil behavior through the use of descriptions which can be rated. The scoring directions provide consistent evaluation of the scorer's choices and produces a score. The items on the scale chosen for this study included areas related

to academic achievement, physical development and socialization. It is important to note that the scores represent a single evaluation of the student by the teacher and are not the result of a controlled experimental treatment.

Physical Development

The mean scores, standard deviations, F value analysis of variance and group by sex analysis for the criterion variable physical development are reported in Table 17 and Table 18. The analysis of variance reports a statistically significant difference. A further analysis utilizing the Tukey Pairwise Comparison technique reports Group 2 (Type A Non Integrated) is statistically significantly different at the .05 level from Group 1 (Waiting List), Group 3 (Type A Integrated) and Group 4 (Resource Room). The null hypothesis is rejected. Group 2 (Type A Non Integrated) students are those students who are in the most protected environment of any group in this study. They do not receive instruction from teachers other than their own special teacher and also do not have classroom contact with regular students in a class such as physical education. This difference in the score of Group 2 (Type A Non Integrated,20.25) could also be the result of the more handicapped child being placed in the segregated program and the more protective view that special teachers sometimes take of their students. This score is a teacher report score and thus reflects the teacher's perception of the physical development of the student. The group by sex analysis of variance of the criterion variable physical

development (Table 18) shows a clustering of the scores of Group 1 (Waiting List, 24.00), Group 3 (Type A Integrated, 23.55) and Group 4 (Resource Room, 24.79). The scores of Group 2 (Type A Non Integrated, 20.25) are lower. The group by sex analysis of variance does not attribute this to either males or females although the scores of the females are somewhat lower and the standard deviation is considerably greater at 6.21 for Group 2 as compared to 2.63 for Group 3 and 1.58 for Group 4. The lower mean score for Group 2 (Type A Non Integrated) females (18.43) and greater variability (S.D.=6.21) could be attributed to the fact that these students are more handicapped and thus are placed in the more protective environment of the non-integrated classroom.

Table 17

Analysis of Variance Summary of the Criterion Variable Physical Development

Criterion	Group	N	M	S.D.
Physical Development	I Waiting List	16	24.00	1.93
	II Type A Non-Integrated	20	20.25	5.33
	III Type A Integrated	20	23.55	2.11
	IV Resource Room	19	24.79	1.58

ANOVA Table

Source of Variation	DF	SS	MS	F
Between Groups	3	233.66	77.88	7.618*
Within Groups	71	725.86	10.22	
Total	74	959.52		

*Significant at the .05 level of significance.
An F value of 2.76 was required.

Tukey Pairwise Comparisons of the Means of the Four Groups

Group	1	2	3	4
1	0.00	5.06*	0.61*	-1.06
2		0.00	-4.45*	-6.12*
3			0.00	1.67
4				0.00

*Significant at the .05 level of significance.
An F of ± 3.74 was required.

Table 18

Group By Sex Analysis of Variance Summary of the Criterion Variable Physical Development

Criterion	Group	N	M	S.D.
Physical Development	I Waiting List			
	Male	12	24.08	1.78
	Female	4	23.75	2.63
	II Type A Non-Integrated			
	Male	13	21.23	4.76
	Female	7	18.43	6.21
	III Type A Integrated			
	Male	12	23.00	2.45
	Female	8	24.38	1.19
	IV Resource Room			
	Male	11	25.18	1.54
	Female	8	24.25	1.58

ANOVA TABLE

Source of Variation		DF	SS	MS	F
Rows	Sex	1	7.41	7.41	0.734
Columns	Group	3	234.11	78.03	7.726**
Interaction		3	36.48	12.16	1.204
Within Cells		67	676.70	10.10	

* Significant at the .05 level of significance.
An F value of 4.00 was required with 1,60 D.F.
An F value of 2.76 was required with 3,60 D.F.

Economic Development

The means, standard deviations, F values analysis of variance, and group by sex analysis of the criterion variable economic development are presented in Table 19 and Table 20. The items of the A.B. Scale which produce a score for economic development are objectively reported by the teacher and reflect the teacher's perception of how the student can utilize basic math concepts in practical situations such as purchasing small items at the store. The analysis of variance showed no statistically significant difference among the four groups and thus the null hypothesis is retained. Inspection of the means however, does show that Group 1 (Waiting List) students are reported as achieving lower (6.81) than the students of Group 2 (Type A Non Integrated), Group 3 (Type A Integrated) and Group 4 (Resource Room). The means for these groups are 7.25, 7.05 and 8.79 respectively.

Since students of Group 1 are those who have been referred and are eligible for special placement but are still in regular rooms it might be expected that they would be more lacking in knowledge dealing with the application of basic math concepts. They in essence have not received any "special help." Also, since they are in regular rooms the teacher's perception of their ability is more apt to reflect a comparison of their ability with that of their peers. The group by sex analysis (Table 20) reported a statistically

significant F for the interaction of the variable economic development. However, Hays (1963) reports that when interaction is present any further significance is not a "best bet", therefore any significance must be carefully interpreted.

The mean score 7.25 of the females in Group 4 (Resource Room) follows the differences noted earlier for this group. The females of Group 1 (Waiting List,9.25), Group 2 (Type A Non Integrated 8.00) and Group 3 (Type A Integrated,9.00) all report higher mean scores than do the males of these three groups. The males of Group 4 (Resource Room) report a higher mean score (9.91) than do the males of the other three groups, (Group 1, 6.00, Group 2, 6.85, Group 3, 5.75). The scores of the students of Group 4 (Resource Room) with the exception noted above might be a reflection of the help received in the special tutoring which is a part of the program and of the fact that rote memorization of basic facts is at the lowest ability level in the cognitive area.

Table 19

Analysis of Variance Summary of the Criterion Variable Economic Development

Criterion	Group	N	M	S.D.
Economic Development	I Waiting List	16	6.81	3.73
	II Type A Non-Integrated	20	7.25	3.11
	III Type A Integrated	20	7.05	3.82
	IV Resource Room	19	8.79	3.31

ANOVA Table

Source of Variation	DF	SS	MS	F
Between Groups	3	44.45	14.81	1.21
Within Groups	71	866.29	12.20	
Total	74	910.75		

* Significant at the .05 level of significance.
An F value of 2.76 was required.

Table 20

Group by Sex Analysis of Variance Summary of the Criterion Variable Economic Development

Criterion	Group	N	M	S.D.
	I Waiting List			
Economic	Male	12	6.00	3.62
Development	Female	4	9.25	3.30
	II Type A Non-Integrated			
	Male	13	6.85	3.63
	Female	7	8.00	1.83
	III Type A Integrated			
	Male	12	5.75	3.65
	Female	8	9.00	3.38
	IV Resource Room			
	Male	11	9.91	3.30
	Female	8	7.25	2.82

ANOVA TABLE

Source of Variation		DF	SS	MS	F
Rows	Sex	1	25.52	25.52	2.295
Columns	Group	3	15.57	5.19	0.466
Interaction		3	95.32	31.77	2.857**
Within Cells		67	745.10	11.12	

*Significant at the .05 level of significane.
An F value of 4.00 was required with 1,60 D.F
An F value of 2.76 was required with 3,60 D.F.

Language Development

The mean scores, standard deviations, F value of the criterion variable language development are reported in Table 21 and Table 22. The teacher report scores of the A.B. Scale items dealing with language development cover basic communication ability. The scores represent how the teacher perceived the child at the time of the rating and do not show any pretest or posttest gain scores following a specific treatment. The overall scores reflect the general functional language pattern of the student. The results of the analysis of variance of the criterion variable language development (Table 21) closely parallels that of the previous criterion variable economic development. There is no statistically significant difference reported, therefore the null hypotheses is retained. Once again it is found that Group 1 (Waiting List) students are reported as having lower mean scores than do Group 2 (Type A Non Integrated), Group 3 (Type A Integrated) and Group 4 (Resource Room) students.

These means, Group I 23.88, Group II 27.00, Group III 30.25 and Group IV 30.79 with standard deviations of 9.51, 9.59, 7.73 and 7.89 for the same groups indicate considerable variable difference within groups.

It can be expected that the reasons previously cited for this lower mean score of Group 1 (Waiting List) would apply here.

Inspection of the data reporting the group by sex analysis of variance summary of the criterion variable language development

(Table 22) shows results which do not reach significance. However, it is noted that the females in Group 1 (Waiting List, 22.75), Group 2 (Type A Non Integrated) with a score of 22.71 and Group 4 (Resource Room) with a score of 26.75 are lower than the males (24.25, 29.31 and 33.73). The males and females in Group 3 (Type A Integrated) are almost identical (males 30.17, females 30.38).

This is an unusal finding in that boys generally do more poorly in language development and related subjects than do girls. Further, the greater standard deviations (11.62, 11.21, 10.35 and 10.66) for the females would indicate that some of the females are exceedingly handicapped in this area as reported by this variable.

The males of Group 4 (Resource Room) report the highest mean score (33.73) and lowest standard deviation (3.13). This variation could indicate that some more able, vocal males who have high verbal scores are being referred for special placement in resource rooms rather than being placed in either the Type A Non Integrated or Type A Integrated school setting. It is often assumed that good communication skills are necessary for further success. The finding reported here might support the assumption that the resource room environment should be considered for students with good language development.

