

EFFECTS OF ALL-DAY VS. HALF-DAY
KINDERGARTEN PROGRAMS ON THE
READINESS LEVELS OF AT-RISK
CHILDREN

By

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Bachelor of Science

Oklahoma State University

Stillwater, Oklahoma

1975

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
MASTER OF SCIENCE
December, 1983

Thesis

1983

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ACKNOWLEDGMENTS

The author wishes to express sincere appreciation for guidance, assistance, and support to the committee chair Dr. Barbara Wilkinson, and members Drs. Kay Bull and Evangie McGlon. To all of you, thank you for sharing knowledge and experience, from which I have gained tremendously.

To the many people in the school system involved, who helped in numerous ways, thank you.

Recognition and appreciation is given to my parents, Mary and B. R. Karban, whose philosophies on life and education taught me the need for continuing education.

For patience, support, encouragement, and personal sacrifice, a special thank you, with love, to my husband Richard and our children, Theron and Cindy.

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CHAPTER I

THE RESEARCH PROBLEM

Introduction

Historically, kindergartens began as all-day programs of education for the five-year old, and then were reduced to a half-day double session with the demand for educating greater numbers of children (Gorton and Robinson, 1968).

With Public Law 94-142 mandating a free and appropriate education for each individual within that child's least restrictive environment, school districts are more aware of the need for early intervention for children who may be academically at risk, and the need to determine an adequate minimal readiness level for academic performance. Thus, the public schools have the responsibility of meeting the needs of the child rather than molding the child to fit the school setting (Naron, 1981).

In order to begin this early intervention, screening of all kindergarten students at the beginning of the kindergarten year is becoming more common. It is imperative that a screening instrument is used which will provide the most accurate appraisal of a student's strengths and weaknesses to assist teachers in planning appropriately for the kindergarten year. Therefore, careful consideration

should be given in developing a program of identification of a child considered to be immature in the cognitive, psychomotor, affective, or linguistic skills which determine readiness, as well as the kindergarten program which is most appropriate to facilitate readiness for that child.

Very little evaluative research has been done in either the area of most adequate screening instruments for early kindergarten identification or in the area of a preferred length of time for a kindergarten student to spend within the confines of the structure of a school day (Cleminshaw and Guidubaldi, 1979; Mouw, 1976). In these limited studies of comparing all-day, every day kindergarten with the half-day, every day kindergarten, conflicting results were produced (Cleminshaw and Guidubaldi, 1979). Studies by Mouw (1976) and the Minnesota State Department of Education (1973) showed no significant difference in academic outcomes, whereas Cleminshaw and Guidubaldi (1979) indicated that children attending an all-day, alternate-day kindergarten do score significantly higher on an academic readiness measure, specifically the Metropolitan Readiness Test (Hildreth, Griffiths, and McGauvran, 1964), than children attending a half-day, every-day kindergarten class.

Problem Statement

This investigation looks at two related problems: 1) Can kindergarten children identified as developmentally delayed on the Kindergarten Screening Instrument (Houston

Independent School District, 1975) be successfully remediated using an all-day program for those at-risk such that there will be no differences on the Metropolitan Readiness Test (Hildreth et al., 1964) when provided at the end of the kindergarten year? 2) Is there a relationship between the Kindergarten Screening Instrument (Houston Independent School District, 1975) and the Metropolitan Readiness Test (Hildreth et al., 1964)?

Purpose of Study

The purposes of this study are to 1) evaluate the relative merits of a half-day kindergarten program on at-risk and normal children versus an all-day program on at-risk children, 2) compare the benefits of these programs for at-risk children, and 3) to assess the predictive validity of the screening instruments commonly employed.

The all-day, every-day kindergarten enrichment program is intended to help children, who are developmentally behind children of the same chronological age, to make gains during the year in order to be at a more adequate readiness level to facilitate academic success.

There are those who believe that children should be allowed to mature and not have formal educational training until they have reached the level of readiness which is most conducive to learning. However, others (Biehler, 1974) suggest that everything possible be done to teach readiness, and rather than waiting for readiness to develop,

it should be taught, or the opportunities provided for nurturing readiness.

Studies have been made as to kinds of instruments to use as indicators of academically at-risk children. Early identification of students with potential learning problems is of interest due to the importance of intervening with appropriate educational strategies before a child has experienced school failure. A more efficient use of both teacher and student time is aimed at remediating the deficit skill areas with early intervention rather than remediation programs in later years (Glazzard, 1982).

Hypotheses

I. Comparison of Posttest Levels

A. At-risk kindergarten children who have completed a full day kindergarten program will show no differential progress on the Metropolitan Readiness Test, Level A (Hildreth et al., 1964), from normal children completing a half-day kindergarten program in:

- a) Total Score
- b) Word Meaning
- c) Matching
- d) Alphabet
- e) Numbers
- f) Copying.