Table 21

Analysis of Variance Summary of the Criterion Variable Language Development

Criterion	Group	N	M	S.D.
Language Development	I Waiting List	16	23.88	9.51
	II Type A Non-Integrated	20	27.00	9.59
	III Type A Integrated	20	30.25	7.73
	IV Resource Room	19	30.79	7.89

ANOVA Table

Source of Variation	DF	SS	MS	F
Between Groups	3	539.42	179.80	2.38
Within Groups	71	5358.66	75.47	
Total	74	5898.08		

* Significant at the .05 level of significance.
An F value of 2.76 was required.

Table 22

Group by Sex Analysis of Variance Summary of the Criterion Variable Language Development

Criterion	Group	N	M	S.D.
	I Waiting List			
Language	Male	12	24.25	9.27
Development	Female	4	22.75	11.62
	II Type A Non-Integrated			
	Male	13	29.31	8.14
	Female	7	22.71	11.21
	III Type A Integrated			
	Male	12	30.17	5.92
	Female	8	30.38	10.35
	IV Resource Room			
	Male	11	33.73	3.13
	Female	8	26.75	10.66

ANOVA TABLE

Source of Variation		DF	SS	MS	F
Rows	Sex	1	225.99	225.99	3.072
Columns	Group	3	546.65	182.21	2.477
Interaction		3	160.60	53.53	0.727
Within Cells		67	4928.42	73.55	

* Significant at the .05 level of significance.
An F value of 4.00 was required with 1,60 D.F.
An F value of 2.76 was required with 3,60 D.F.

Numbers-Time

The mean scores, standard deviations and F values for the criterion variable numbers-time concept are reported in Table 23 and Table 24.

The teacher report of number-time concepts from the A.B. Scale includes items which range from no understanding of numbers to such specifics as telling time by the quarter hour. This wide range of difficulty could account for the statistically significant difference reported among the groups.

The analysis of variance summary of the criterion variable numbers-time concept (Table 23) reports a significant difference. A further analysis utilizing the Tukey Pairwise Comparison Technique reveals that Group 1 (Waiting List,7.13) is significantly different from Group 3 (Type A Integrated,9.80) and Group 4 (Resource Room, 11.95). Also, Group 2 (Type A Non Integrated,8.55) is significantly different from Group 4 (Resource Room,11.95) for the criterion variable numbers-time concept. This significance level is at the .05 level. The null hypothesis is rejected.

The group by sex analysis of variance of the criterion variable numbers-time (Table 24) supports the previous analysis of variance as reported in Table 23 that there is a statistical difference by groups.

The educational implications indicate that the subjects of Group 1 (Waiting List) and Group 2 (Type A Non Integrated) are perceived by teachers to be more severely handicapped than Group 3

(Type A Integrated) and Group 4 (Resource Room). Since the subjects of Group 1 have been diagnosed as EMR the regular teachers of the students may perceive them as being less able than do the teachers of students in Group 3 and Group 4. Also, the students were no doubt referred for special education because they are deficient in these areas. As reported in Table 7 and Table 8 (page 64 and 65) scores from the Metropolitan Achievement Test, Sub Test, Number 5, Group 1 (Waiting List) students did score lower than the other three groups (19.44, 23.15, 21.60, 22.47). Group 2 (Type A Non Integrated, 8.55) subjects differ from Group 4 (Resource Room 11.95) as based on the A.B. Scale. However, on the pupil report of the Sub Test, Numbers, from the Metropolitan Achievement Test (Table 7 and Table 8) Group 2 subjects (23.15) actually scored above Group 4 (22.47) subjects. This could be explained by the fact that teachers of Group 2 (Type A Non Integrated) subjects thought that their students were less able than they actually had demonstrated.

The perception of the student labeled EMR should be noted and taken into consideration. There has been much debate about the effects of labeling with the result that many schools are moving toward the removal of categories. It is felt by the writer that the move is good if the individual needs of the student are protected and provided for in some manner which can be evaluated and improved upon if needed.

Table 23

Analysis of Variance Summary of the Criterion Variable Numbers and Time Concept

Criterion	Group	N	M	S.D.
Numbers and Time Concept	I Waiting List	16	7.13	4.50
	II Type A Non-Integrated	20	8.55	1.85
	III Type A Integrated	20	9.80	2.61
	IV Resource Room	19	11.95	2.44

ANOVA Table

Source of Variation	DF	SS	MS	F
Between Groups	3	223.62	74.54	8.750*
Within Groups	71	604.85	8.51	
Total	74	828.48		

* Significant at the .05 level of significance.
An F value of 2.76 was required.

Tukey Pairwise Comparisons of the Means of the Four Groups

Group	1	2	3	4
1	0.00	-2.11	-3.95*	-7.12*
2		0.00	-1.85	-5.02*
3			0.00	
4				0.00

* Significant at the .05 level of significance
An F of $\pm$ 3.74 was required.

Table 24

Group by Sex Analysis of Variance Summary of the Criterion Variable Numbers and Time

Criterion	Group	N	M	S.D.
Numbers and Time	I Waiting List			
	Male	12	7.42	5.00
	Female	4	6.25	2.87
	II Type A Non-Integrated			
	Male	13	9.00	1.87
	Female	7	7.71	1.60
	III Type A Integrated			
	Male	12	9.17	2.86
	Female	8	10.75	1.98
	IV Resource Room			
	Male	11	12.82	1.72
	Female	8	10.75	2.87

ANOVA TABLE

Source of Variation	DF	SS	MS	F
Rows Sex	1	8.82	8.82	1.053
Columns Group	3	221.98	73.99	8.830*
Interaction	3	31.27	10.42	1.244
Within Cells	67	561.40	8.37	

* Significant at the .05 level of significance.
An F value of 4.00 was required with 1,60 D.F.
An F value of 2.76 was required with 3,60 D.F.

Self Direction

The analysis of variance summary of the criterion variable self direction is reported on Table 25. This analysis reports a significant difference. A further analysis utilizing the Tukey Pairwise Comparison Technique reveals that Group 2 (Type A Non Integrated,19.60) is significantly different from Group 4 (Resource Room, 25.37). The significance level is at the .05 level. The null hypothesis is rejected.

Teachers of students in Group 2 (Type A Non Integrated) perceived their students to have less self direction than did the teachers of the students in Group 4 (Resource Room). One reason for this difference could be the number of teachers reporting. The 20 subjects of Group 2 (Type A Non Integrated) represent reports from 15 teachers. A second reason might be found in the nature of the programs. Type A Non Integrated classes as represented by Group 2 are essentially segregated classroom programs with very close teacher pupil contact. This often does not allow for the full realization of the student's ability for self direction. On the other hand Resource Room teachers, while having varying amounts of contact with a student, do not usually assume as much student direction as do teachers of Type A Non Integrated students. Also, the more able student, even though eligible for special services for educable mentally retarded is more apt to be placed in a resource room setting. These factors should all be considered by

the Educational Planning Committee when placement for a child is being considered.

The group by sex analysis of variance of the criterion variable as reported on Table 26 follows the same pattern as the analysis of variance by group. It should be noted though that the males of Groups 4 (Resource Room) have the highest mean score (27.82) once more supporting the idea that they are self reliant and able to direct their own activities in a setting such as a resource room.

Table 25

Analysis of Variance Summary of the Criterion Variable Self Direction

Criterion	Group	N	M	S.D.
Self Direction	I Waiting List	16	21.75	6.40
	II Type A Non-Integrated	20	19.60	6.61
	III Type A Integrated	20	23.75	6.28
	IV Resource Room	19	25.37	5.58

ANOVA TABLE

Source of Variation	DF	SS	MS	F
Between Groups	3	363.57	121.19	3.122*
Within Groups	71	2755.97	38.81	
Total	74	3119.54		

* Significant at the .05 level of significance.
An F value of 2.76 was required.

Tukey Pairwise Comparisons of the Means of the Four Groups

Group	1	2	3	4
1	0.00	1.49	-1.38	-2.50
2		0.00	-2.87	-3.99*
3			0.00	-1.12
4				0.00

* Significant at the .05 level of significance.
An F of $\pm$ 3.74 was required.

Table 26

Group by Sex Analysis of Variance Summary of the Criterion Variable Self Direction

Criterion	Group	N	M	S.D.
	I Waiting List			
Self	Male	12	22.08	5.87
Direction	Female	4	20.75	8.77
	II Type A Non-Integrated			
	Male	13	19.46	7.64
	Female	7	19.86	4.63
	III Type A Integrated			
	Male	12	23.35	7.62
	Female	8	24.50	3.85
	IV Resource Room			
	Male	11	27.82	3.57
	Female	8	22.00	6.28

ANOVA TABLE

Source of Variation	DF	SS	MS	F
Rows Sex	1	31.01	31.01	0.803
Columns Group	3	277.17	92.39	2.394
Interaction	3	121.86	40.62	1.052
Within Cells	67	2585.64	38.59	

* Significant at the .05 level of significance.
An F value of 4.00 was required with 1,60 D.F.
An F value of 2.76 was required with 3,60 D.F.

Responsibility

The mean scores, standard deviations, F values and group by sex analysis of variance of the criterion variable responsibility are reported in Table 27 and Table 28. Table 27, analysis of variance of the criterion variable responsibility shows no statistically significant difference and the null hypothesis is retained. While it is noted that there is little variability in these scores Group 1 (Waiting List) subjects do report a lower mean score (3.56 compared to 4.25, 4.75, 4.32). The members of this group, as has been previously reported, are represented by students who have been declared eligible but not placed in special learning environments for any one of a number of reasons. The very fact that they are on a waiting list would suggest that the referring teacher felt there was some deficit in their ability to be responsible for their own actions and interactions with others. The items measuring these abilities on the A.B. Scale include such things as responsibility for own possessions and dependability, two behaviors, the lack of which, are distracting to teachers and are easily noted. Also, the teachers reporting for this group might be expected to compare these students with their normal peers.

The group by sex analysis of the criterion variable responsibility (Table 28) shows a cluster of scores for both males and females in Groups 2 (Type A Non Integrated), Group 3 (Type A Integrated) and Group 4 (Resource Room). (Group 2 mean scores

M=4.00; F=4.71, Group 3 mean scores M=5.00; F=4.38 and Group 4 mean scores M=4.18; F=4.50).

The mean scores of the males and females of Group 1 (Waiting List) while lower than the scores of the other three groups are extremely close; males (3.67) and females (3.25). The differences among group means is very slight as evidenced by the F value of .0001.

Table 27

Analysis of Variance Summary of the Criterion Variable Responsibility

Criterion	Group	N	M	S.D.
Responsibility	I Waiting List	16	3.56	1.55
	II Type A Non-Integrated	20	4.25	1.68
	III Type A Integrated	20	4.75	2.31
	IV Resource Room	19	4.32	1.11

ANOVA Table

Source of Variation	DF	SS	MS	F
Between Groups	3	12.64	4.21	1.401
Within Groups	71	213.54	3.00	
Total	74	226.18		

* Significant at the .05 level of significance. An F value of 2.76 was required.

Table 28

Group by Sex Analysis of Variance Summary of the Criterion Variable Responsibility

Criterion	Group	N	M	S.D.
Responsibility	I Waiting List			
	Male	12	3.67	1.61
	Female	4	3.25	1.50
	II Type A Non-Integrated			
	Male	13	4.00	1.78
	Female	7	4.71	1.50
	III Type A Integrated			
	Male	12	5.00	2.86
	Female	8	4.38	1.19
	IV Resource Room			
	Male	11	4.18	0.75
	Female	8	4.50	1.51

ANOVA TABLE

Source of Variation		DF	SS	MS	F
Rows	Sex	1	0.002	0.002	0.0001
Columns	Group	3	13.61	4.53	1.459
Interaction		3	4.81	1.60	0.515
Within Cells		67	208.35	3.10	

* Significant at the .05 level of significance.
An F value of 4.00 was required with 1,60 D.F.
An F value of 2.76 was required with 3,60 D.F.

Socialization

The analysis of variance summary of the criterion variable socialization reported on Table 29 shows a statistically significant difference at the .05 level. A further analysis utilizing the Tukey Pairwise Comparison Technique reveals that Group 2 (Type A Non Integrated) is different from Group 1 (Waiting List), Group 3 (Type A Integrated) and Group 4 (Resource Room). The null hypothesis is rejected.

This difference of Group 2 (Type A Non Integrated) is interesting in that it supports the idea that the "protective covering" of segregated classrooms which at one time was thought to be essential for the educable mentally retarded might be detrimental. One of the basic premises of education for the EMR has been the idea that they should become socially competent. If this is true then educators should carefully examine the educational setting where this can best be accomplished. This study which is a report of existing environments as measured by these variables would seem to indicate that the segregated Type A Non Integrated classroom (mean score 19.55) does not reflect the degree of socialization shown by Group 1 (Waiting List) mean score 23.63, Group 3 (Type A Integrated) mean score 24.60 or Group 4 (Resource Room) mean score 25.26, students.

The group by sex analysis of variance of the criterion variable socialization (Table 30) supports the previous analysis of variance as reported in Table 29 that there is a statistically significant difference by group.

Table 29

Analysis of Variance Summary of the Criterion Variable Socialization

Criterion	Group	N	M	S.D.
Socialization	I Waiting List	16	23.63	5.06
	II Type A Non-Integrated	20	19.55	5.78
	III Type A Integrated	20	24.60	4.83
	IV Resource Room	19	25.26	3.90

ANOVA Table

Source of Variation	DF	SS	MS	F
Between Groups	3	389.39	129.79	5.311
Within Groups	71	1735.19	24.43	
Total	74	2124.58		

* Significant at the .05 level of significance.
An F value of 2.76 was required.

Tukey Pairwise Comparisons of the Means of the Four Groups

Group	1	2	3	4
1	0.00	3.55*	-0.85	-1.43
2		0.00	-4.40*	-4.98*
3			0.00	-0.58
4				0.00

* Significant at the .05 level of significance
An F of ± 3.74 was required.

Table 30

Group by Sex Analysis of Variance Summary of the Criterion Variable Socialization

Criterion	Group	N	M	S.D.
Socialization	I Waiting List			
	Male	12	23.83	5.31
	Female	4	23.00	4.90
	II Type A Non-Integrated			
	Male	13	20.54	6.28
	Female	7	17.71	4.57
	III Type A Integrated			
	Male	12	23.33	5.25
	Female	8	26.50	3.63
	IV Resource Room			
	Male	11	26.27	3.52
	Female	8	23.88	4.19

ANOVA TABLE

Source of Variation		DF	SS	MS	F
Rows	Sex	1	8.53	8.53	0.352
Columns	Group	3	377.86	125.95	5.202**
Interaction		3	91.50	30.50	1.260
Within Cells		67	1622.05	24.50	

* Significant at the .05 level of significance.
An F value of 4.00 was required with 1,60 D.F.
An F value of 2.76 was required with 3,60 D.F.

Results of the Intercorrelation of the Eighteen Criterion Variables

The Pearson product moment intercorrelation of the eighteen criterion variables of this study are reported by groups in Tables 31, 32, 33 and 34. Since a correlation shows relationship no causal effects are interpreted. The tables show correlation coefficients which are significant at the .05 level (underlined). However, caution should be used in interpreting these tables since correlation refers exclusively to a quantifiable relationship between two variables.

Popham (1967) states:

> It should be added that notions of causality are not inherent in product-moment correlation. Because two variables are strongly correlated does not imply that one 'caused' the other. Though it may indeed be true that variable X is causally related to variable Y, one cannot imput causal relationships to such variables on the basis of the correlation coefficient alone. Correlation is a necessary but not sufficient condition for the popular meaning of the word 'cause' (p.75).

For purposes of interpretation the intercorrelations will be analyzed as follows:

1. Student achievement represented by the variables sounds, raw score; reading raw score; numbers, raw score; sounds, standard score; reading, standard score; numbers, standard score; on the Metropolitan Achievement Test and teacher reported achievement as reported on the A.B. Scale

represented by variables language development and number-time concept.

2. Groups 1 (Waiting List) and 4 (Resource Room) are interpreted together for the reasons stated above.
3. Group 2 (Type A Non Integrated) and Group 3 (Type A Integrated) are interpreted together because of similarities in program model and type of educational environment.
4. Self Concept

Results and Discussion of Groups 1 (Waiting List) and Group 4 (Resource Room)

The intercorrelation matrix for Group 1 (Waiting List) Table 31 shows a positive significant relationship between student performance on subtests of the achievement tests, sounds raw score: with reading raw score .88, sounds raw score: with numbers raw score .74, sounds raw score: with sounds standard score .93, sounds raw score: with reading standard score .89 and sounds raw score: with number standard score .78. Further comparison of the variable sounds, raw score, with the variables economic development, language development and number and time concept as reported by the A.B. Scale are: sounds raw score with economic development .62, sounds raw score with language development .62 and sounds raw score with number and time concept .74.

The intercorrelation matrix for Group 4 (Resource Room) (Table 32) shows a similar positive relationship with the correlation coefficient scores of the variables of the Metropolitan Achievement

sounds raw scores, reading raw score, number raw score, sounds standard score, reading standard score, number standard score and the academic variables of the A.B. Scale, economic development, language development and number-time concept.

The correlation coefficients as reported in Table 40 for these variables ranged from .46 to .98.

Teachers of "normal" students who had subjects in Group 1 (Waiting List) and Group 4 (Resource Room) reported achievement as measured on the A.B. Scale as having a relationship with achievement as measured on the Metropolitan Achievement Test. These teachers perceived the subjects as performing close to the actual student performance as indicated by scores reported by the achievement test.

Results and Discussion of Group 2 (Type A Non Integrated) and Group 3 (Type A Integrated)

Results of the intercorrelation matrix Group 2 (Type A Non Integrated, Table 37) and Group 3 (Type A Integrated, Table 38) are reported and discussed together due to similarities in program model and type of educational environment. The correlation coefficients for the academic variables sounds raw score, reading raw score, numbers raw score, sounds standard score, reading standard score and numbers standard score ranged from .61 to .95. Only one academic variable, economic development, from the A.B. Scale was statistically significant as related to the variables of the Metropolitan Achievement Test for Group 2 (Type A Non Integrated).

The results were almost identical for Group 3 (Type A Integrated) (Table 42). The variable economic development was statistically significant as related to the academic variables from the Metropolitan Achievement Test, Sub Tests.

Teachers of EMR subjects in special rooms Group 2 (Type A Non Integrated) and Group 3 (Type A Integrated) reported achievement as measured by the variables language development and number and time concept on the A.B. Scale as having no relationship with achievement as measured on the Sub Tests of the Metropolitan Achievement Test. These teachers preceived the EMR subjects in special rooms as performing lower than the actual student performance indicated by scores reported by the achievement test.