B. At-risk kindergarten children who have completed a half-day kindergarten program will show no differential progress on the Metropolitan Readiness Test, Level A (Hildreth et al., 1964), from normal children completing a

half-day kindergarten program in:

- a) Total Score
- b) Word Meaning
- c) Matching
- d) Alphabet
- e) Numbers
- f) Copying.

C. At-risk kindergarten children who have completed a full-day kindergarten program will show no differential progress on the Metropolitan Readiness Test, Level A (Hildreth et al., 1964), from at-risk children completing a half-day kindergarten program in:

- a) Total Score
- b) Word Meaning
- c) Matching
- d) Alphabet
- e) Numbers
- f) Copying.

II. Predictive Validity of Kindergarten Screening Instrument

A. Kindergarten children's scores on the Gross Motor section of the Kindergarten Screening Instrument (Houston Independent School District, 1975) will not predict scores on any one of five subtests of the Metropolitan Readiness Test (Hildreth et al., 1964).

B. Kindergarten children's scores on the Language Learning section of the Kindergarten Screening Instrument (Houston Independent School District, 1975) will not predict scores on any one of the five subtests of the Metropolitan Readiness Test (Hildreth et al., 1964).

C. Kindergarten children's scores on the Eye-Hand

Coordination section of the Kindergarten Screening Instrument (Houston Independent School District, 1975) will not predict scores on any one of the five subtests of the Metropolitan Readiness Test (Hildreth et al, 1964).

Limitations

1. The same curriculum was not followed in the half-day kindergarten programs as was used in the all-day programs. Therefore, it may not be known how beneficial in terms of preparation for first grade the all-day program was for the students (see Appendices D and E).

2. Students were not randomly assigned to groups. The groups were formed after the children were tested after three weeks of school. Placement was determined by scores obtained and with parent/guardian permission.

Definition of Terms

At-risk child - a child whose score on the Houston Kindergarten Screening Instrument (Houston Independent School District, 1975) indicated a readiness level that may result in academic learning problems. The scores considered as indicating an at-risk child were below 12 on the Gross Motor subtest, below 26 on the Language Learning subtest, and below 16 on the Eye-Hand subtest of the instrument. Scores used were those stated in the manual for at-risk and normal children.

Normal child - one whose score on the Houston Kindergarten

Screening Instrument (Houston Independent School District, 1975) indicated an adequate readiness level for academic achievement. These scores were 12 or above on the Gross Motor, 26 or above on the Language Learning, and 16 or above on the Eye-Hand subtests of the instrument. Scores used were those stated in the manual for at-risk and normal children.

Full-day, every-day kindergarten class - one in which students attend class Monday through Friday for a period of approximately five hours of organized learning, have the 8:30 to 3:05 time spent in school.

Half-day, every-day kindergarten class - one in which students attend class Monday through Friday for a period of two and one-half hours from 8:30 a.m. to 11:30 a.m. for the first session, and from 12:35 p.m. to 3:05 p.m. for the second session. These sessions were attended by the children identified as being at-risk who did not attend an all-day program, as well as the children identified as being normal.

CHAPTER II

LITERATURE REVIEW

Kindergarten Screening Instrument

With great interest in the area of early intervention of the at-risk student, many screening measures have been used. These have ranged from the interview to full-scale battery to symptom survey (Magliocca, Rinaldi & Stephens, 1979). Although there has been limited research to date, there is now research under way to determine the validity, reliability, and efficacy of many of these instruments (Reynolds, Wright, and Wilkinson, 1980).

Language

According to studies of children in the Detroit public schools, who in the prekindergarten screening program had been identified as at-risk, language development was the most significant predictive factor. In spite of remediation classes, almost every child who had been identified at-risk did not fully catch up (Lipson, 1981).

Indicating usefulness in predicting general academic achievement with moderate accuracy is the Northwestern Syntax Screening Test (Klein, 1980). When administered to pupils at the beginning and end of a program year, it was

found to have moderate test-retest reliability as well as being moderately accurate in predicting achievement scores. The test-retest reliability coefficients were found to be 0.542 for the receptive part of the test and 0.679 for the expressive section.

Results of various verbal and non-verbal preschool screening measures have proven to be successful in the prediction of future academic status. Predictive validities of the Test for Auditory Comprehension of Language (Carrow, 1973) and the Developmental Test of Visual Motor Integration (Beery, 1967) were investigated for a group of preschool children. Over a two-year period, both tests were significant predictors of achievement with r 's typically in high 0.405 to low 0.505 (Reynolds et al., 1980).