Results and Discussion of the Variable Self Concept

In examination of the correlation coefficient of the criterion variable self concept it is interesting to note that correlation coefficients of the variable self concept for Group 1 (Waiting List), Group 2 (Type A Non Integrated) and Group 4 (Resource Room) do not show statistically significant relationship to the other 17 variables. The correlation of coefficients for the variable self concept for Group 3 (Type A Integrated) however, did achieve statistically significant relationship on the variable self concept with sounds, raw score; sounds, standard scores, numbers, standard score; school; school friends; economic development and self direction. The correlation coefficients are from .42 to .51. At

best this accounts for from 17% to 25% of the variability. This low correlation does not support any trend and cannot be thought of as having any particular implication for educational planning. Further inspection of the matrices shows a random low correlation. When statistical significance is reached the variability accounted for is low.

Table 31

Intercorrelation of Criterion Variables for Group 1-Waiting List

V's	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	1.00																	
2	.10	1.00																
3	-.09	.88	1.00															
4	.04	.74	.83	1.00														
5	.22	.93	.85	.73	1.00													
6	.04	.89	.97	.81	.91	1.00												
7	.10	.78	.83	.96	.83	.86	1.00											
8	.37	.26	.21	.20	.37	.24	.27	1.00										
9	.22	.11	.12	.44	.09	.07	.36	.09	1.00									
10	.09	.45	.44	.74	.52	.47	.74	.39	.60	1.00								
11	.29	.26	.20	.41	.29	.23	.39	.37	.48	.77	1.00							
12	.54	.01	.01	.03	.03	.00	.02	-.02	.53	.09	.21	1.00						
13	.11	.62	.65	.69	.59	.67	.65	-.04	.15	.36	.12	.17	1.00					
14	.14	.62	.60	.62	.63	.64	.65	-.08	.19	.41	.27	.11	.64	1.00				
15	.09	.74	.75	.65	.76	.77	.71	.23	.18	.30	.05	.00	.38	.55	1.00			
16	.15	.40	.51	.74	.42	.53	.69	.07	.54	.64	.52	.11	.54	.65	.39	1.00		
17	.40	.40	.32	.65	.41	.35	.61	.20	.77	.71	.54	.31	.53	.43	.30	.67	1.00	
18	.41	.41	.54	.63	.50	.60	.63	.08	.41	.48	.32	.62	.65	.59	.45	.55	.56	1.00

Code

1=Self concept
2=Sounds raw score
3=Reading raw score
4=Numbers raw score
5=Sounds standard score
6=Reading standard score
7=Number standard score
8=School
9=School friends
10=Teachers
11=School Activities
12=Physical development
13=Economic development
14=Language development
15=Number and time concept
16=Self direction
17=Responsibility
18=Socialization

Underlined correlation coefficients are significant at the .05 level.

Table 32

Intercorrelation of Criterion Variables for Group 4-Resource Room

V's	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	1.00																	
2	-.03	1.00																
3	-.09	.87	1.00															
4	.12	.88	.80	1.00														
5	.00	.98	.86	.85	1.00													
6	-.05	.85	.97	.74	.86	1.00												
7	.22	.81	.76	.96	.79	.72	1.00											
8	-.10	.37	.42	.33	.41	.40	.28	1.00										
9	.03	.56	.57	.63	.56	.52	.63	.53	1.00									
10	-.18	.48	.54	.48	.49	.51	.51	.50	.47	1.00								
11	-.05	.56	.57	.54	.56	.55	.56	.35	.55	.89	1.00							
12	.17	.50	.29	.47	.51	.30	.50	.01	.44	.13	.28	1.00						
13	.31	.76	.68	.86	.76	.64	.84	.53	.56	.42	.43	.58	1.00					
14	.24	.53	.46	.49	.48	.46	.47	-.00	.17	.13	.31	.40	.47	1.00				
15	.20	.59	.53	.58	.57	.54	.53	-.00	.34	.04	.25	.57	.56	.66	1.00			
16	.31	.44	.33	.47	.40	.32	.46	-.00	.35	.00	.15	.52	.51	.75	.73	1.00		
17	.06	.28	.27	.15	.33	.37	.15	-.00	.35	.03	.24	.48	.21	.19	.50	.33	1.00	
18	.19	.17	.18	.12	.20	.30	.16	-.00	.08	-.08	.13	.30	.23	.44	.70	.60	.60	1.00

Code

1=Self concept
2=Sounds raw score
3=Reading raw score
4=Numbers raw score
5=Sounds standard score
6=Reading standard score
7=Number standard score
8=School
9=School friends
10=Teachers
11=School Activities
12=Physical Development
13=Economic development
14=Language development
15=Number and time concept
16=Self direction
17=Responsibility
18=Socialization

Underlined correlation coefficients are significant at the .05 level.

Table 33

Intercorrelation of Criterion Variables for Group 2-Type A Non Integrated

V's	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	1.00																	
2	.37	1.00																
3	-.02	.83	1.00															
4	.01	.74	.80	1.00														
5	.35	.95	.74	.68	1.00													
6	.00	.76	.95	.75	.69	1.00												
7	-.00	.70	.70	.93	.72	.65	1.00											
8	-.02	.61	.73	.70	.51	.63	.59	1.00										
9	.02	.23	.16	.39	.23	.15	.37	.55	1.00									
10	.18	.36	.40	.58	.29	.35	.52	.72	.72	1.00								
11	.10	.42	.47	.68	.37	.43	.58	.67	.75	.86	1.00							
12	-.26	.35	-.30	-.31	-.43	-.41	-.39	-.00	-.02	-.09	-.27	1.00						
13	.21	.51	.62	.57	.46	.61	.50	.46	.06	.36	.23	-.01	1.00					
14	-.04	.10	.03	.03	.10	-.08	-.00	.25	-.02	.00	.03	.59	.15	1.00				
15	-.03	.43	.50	.35	.34	.44	.26	.20	-.17	.00	-.03	.06	.58	.15	1.00			
16	-.22	.07	.21	.33	.03	.22	.21	.37	.34	.22	.27	.35	.41	.35	.18	1.00		
17	-.02	.28	.33	.35	.32	.36	.27	.50	.63	.56	.58	-.03	.17	-.17	.07	.23	1.00	
18	-.11	.13	.01	-.04	-.26	-.03	-.22	.21	-.07	.03	-.07	.72	.31	.64	.27	.55	-.12	1.00

Code

1=Self concept
2=Sounds raw score
3=Reading raw score
4=Numbers raw score
5=Sounds standard score
6=Reading standard score
7=Number standard score
8=School
9=School friends
10=Teachers
11=School Activities
12=Physical development
13=Economic development
14=Language development
15=Number and time concept
16=Self direction
17=Responsibility
18=Socialization

Underlined correlation coefficients are significant at the .05 level.

Table 34

Intercorrelation of Criterion Variables for Group 3-Type A Integrated

V's	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	1.00																	
2	.46	1.00																
3	.31	.87	1.00															
4	.37	.79	.76	1.00														
5	.51	.96	.83	.82	1.00													
6	.35	.85	.95	.78	.87	1.00												
7	.44	.76	.73	.95	.84	.81	1.00											
8	.51	.28	.19	.40	.35	.26	.41	1.00										
9	.42	.06	.10	.09	.09	.18	.14	.56	1.00									
10	.31	.52	.63	.41	.49	.60	.44	.27	.53	1.00								
11	.34	.24	.26	.09	.20	.20	.11	.41	.60	.74	1.00							
12	.26	.11	.15	.12	.05	.08	.15	.07	.17	.24	.08	1.00						
13	.58	.59	.58	.72	.66	.66	.76	.42	.43	.53	.27	.42	1.00					
14	.12	.25	.25	.24	.35	.35	.36	.20	-.07	.12	-.07	-.01	.18	1.00				
15	-.15	.20	.39	.38	.26	.43	.43	.20	.08	.27	-.06	-.14	.14	.36	1.00			
16	.43	.14	.08	.28	.19	.15	.27	.61	.54	-.06	.01	.32	.52	.08	.09	1.00		
17	.33	-.06	-.15	.03	-.07	-.14	.04	.38	.27	-.26	.05	.30	.11	.13	-.27	.63	1.00	
18	.25	.16	.10	.08	.22	.17	.15	.28	.30	.01	.00	.53	.49	.22	-.09	.65	.26	1.00

Code

1=Self concept
2=Sounds raw score
3=Reading raw score
4=Numbers raw score
5=Sounds standard score
6=Reading standard score
7=Number standard score
8=School
9=School friends
10=Teachers
11=School Activities
12=Physical development
13=Economic development
14=Language development
15=Number and time concept
16=Self direction
17=Responsibility
18=Socialization

Underlined correlation coefficients are significant at the .05 level.

A Descriptive Analysis of the Tabulation of Additional Criterion Variables Reported on the A.B. Scale

Part II of the A.B. Scale measures maladaptive behavior related to personality and consists of fourteen domains:

Violent and Destructive Behavior

Antisocial Behavior

Rebellious Behavior

Untrustworthy Behavior

Withdrawal

Stereotyped Behavior and Odd Mannerisms

Inappropriate Interpersonal Manners

Unacceptable Vocal Habits

Unacceptable or Eccentric Habits

Self-Abusive Behavior

Hyperactive Tendencies

Sexually Aberrant Behavior

Psychological Disturbances

Use of Medication

The nature of each domain is such that not all subjects obtained scores on each criterion variable. As a result, mean scores would have been of no value. Therefore, frequency tabulations as percentages are given in Table 35.

Inspection of Table 35 reveals that the criterion variables antisocial behavior, rebellious behavior, withdrawal and psychological disturbance were reported most frequently. This is in

keeping with the statements which are found in referrals of potential students for placement in EMR programs. Also, the teachers of the Type A program are in closer contact with the students, therefore would presumably be more aware of this type of behavior. Students who are mildly mentally retarded often do exhibit psychological disturbances in addition to the retardation and this factor must be taken under consideration when placement and programming is being planned.

Table 35

Tabulation of Behavior of Fourteen Criterion Variables Relating to Personality

Criterion	Percent Reporting the Behavior
1. Violent and Destructive Behavior	28
2. Antisocial Behavior	53
3. Rebellious Behavior	58
4. Untrustworthy Behavior	18
5. Withdrawal	50
6. Stereotyped Behavior and Odd Mannerisms	12
7. Inappropriate Interpersonal Manners	8
8. Unacceptable Vocal Habits	14
9. Unacceptable or Eccentric Habits	15
10. Self-Abusive Behavior	2
11. Hyperactive Tendencies	15
12. Sexually Aberrant Behavior	5
13. Psychological Disturbances	80
14. Use of Medication	11

Summary

The rationale for this study was based on events which have caused educators to make changes in educational placement of students without first giving careful consideration to the reasons for change. There has been a tendency to "do away" with the old, in this case special classes, and turn to the new, resource rooms.

While this study does not represent a controlled experiment it does through measurement of criterion variables examine the self concept, academic achievement and attitude toward school of elementary EMR students in four school environments. The purpose of the study is not to indicate that any one program is superior to another as opposed to conclusions which could be drawn from a controlled study reporting pretest and posttest scores.

The examination of the student report scores of the criterion variables sounds, reading and numbers would indicate that all subjects achieved about equally well in academic areas no matter where they are placed in the total school setting. Also the analysis of variance of the self concept scores of all subjects did not reveal statistically significant difference. However, the group by sex analysis of variance for the variable self concept did show that the females of Group 1 (Waiting List) and Group 4 (Resource Room) reported higher scores than did the females of Group 2 (Type A Non Integrated) and Group 3 (Type A Integrated). In literature supporting the concept of placing students in resource rooms it is

often reported that the self concept of students would be enhanced if they were placed in a setting where they would have more contact with normal peers. But, in the present study this reasoning is not supported.

Also, it would appear that the selection process or reason for assignment to the resource program may be different for females than males. Given the same mental ability a male might be assigned to a special segregated program and a female would be acceptable in a resource room. This could be accounted for by the traditional view that girls are more tolerant of school and are more easily tolerated by teachers.

The results of the analysis of variance of the scores of the criterion variables measuring attitude toward school were not statistically significant for any one group. However, once again the group by sex analysis of variance shows that the females of Group 1 (Waiting List) and Group 4 (Resource Room) appear to have a less positive attitude toward school.

One important component of the learning environment is the teacher. This study did reveal significant differences in the way in which teachers in the four environments perceived the subjects. The data shows no significant difference among the groups on performance of the achievement tests but does show significant differences of teacher report of variables on the A.B. Scale related to academic achievement. Special class teachers of Type A students in both the integrated and non-integrated special class

settings did not perceive their students as achieving as well as the test results showed. On the other hand, regular teachers of students on waiting lists and in resource rooms perceived the students as achieving more in line with student report scores. This would suggest that teachers are influenced by the labeling process as is reported by Rosenthal and Jacobsen (1966) and is interpreted to be a very crucial aspect in determing alternate models for delivery of education to elementary EMR students.

It is interesting to note that examination of the intercorrelation matrices of Group 1 (Waiting List) and Group 4 (Resource Room) show correlations (see Tables 31 and 32 for values) between student performance for both groups on items related to academic achievement as reported from the subtests of the Metropolitan Achievement Test and the academic criterion variables from the A.B. Scale.

Referrals of students suspected of being mentally retarded are often made because the teacher feels that the student is disturbed in addition to being retarded. This feeling is supported by the tabulation table (Table 41). Eighty percent of the 75 subjects were reported as experiencing some psychological disturbance. Teachers also reported over 50 percent of the students as having antisocial behavior, rebellious behavior or as being withdrawn. These reports are in keeping with the literature which report EMR students as having more adjustment problems than students of similar chronological age.

CHAPTER VI

SUMMARY

The primary purpose of this study was to examine and compare alternatives which could be considered when selecting an educational model for educable mentally retarded children at the elementary level. The study was designed to conduct a comparative investigation of four school environments (Group 1, Waiting List; Group 2, Type A Non Integrated; Group 3, Type A Integrated; Group 4, Resource Room). The major questions investigated were:

1. Is there a difference in the mean scores of the four groups on self concept?
2. Is there a difference in the mean scores of the four groups on academic achievement?
3. Is there a difference in the mean scores of the four groups on attitude toward school?
4. Is there a difference in the mean scores of the four groups on social adaptive behavior?

The subjects (75) included in this study were selected from a composite list representing all elementary mentally retarded students from twenty-six of the twenty-eight school districts of Oakland County, Michigan and at the time of assessment were attending school in one of the following placements:

1. Waiting List-placed in regular school class but receiving no special treatment N=16

2. Type A Non Integrated-special class for EMR N=20
3. Type A Integrated special class with some interaction with regular students and teachers N=20
4. Resource Room with placement of EMR with regular students and teachers with additional supportive special help. N=19

All data were collected in November and December, 1972. Three instruments were administered to all subjects:

1. The Metropolitan Achievement Battery Primer, Form F.
2. The Way I Feel About Myself Concept Scale
3. A Semantic Differential on Attitude Toward School.

In addition, each teacher having the greatest contact with the subject completed an Adaptive Behavior Scale for each subject.

The data were punched on IBM cards and analyses were performed at Oakland Schools Computer Center. The specific analytic procedures used were: 1) analysis of variance; 2) The Pearson product-moment correlation; and 3) tabulation of additional behavior. All decisions pertaining to significance were made at the .05 level.

The null hypotheses were:

1. There will be no significant difference among

the four groups on self concept.

2. There will be no significant difference among the scores of the four groups on academic achievement.
3. There will be no significant difference among the scores of the four groups on attitude toward school.
4. There will be no significant difference among the scores of the four groups on social adaptive behavior.

Summary and Implications of Null Hypothesis I

There was no evidence against the null hypothesis concerning differences among the four groups on self concept. The analysis of variance revealed no statistically significant differences, suggesting that the students in the four placements tended to have similar feelings about themselves. One exception was found: the data indicated that female subjects in Group 1 (Waiting List, 45.75) and Group 4 (Resource Room, 42.25) account for the greatest difference in means as they scored considerably lower than the male subjects (55.58, 56.91). Of those subjects in special rooms for the EMR both males and females in Group 2 (Type A Non Integrated) reported nearly identical self concept mean scores (M=54.62, F= 54.43). The female subjects in Group 3 (Type A Integrated, 57.13) reported the highest mean self concept score of any of the four groups.

The scores of the students enrolled in the four environments being compared in this study indicated that those subjects attending school in Type A Integrated and Type A Non Integrated classrooms had the highest self concept. The lowest score (50.74 as compared to 53.13, 54.53, and 54.40) was recorded for the Resource Room students. The standard deviation of 12.03 for the Resource Room group supports the writer's observation of the wide range of ability and development displayed by these subjects.

The scores of the four groups would seem to indicate that these children did have some problems in the area of self concept. Whether or not this has implications pointing toward placement in special class programs as being beneficial would have to be determined by a controlled experiment.

Summary and Implications of Null Hypothesis II

The analysis of variance of the criterion variables sounds, reading, and numbers did not reveal any statistically significant difference among the four groups. Further group by sex analysis of the criterion variables sounds and numbers offered no evidence against the null hypothesis.

On the average these students seem to be achieving as well as they could be expected to in the cognitive areas. Examination of the scores from the Metropolitan Test Primer, Form F measuring academic achievement indicated that the students ranged in performance from readiness for academic work to grade 1.4 level.

For the criterion variable reading, the group by sex analysis resulted in a statistically significant difference. The data indicated that female subjects for Group 1 (Waiting List, 25.25), Group 2 (Type A Non Integrated, 28.71), and Group 3 (Type A Integrated, 29.00), scored significantly higher than the males while Group 4 (Resource Room) reported mean scores of male and female subjects as almost equal (M=22.09, F=22.50).

The fact that no one school setting reflected greater academic growth than another should not lead the reader to conclude that they are all adequate for teaching the EMR child. Standard deviations which range from 7.14 to 9.33 for the criterion variable sounds, from 7.11 to 9.58 for the criterion variable reading, and from 7.51 to 9.20 for the criterion variable numbers clearly indicated that there are variations in the ability of the students and that programming for them must be highly individualized.

This research does not reflect a controlled experiment wherein inference can be made that one school setting is better than another. The data suggest that the educator needs to examine school placement and determine where the academic skills needed by the individual child could be obtained.

Summary and Implications of Null Hypothesis III

The null hypothesis that there would be no significant difference in the mean scores of the four groups on the criterion variables school, school friends, teacher and school activities

was not rejected. However, data did indicate some differences which could have implications for further research efforts.

School

This scale was proported to measure the student's attitude toward the concept "school".