Development

The McCarthy Scales of Children's Abilities (McCarthy, 1972) is a standardized developmental test that has the advantage of providing both a diagnostic profile of abilities and a summary score comparable to the standard deviation IQ. It is however, lengthy and requires a highly trained examiner (Buros, 1979). A short form of the McCarthy Scales of Children's Abilities has been developed to use as a screening device. This form, The McCarthy Screening Test developed in 1978, requires only 20-25 minutes to administer and offers a procedure for identifying children at-risk for later learning problems. Evidence of

the reliability of the screening measure is limited in that it was drawn from one test-retest study using 40 children. An examination of the test-retest reliability by Umansky, Paget, and Cohen (1981) using 276 students, concluded that the McCarthy Screening Test is not stable enough to be used alone to identify children with potential learning problems.

Probably the best developed and most commonly used general screening instrument available is the Denver Developmental Screening Test (Frankenburg and Dodds, 1970). This instrument measures gross motor, language, fine motor, and social skills. With only local norms being established at this time, this normative population underrepresents lower social classes and, as a result, these children may show a high rate of deviance and deficiency because they are developmentally different from the normative population in Denver, Colorado (Buros, 1979).

One should be aware of the danger of mislabeling a child when putting together a brief screening battery. Friedman, Fuerth and Forsythe (1980) found that a battery assessing the three developmental areas critical for school learning; academic intelligence, visual-motor maturation and social maturity, may or may not correctly identify a student as being one to experience success or failure academically in the future. Satz and Friel (1978), found that an abbreviated test battery consistently identified over 90% of the children who would become severely disabled or superior readers in later years. Predictive classification was lower

for those children falling in the mid-range of the reading distribution.

Other Tests

Eno and Deichmann (1980) used the Bender Visual Motor Gestalt test in screening for brain damage in school children who would be potentially at-risk academically. This instrument was standardized for nursery and school age children. Even though its potential as a rough screening device seems great, its predictive rates are not high enough to warrant the use of the Bender as the sole diagnostic instrument. It is a useful tool when included in batteries to aid in total evaluation.

Not to be overlooked is the importance of a comprehensive health screening, including vision, hearing and dental inspection, at the same time developmental data is obtained. Failure to combine the two could be counter-productive for appropriate referral recommendations (Lombard, 1980). In Minnesota, 34% of the children were referred for health problems only. These problems may have been missed by a screening program which does not include health checks (Lombard, 1980).

The Minnesota Child Development Inventory uses a mother's observations to measure the development of her child. According to Buros (1979) the validity has not yet been convincingly established.

By observations of every-day tasks, the classroom

teacher may provide additional data to supplement any screening test (Glazzard, 1982). Umansky et al. (1981) showed that teachers referred a large percentage of children who had been missed when using the McCarthy Screening Test.

The Kindergarten Screening Test Instrument (Houston Independent School District, 1975) was developed as a screening instrument to identify difficulties that may inhibit a child's educational progress. It is to be given at the beginning of the kindergarten year, measuring language learning, gross motor skills, eye-hand coordination, and hearing and visual screening.

Data concerning this instrument in terms of validity, reliability, or standardization are not available (Attwell, 1982, personal communication). Local or national norms have not been established.

Alternative Kindergarten Programs

Even though many alternative programs to the half-day kindergarten in the United States have been initiated, little research is available to show the relative merits of the all-day, every-day kindergarten, or the all-day, alternate-day kindergarten versus the half-day, every-day kindergarten as a means of developing a child's academic readiness for future elementary school success.

A preliminary investigation of the end-of-year academic achievement of eight extended day kindergarten classes compared to a control group of eight regular kindergarten

classes showed no significant differences between groups as measured by the California Test of Basic Skills, Level A. A follow-up study of the first grade achievement of these groups again showed no differences in achievement as measured by this test. The program affects children's adjustment to first grade, in that the first grade teachers judge children coming from the extended day classrooms to be more capable students than those from regular kindergartens, thus the possibility that simply lengthening the amount of time children spend in kindergarten can give them a head start in first grade (McClinton and Topping, 1981).

In using the Metropolitan Readiness Tests (Hildreth et al., 1964) as a pre and post test, a Phoenix elementary school district showed different results than that of a Texas school district when comparing the full-day kindergarten to the half-day kindergarten. In Phoenix the test scores were substantially higher for the extended day students (Alper and Wright, 1979), whereas the Texas study showed no statistically significant difference between half-day and full-day pupils in any of the areas (Hatcher and Schmidt, 1980). Students in both studies were not randomly assigned to treatment.