There was no statistically significant difference among the means of the four groups although Group 1 (Waiting List) and Group 4 (Resource Room) did score lower (41.44 and 39.89) as compared to 43.85 and 43.40 for Group 2 and Group 3 respectively. Also, the variability of the scores as evidenced by the standard deviation of 8.75 for Group 1 (Waiting List) and 10.45 for Group 4 (Resource Room) would strongly suggest that the reasons for this less positive attitude toward school should be determined.

School Friends

The purpose of this rating scale was to assess the attitude of the students toward friends at school.

Two groups, Type A Non Integrated (Group 2) and Group 4 (Resource Room) reported identical scores (41.00) while Group 1 (Waiting List) and Group 3 (Type A Integrated) reported scores of 41.44 and 40.90. In contrast to the clustering of the mean scores, the standard deviations ranged from 8.27 to 11.64, indicating that some individual students have extremely negative scores and some individual students have extremely positive scores. Once again the implication is clear, programming for the EMR child ideally should be based on the perceived needs of the student as

compared to a blanket designation of being mentally retarded followed by placement in special class.

Teachers

This scale was used to measure the attitude of the subjects toward the concept "teachers". The results of the analysis of variance reported no statistically significant difference among the means of the four groups. The group by sex analysis also reported no signficant difference. However, examination of the group by sex analysis of variance for Group 4 (Resource Room) students indicated the least positive attitude toward teachers of any of the groups. This group also had the greatest variability with a standard deviation of 10.05. The resource room environment is one in which there is less strong identification with one teacher than would be found in a segregated or regular classroom. From this it could be inferred that EMR students who need a close affiliation and strong identification with one teacher might not profit from placement in a resource room environment. Further research is needed to determine whether or not the assumption that good rapport between student and teacher is necessary for learning to take place.

School Activities

School Activities was the stimulus concept used to measure the attitude of the students toward school functions which were not directly related to academic classroom situations.

Examination of the data of the criterion variable school activities indicated that students in the Resource Room environment

have a less positive attitude toward school activities. There was no statistically significant difference among the means of the four groups nor was the overall difference significant. The standard deviation of 11.95 would also indicate that there is wide variability among the students. Since the present study is concerned with comparison of the EMR in four school environments it is felt that this is important to note. Students in the resource room setting have to cope with more interaction with the total student body and faculty and presumably would need more careful assessment of their ability to cope before this placement is selected for their education. However, additional research would be required in order to obtain more definitive answers.

While the differences revealed in the examination of the data for the criterion variables measuring attitude toward school are varied but not statistically significant, it is evident that educational plans for the EMR student must be made on an individual basis rather than on preconceived decision in selection of a model for education. Too often school systems decide on certain types of programs on the reported merit of a type of program. Children are selected for placement without regard for the compatibility of type of program and the individual needs of the child. If special education is to fulfill the implication of the word "special" every component of the total school environment needs to be examined. The best of several models can be employed to

provide the most beneficial environment for the EMR student. It may not be a case of "either/or" rather it may be a case of "some of this and some of that" blended into an educational plan.

The present study indicated that there are measurable differences in the attitude of EMR students toward school, school friends, teachers and school activities. It also suggests but does not confirm that students with less positive feelings toward the concepts measuring school attitude should be placed in the protective environment of the special class where appropriate help could be given to improve the feeling toward school.

Extensive research will be needed to assess the extent to which these attitudes may effect the total education of the student and to what extent their lack might interfer with education.

Summary and Implications of Null Hypothesis IV

The seven criterion variables used to measure social adaptive behavior were summarized individually. All scores were reported by the teachers on the A.B. Scale and represent only one report, not pre and posttest gains.

Physical Development

The criterion variable physical development scores represented the teachers' perception of sensory motor development of the subjects.

The analysis of variance of this variable revealed a statistically significant difference in that Group 2 students (Type A Non Integrated) reported lower mean scores, 20.25 than did Group 1

(Waiting List, 24.00) Group 3 (Type A Integrated, 23.55) or Group 4 (Resource Room, 24.79) students. The null hypothesis was rejected. These scores could be the result of the more handicapped student having been placed in the protective segregated environment. The environments described in this study would not necessarily have a differential effect on the physical development of the students. However, since special class teachers usually have more training in the area of sensory motor development it could be that some of the teachers of the segregated class (Group 2) made more definitive choices in the completion of the rating scale.

Economic Development

The scores reported for the criterion variable economic development are based on items measuring how the student can utilize basic math concepts in practical situations such as purchasing small items at the store.

The analysis of variance showed no statistically significant difference among the four groups and the null hypothesis was not rejected. The mean scores of Group 1 (Waiting List) students were lower than those of the other three groups (1=6.81, 2=7.25, 3= 7.05, 4=8.79). This could be interpreted to mean that the students of all groups other than Group 1 (Waiting List) have benefited from the special class placement in the area of utilization of basic math concepts. If the educational objectives for a particular child included needs in math then the selection of Group 2 (Type A Non

Integrated), Group 3 (Type A Integrated) or Group 4 (Resource Room) might be considered as an educational placement.

Language Development

The rating of the language development scale produces a score which reports the student's use of language for communicating. There was no statistically significant difference reported for this criterion variable. The group by sex analysis of variance revealed scores which are counter to the usual findings when looking at language scores of males and females. The females of Group 1 (Waiting List), Group 2 (Type A Non Integrated) and Group 4 (Resource Room) all report lower mean scores (22.75, 22.71 and 26.75, and even though these differences were not statistically significantly different it is in contrast to the traditional view that girls usually perform better on this type of measurement. Of all groups, the males of Group 4 (Resource Room) reported the highest mean score (33.73) and lowest standard deviation (3.13). This could indicate that the more able, vocal males who have high verbal scores are being referred for special placement in resource rooms rather than being placed in either the Type A Non Integrated or Type A Integrated school setting. It is often assumed that good communication skills are necessary for further success. The finding reported here might support the speculation that the resource room environment should be considered for students with good language development.

Numbers-Time

The rating of this scale produces a score which measures items

ranging from no understanding of numbers to such specifics as telling time.

The analysis of variance of the criterion variable numbers-time reported statistically significant differences among the four groups. The null hypothesis was not retained. The summary of mean scores indicated that subjects of Group 1 (Waiting List) and Group 2 (Type A Non Integrated) are perceived to be more severely handicapped than students of Group 3 (Type A Integrated) and Group 4 (Resource Room) (7.13 and 8.55, 9.80 and 11.95). These are teacher reported scores, not performance scores of the students. It is noted that the two groups reporting the lower scores were rated by teachers who in the case of Group 2 (Type A Non Integrated) may be underestimating the ability of the students because they (the teachers) often have an over protective feeling for the students. Findings such as indicated here would support the premise that educational plans for the students must be based on objective assessment not only of the skills needed but also on research evidence of the teaching and learning strategies of a given environment.

Self Direction

The A.B. Scale items relating to self direction allowed the rater to make decisions about the subject's ability to be responsible for initiating and completing tasks.

The analysis of variance of the criterion variable self direction showed a statistically significant difference. The null

hypothesis was rejected. Teachers of students in Group 2 (Type A Non Integrated, mean score 19.60) perceived their students as having less self direction while the students in Group 4 (Resource Room, 25.37) received scores which pointed toward more self direction. Teachers of Type A students in a self contained classroom did not perceive their students as being able to make decisions on their own. This could have been because there were not as many opportunities to show initiative or that the teachers were more directive. The Resource Room students were either more self directed or were perceived by the teachers to be so. A controlled experiment would be helpful to ascertain how self directive the students were and whether or not it is an important attribute needed for success in any or all of the four environments being compared.

The group by sex analysis reported the males of Group 4 (Resource Room) as having the highest mean score (27.82). This suggests the possibility that the more resourceful and self-reliant are able to direct their own activities and can be considered for educational placement in a resource room.

Responsibility

The null hypothesis for the criterion variable measuring the student's ability to care for his possessions was retained as there were no statistically significant differences reported. The variable did not seem to provide discrete measurement since the analysis of variance shows a cluster of scores Group 2 (Type A

Non Integrated, 4.25), Group 3 (Type A Integrated, 4.75) and Group 4 (Resource Room, 4.32). The mean scores of Group 1 (Waiting List) were lower (3.56). Low variability is also shown in the standard deviations, 1.55, 1.68, 2.31 and 1.11. It was observed by the writer that these students all displayed about the same amount of responsibility for their possessions as would be expected from a group of regular students of similar chronological age.

Socialization

The analysis of variance of the criterion variable socialization measuring cooperation and interaction with others showed a statistically significant difference. The null hypothesis was rejected. The main difference was noted in Group 2 (Type A Non Integrated) which reported lower mean scores, 19.55 compared to 23.63, 24.60 and 25.26. It was interesting to note that the protective atmosphere of the segregated classroom which at one time was thought to be necessary for the development of social skills seemed to be having the opposite effect. This study which is a report of existing environments as measured by these variables seems to indicate that the segregated Type A Non Integrated classroom did not reflect the degree of socialization shown by Group 1 (Waiting List), Group 3 (Type A Integrated) or Group 4 (Resource Room) students.

Further research evidence is needed to determine the degree of socialization necessary for attainment of the educational goals of the EMR student.

Intercorrelation of the 18 Criterion Variables

The eighteen criterion variables used to measure self concept, academic achievement, attitude toward school and adaptive behavior were correlated to seek quantifiable relationships between the student performance scores of the Way I Feel About Myself scale, the listening for sounds, reading, and numbers scores of the Metropolitan Achievement Test Primer Battery, Form F, the Semantic Difference Attitude Toward School Scale and the teacher reported scores of the A.B. Scale measuring social adaptive behavior. Caution should be used in examination of the tables however, the writer feels that two very pertinent observations can be made:

a. Correlations of the variables of the A.B. Scale (teacher report) and the variables of the Metropolitan Achievement Test (student report) for the scores of subjects in Group 1 (Waiting List) and Group 4 (Resource Room) resulted in computed r's ranging between .84 and .46. These results were significant at the .05 level. This relationship seemed to indicate that these teachers perceived the subjects of these two groups as performing close to the actual student performance as indicated by scores reported from the achievement test.

b. Correlations of the variables of the A.B. Scale

(teacher report) and the variables of the Metropolitan Achievement Test (student report) for the scores of subjects in Group 2 (Type A Non Integrated) and Group 3 (Type A Integrated) resulted in computed r's ranging between .76 and .03. Of the possible 36 correlations 12 were significant at the .05 level and 24 were not significant. This lack of significant relationship seemed to indicate that these teachers perceived the subjects of these two groups as performing lower than the actual student performance indicated by scores reported from the achievement test.

This study did reveal differences in the way in which teachers in the four environments perceived their subjects. It was interesting to note that special class teachers did not perceive their students as being able to achieve as well as reported by test results. This is in comparison to results which indicated that regular teachers perceived the EMR subjects as achieving in a manner comparable to test results. This observation is interpreted by the writer as being very crucial in determining a school setting for the elementary EMR student.

Tabulation of Additional Criterion Variables

Part II of the A.B. Scale measures maladaptive behavior related to personality. Fourteen domains (listed on page 42, Chapter IV) were scored by the teachers but the nature of the domain is such that not all subjects obtained scores on each criterion variable. As a result mean scores would not have been useful. However a frequency tabulation was made. This tabulation supported the observation that students are often referred for special placement because they are thought to be disturbed in addition to being retarded. Eighty percent of the 75 subjects were reported as experiencing some psychological disturbance. The criterion variables antisocial behavior, rebellious behavior, withdrawal and psychological disturbance were reported most frequently. This is in keeping with literature which reports EMR students as having more adjustment problems than students of similar chronological age.

This raises the question of whether the student is disturbed because of the retardation factor or as a result of inappropriate placement which causes him to react in a manner which can be viewed as antisocial. The writer feels this is a very critical issue and the results of this tabulation would suggest that every attempt be made to determine the primary problem of the student in order that the appropriate educational plan can be implemented.

Recommendations and Implications for Research

The opportunity for all students to attend a program best

suited to their needs is the obligation of local, state and national governments. The environment for learning should be one which will utilize the student's strengths and enable him to develop a pattern of behavior which will lead to a self-sustaining, self fulfilling adulthood.

Expectations for EMR student should be in accord with their abilities. A classroom environment with a maximum amount of interaction with regular classmates should be stressed and every opportunity should be given the EMR student to participate in this interaction in a setting which enables him to lose his identity as an EMR student. This study has called attention to some of the individual differences existing within the four settings. Extensive further research will be needed in order to decide how to maximize the benefits for the individual students.

Questions for Further Research

1. Does the type of program offered to elementary EMR students influence the student's performance in high school and adult life? If so, longitudinal studies should be conducted to determine which of the four environments discussed provide the more positive results.
2. A study should be conducted to ascertain the impact of teacher expectation on the successful integration of EMR students into the regular school population.

3. Further research should be conducted to isolate teaching styles. Do some styles, strategies, and personalities have greater impact on students than others?
4. A study using random assignment, controls and pre and posttest measures should be undertaken to aid in determining the "climate" of a room, a building, and of the school system.
5. A controlled experiment should be conducted to determine the differences between the self concept, attitude toward school and adaptive behavior of EMR students and students of similar chronological age.

APPENDIX

Table 36

Analysis of Variance Summary of the Criterion Variable Sounds Standard Score

Criterion	Group	N	M	S.D.
Sounds Standard Score	I Waiting List	16	31.63	9.02
	II Type A Non-Integrated	20	33.10	6.76
	III Type A Integrated	20	32.75	7.17
	IV Resource Room	19	29.16	4.37

ANOVA Table

Source of Variation	DF	SS	MS	F
Between Groups	3	184.12	61.37	1.277
Within Groups	71	3411.87	48.05	
Total	74	3596.00		

* Significant at the .05 level of significance. An F value of 2.76 was required.

Table 37

Group by Sex Analysis of Variance Summary of the Criterion Variable Sounds, Standard Score

Criterion	Group	N	M	S.D.
Sounds, Standard Score	I Waiting List			
	Male	12	31.17	10.17
	Female	4	33.00	4.97
	II Type A Non-Integrated			
	Male	13	32.00	6.06
	Female	7	35.14	7.99
	III Type A Integrated			
	Male	12	30.58	6.67
	Female	8	36.00	7.05
	IV Resource Room			
	Male	11	29.91	4.21
	Female	8	28.13	4.67

ANOVA TABLE

Source of Variation		DF	SS	MS	F
Rows	Sex	1	75.84	75.84	1.587
Columns	Group	3	213.49	71.16	1.489
Interaction		3	111.46	37.15	0.777
Within Cells		67	3201.25	47.77	

* Significant at the .05 level of significance.
An F value of 4.00 was required with 1,60 D.F.
An F value of 2.76 was required with 3,60 D.F.

Table 38

Analysis of Variance Summary of the Criterion Variable Reading Standard Score

Criterion	Group	N	M	S.D.
Reading Standard Score	I Waiting List	16	31.81	8.92
	II Type A Non-Integrated	20	34.95	7.32
	III Type A Integrated	20	34.35	6.43
	IV Resource Room	19	31.21	5.69

ANOVA Table

Source of Variation	DF	SS	MS	F
Between Groups	3	193.62	64.54	1.278
Within Groups	71	3583.12	50.46	
Total	74	3776.75		

* Significant at the .05 level of significance.
An F value of 2.76 was required.

Table 39

Group by Sex Analysis of Variance Summary of the Criterion Variable Reading Standard Score

Criterion	Group	N	M	S.D.
Reading Standard Score	I Waiting List			
	Male	12	30.75	9.49
	Female	4	35.00	7.07
	II Type A Non-Integrated			
	Male	13	32.77	6.71
	Female	7	39.00	7.09
	III Type A Integrated			
	Male	12	31.83	5.62
	Female	8	38.13	5.96
	IV Resource Room			
	Male	11	31.00	5.27
	Female	8	31.50	6.59

ANOVA TABLE

Source of Variation		DF	SS	MS	F
Rows	Sex	1	305.28	305.28	6.470*
Columns	Group	3	214.22	71.40	1.513
Interaction		3	90.55	30.18	0.639
Within Cells		67	3161.12	47.18	

* Significant at the .05 level of significance.
An F value of 4.00 was required with 1,60 D.F.
An F value of 2.76 was required with 3,60 D.F.

Table 40

Analysis of Variance Summary of the Criterion Variable Numbers Standard Score

Criterion	Group	N	M	S.D.
Numbers Standard Score	I Waiting List	16	30.63	9.97
	II Type A Non-Integrated	20	33.75	8.32
	III Type A Integrated	20	33.20	9.41
	IV Resource Room	19	35.58	12.46

ANOVA Table

Source of Variation	DF	SS	MS	F
Between Groups	3	216.62	72.20	0.704
Within Groups	71	7281.37	102.55	
Total	74	7498.00		

* Significant at the .05 level of significance.
An F value of 2.76 was required.

Table 41

Group by Sex Analysis of Variance Summary of the Criterion Variable Numbers, Standard Score

Criterion	Group	N	M	S.D.
Numbers, Standard Score	I Waiting List			
	Male	12	30.42	10.77
	Female	4	31.25	8.38
	II Type A Non-Integrated			
	Male	13	31.31	6.91
	Female	7	38.29	9.32
	III Type A Integrated			
	Male	12	30.33	6.50
	Female	8	37.50	11.78
	IV Resource Room			
	Male	11	39.91	12.14
	Female	8	29.63	10.88

ANOVA TABLE

Source of Variation		DF	SS	MS	F
Rows	Sex	1	22.54	22.54	0.0238
Columns	Group	3	172.65	57.55	0.610
Interaction		3	822.62	274.20	2.906**
Within Cells		67	6321.37	94.34	

* Significant at the .05 level of significance.
An F value of 4.00 was required with 1,60 D.F.
An F value of 2.76 was required with 3,60 D.F.

REFERENCES

Allport, Gordon W. Patterns and Growth in Personality. New York: Holt, Rinehart and Winston, Inc. 1961.

Arreola v. Board of Education, 160 577 (1968).

Baldwin, Willie K., "Social Position of the Educable Mentally Retarded Child in the Regular Grades in the Public Schools." Exceptional Children, 1958, 25, 106-108.

Beattie v. Board of Education, 172 N.W. 153, 169 Wis. 231, 1967.

Bereiter, C. and Engelmann, S., Teaching Disadvantaged Children in the Pre-School. Englewood Cliffs, N.J.: Prentice-Hall, 1966.

Bertocci, P. "The Psychological Self, The Ego and Personality." Psychological Review, 1945, 52, 91-99.

Binet, A. and Simon, T. "Upon the Necessity of Establishing a Scientific Diagnosis of Inferior States of Intelligence." L'Annee Psychologique, 1905, 11, 163-191. Reprinted in J.J. Jenkins and D.H. Patterson (Eds.) Studies in Individual Differences. New York: Appleton-Century Crofts, 1961, 81-90.

Blatt, B. "The Physical, Personality and Academic Status of Children Who are Mentally Retarded Attending Special Classes as Compared with Children Who are Mentally Retarded Attending Regular Classes." American Journal of Mental Deficiency, 1958, 62, 810-818.

Bloom, Benjamin S. Stability and Change in Human Characteristics. John Wiley and Sons, Inc., New York, 1964.

Brown v. Board of Education, 347 U.S. 483, 74 S. Ct. 686, 98 L. Ed. 873.

Bruininks, Robert H. and Rynders, John E. "Alternatives to Special Class Placement for Educable Mentally Retarded Children." Focus on Exceptional Children, 1971, 3, 1-12.

Cassidy, U.M. and Stanton, J.E. An Investigation of Factors Involved in the Educational Placement of Mentally Retarded Children: A Study of Differences Between Children in Special and Regular Classes in Ohio. Cooperative Research Project Report No. 1043, Washington: U.S. Office of Education, 1959.

Cegelka, W. J. and Tyler, J.L. "The Efficacy of Special Class Placement for the Mentally Retarded in Proper Perspective." Training School Bulletin, 1970, 65, 33-68.

Chennault, M. "Improving the Social Acceptance of Unpopular Educable Mentally Retarded Pupils in Special Classes." American Journal of Mental Deficiency, 1967, 72, 455-458.

Covarrubias v. San Diego Unified School District, 70-394 Texas Reports (February, 1971).

Deno, Evelyn. "Special Education as Developmental Capital." Exceptional Children, 1970, 37, 229-237.

Dewey, J. Method. In P. Monroe (Editor), A Cyclopedia Of Education. New York: The MacMillan Company, 1913, 202-205.

Diana v. State Board of Education, C-70 37 RFP, District Court for Northern California (February, 1970).

Dick, Herman F. and Lewis, Mary E. "School Attendance Areas as a Factor in Attitude of EMR Adolescent Students Toward School and School Related Activities." Education and Training of the Mentally Retarded, 1972, 7, 82-87.

DiVesta, F. and Dick, W. "The Test-Retest Realibility of Children's Rating on the Semantic Differential." Educational Psychological Measurement, 1966, 26, 605-616.

Dunn, Lloyd M., "Special Education for the Mildly Retarded-Is Much of it Justifiable?", Exceptional Children, 1968, 35, 5-24.

Dyer, Henry S., in Buros, Oscar K. (Ed.), The Sixth Mental Measurements Yearbook, New Jersey Gryphone Press, 1965, 59-65.

Goldstein, K. The Organism. New York: American Book Company, 1939.

Gozali, Joav. "The Expectancy Phenomena: Implication for Educating the Mentally Retarded." Focus on Exceptional Children, 1969, 1, 1-6.

Hammill, Donald and Wiederholt, J. Lee, The Resource Room: Rationale and Implementation. Buttonwood Farms, Inc., 1972.

Hays, William L. Statistics. New York: Holt, Rinehart and Winston, 1963.

Hilgard, E.R. "Human Motives and the Concept of the Self." American Psychology, 1949, 4, 374-382.

Hobson v. Hansen, 269 F. Supp. 401 (1967)

James, W. Principles of Psychology. (2 Vol.) Massachusetts: Peter Smith, 1890.

Johnson, G. Orville, "The Education of Mentally Retarded Children." in Cruickshank, William M. and Johnson, G. Orville (Eds.), Education of Exceptional Children and Youth. Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1967.

Johnson, G.O. "A Study of the Social Position of Mentally Handicapped Children in the Regular Grades." American Journal of Mental Deficiency, 1950, 55, 60-89.

Kirk, Roger E., Experimental Design: Procedures for the Behavioral Sciences. Belmont, California: Brooks/Cole Publishing Co., 1968.

Kirk, S.A. "Research in Education." In H.A. Stevens and R. Herber (Eds.), Mental Retardation: a Review of Research. Chicago: University of Chicago Press, 1964, 57-99.

Kirk, S.A. "What is Special About Special Education?" Exceptional Children, 1953, 19, 138-142.

Lapp, Esther R., "A Study of the Social Adjustment of Slow Learning Children Who Were Assigned Part-Time to Regular Classes." American Journal of Mental Deficiency, 1957, 62, 254-262.

Lecky, P. Self-Consistency: a Theory of Personality. New York: Island Press, 1945.

Leland, H., Nihira, K., Foster, R., Shellhaas, M. and Kagin, E. Conference on Measurements of Adaptive Behavior: II, Parsons State Hospital and Training Center, Parsons, Kansas, 1966.

Leland, H., Shellhaas, M. Nihira, K. and Foster, R. "Adaptive Behavior: A New Dimension in the Classification of the Mentally Retarded." Mental Retardation Abstracts, 1967, 4, 359-387.

Lewin, K. A Dynamic Theory of Personality. New York: McGraw-Hill Book Company, 1935.

Lewis, Lois, "The Relationship of Achievement to Reported Self Concept and Behavior Ratings by Teachers." Unpublished doctoral dissertation, Wayne State University, 1968.

Lilly, M. Stephen, "Special Education: A Teapot in a Tempest." Exceptional Children, 1970, 37-48.

Mackie, Romaine P., Williams, H., and Dunn, L.M. "Teachers of Children Who are Mentally Retarded." Washington, D.C.: Government Printing Office, Bulletin, 1957, No.3.

Maslow, A.H. Motivation and Personality. New York: Harper and Row, 1954.

Mead, George H. Mind, Self and Society. Chicago: University of Chicago Press, 1934.

Michigan Association of Intermediate District Special Education Administrators, Special Education Administrators Handbook, Kalamazoo, Michigan, 1968, 90.

Murphy, G. Personality: A Biosocial Approach to Origins and Structure. New York: Harper and Row, 1947.

Nihira, Kazuo, Foster Ray, Shellhaas, Max and Leland, Henry. AAMD Adaptive Behavior Scales Manual. Washington, D.C.: American Association on Mental Deficiency, 1970.

Nihira, K., Foster, R., and Spencer, Linda. "Measurement of Adaptive Behavior: A Descriptive System for Mental Retardates." American Journal of Orthopsychiatry, 1968, 38, 622-634.

Osgood, Charles E., Suci, George I., and Tannebaum, Percy H., The Measurement of Meaning. University of Illinois Press: Illinois, 1967.

Piers, Ellen V. and Harris Dale B., Manual for the Piers-Harris Children's Self Concept Scales. Counselor Recordings and Tests, Nashville, Tennessee, 1969.

Popham, W. James, Educational Statistics, Harper and Row, Publishers, New York: 1967.

Reger, Roger "Let's Get Rid of Special Classes, But".....August/ September 1972, Journal of Learning Disabilities, 1972, 5, 69.

Reger, R., Schroeder, W. and Uschold, D. Special Education: Children with Learning Problems. New York: Oxford University Press, 1968.

Rogers, Carl R., Client Centered Therapy. Boston: Houghton Mifflin Company, 1951.

Rogers, C.R. "Some Observations on the Organization of Personality." American Psychology, 1947, 2, 358-368.

Romando, Louis "Old Country School Technique is Back." Times Harold, Port Huron, December 19, 1972.

Rosenthal, R. and Jacobson, L. "Teachers' Expectancies: Determinants of Pupils' I.Q. Gains." Psychological Reports, 1966, 19, 115-118.

Ross, Sterling L., DeYoung, Henry G., and Cohen, Julius S. Confrontation: Special Education Placement and the Law.", Exceptional Children, 1971, 38, 5-12.

Roth, Rodney W., "The Effects of Integral Curriculum on Negro and White Fifth Grade Students." Unpublished doctoral dissertation, University of Michigan, 1969.

Rucker, Chaucy N. and Vincenzo, Filomena, M. "Maintaining Social Acceptance Gain Made by Mentally Retarded Children." Exceptional Children, 1970, 35, 679-680.

Serrano, et al. v. Priest as Treasurer, et al. 1971, as found in Weintraub, Frederick J., Abeson, Alan R. and Braddock, David L. State Law and Education of Handicapped Children: Issue and Recommendations. Council for Exceptional Children, Arlington, Virginia, 1971.

Smith, M. "Evaluation Report of a Pilot Program to Raise Self Concepts of Economically Deprived Students." Title 111 E.S.E.A. Pontiac Schools, Pontiac, Michigan, 1968.

Spangler v. Board of Education, 311 F. Supp. 501 (1970).

Sparks, Howard L. and Blackman, Leonard S. "What is Special About Special Education Revisited: The Mentally Retarded." Exceptional Children, 1965, 31, 242-247.

United States Department of Health, Education and Welfare, Office of Education. Title I ESEA-Program Guides, Numbers 44 and 45A. Washington: Government Printing Office, 1969.

Wolf, Fred G. et al. v. The Legislature of the State of Utah (Civ. No. 18 2646, 1969).

Wright, Skelly in Hobson v. Hansen, 269 F. Supp. 401 (1967).

Wyles, K. Teaching for Better School. Englewood Cliffs: Prentice-Hall, 1959.

Wylie, Ruth C. The Self Concept, A Critical Survey of Pertinent Research Literature, University of Nebraska Press, Lincoln 1961.