The results of two studies which compared the all-day, alternate-day program with the half-day, every-day kindergarten program (Minnesota State Department of Education, 1973; Mouw, 1976) indicated no significant differences between the two programs as measured by the

Caldwell Preschool Inventory and Cognitive Abilities Test. The students in the Minnesota study were not randomly selected. Those in the study by Mouw were randomly selected from within eight classrooms for testing but were not randomly selected for treatment. (When using random and non-random groups, the at-risk, all-day group may have been low to begin with.) However, the results of Cleminshaw and Guidubaldi (1979), were in conflict with the aforementioned results as they found that randomly selected children attending an all-day, alternate-day kindergarten do score significantly higher on an academic measure than those in a half-day, every-day program when using the Metropolitan Readiness Test (Hildreth et al., 1964), Animal Crackers and Kohn Social Competence Scale (Cleminshaw and Guidubaldi, 1979). Because of these findings, they suggested research on the effects on a child of an all-day, every-day kindergarten.

A great deal of evidence has been compiled by Bloom, Hastings, and Madaus (1971) indicating that almost all students can learn whatever they are taught when provided with appropriate learning conditions. To have this appropriate learning condition, a study by Naron (1981) indicated that the full-day, every-day kindergarten would enable each child to regularly encounter success, develop a positive attitude about school and learning, and require special education services less frequently.

CHAPTER III

METHODS AND PROCEDURES

Demographic Information About Subjects

The public school system in which this study was conducted is located in a city of approximately 55,000 residents in the northwest portion of a midwestern state. The economic base consists of agriculture, oil industry, and service oriented businesses. The public school system includes 14 elementary schools, three of which were selected as locations for the kindergarten enrichment program because of the central location to each of the three areas of town. After identification, the students were assigned to the school nearest their home district.

Selection

A three-week period was allowed after the beginning of the school term to give the students a chance to become accustomed to the routine of going to school. After this time, each child who was enrolled in kindergarten was tested with the Kindergarten Screening Instrument (Houston Independent School District, 1975). This test has been used by the district for several years.

These tests were administered to the kindergarten

children by counselors of the district schools as well as volunteers who had been given training for administering the test.

The Kindergarten Screening Instrument (Houston Independent School District, 1975) consists of three areas that test the readiness of a kindergarten student. These areas are as follows: Eye-Hand Coordination, which consists of seven items. Each item has a possible score from 0 to 5, giving a total range of 0 to 35 possible on this item. The manual states that a score of 16 or above is considered adequate, therefore, children considered for the all-day kindergarten program have a cut-off score of below 16. Language Learning includes nine items with a total range of 0 to 47 possible. The manual states 26 or above is adequate, therefore, children considered for the all-day kindergarten program score 25 or below. The Gross Motor screening has six items with a 0 to 27 range, on the score. A score below 12 is considered the cut-off for identifying an at-risk child.

No consideration was given as to age of the child or if the child had scored as being at-risk or normal when putting the child in a morning half-day program or an afternoon half-day program. Therefore, at-risk children attended the same program as the normal child if the at-risk child did not attend the all-day program.

Each child scoring below the cut-off score of 12 or above on the gross motor, 26 or above on the language

learning, and 16 or above on the eye-hand part of the kindergarten screening were considered to be at-risk for academic success. A deficiency in only one of the three areas qualified the child for the enrichment kindergarten. This was carried out only if consent of parent or guardian was given. These children were enrolled in an all-day, every-day kindergarten program. If consent was not given, or if observation of the child by the teacher or a counselor indicated an all-day program was not the best placement, the child attended the half-day program. At the end of the school year these children, as well as the children placed in the half-day, every-day kindergarten, were tested with the Metropolitan Readiness Test (Hildreth et al., 1964), in order to determine: 1) readiness for first grade, and 2) progress shown by having been a participant in the all-day, every-day kindergarten enrichment class. Since different tests were used at the beginning of the kindergarten year and at the end, a pre-post test design was not feasible.

Test Information

Houston Kindergarten Screening Instrument

The Houston Independent School District (1975) developed the Kindergarten Screening Instrument as a means of early identification of difficulties that may inhibit a child's educational progress. It is given at the first part of each kindergarten year.

The instrument was constructed by a committee of specialists representing both the medical and educational fields. It has been developed so that it may be administered by volunteers as well as professionals within the school district. Each volunteer must attend orientation and training procedures.

Average testing time of the screening instrument is 20 minutes per child; the Eye-Hand taking nine minutes, the Language Learning taking six and one-half minutes and the Gross Motor taking five minutes.

This author has been unable to locate data to support the screening instrument in terms of validity, reliability, or standardization (Attwell, 1982, personal communication). Local or national norms have not been established.

The screening instrument consists of subtests in the areas of Eye-Hand Coordination, Language Learning, Gross-Motor, Distant Vision and Hearing. The vision and hearing portions of the instrument were not used by the school district.

Screening for eye-hand coordination gives an indication of how well the child will be able to function in a classroom using tools such as scissors or pencils. Language is considered the tool for learning as it measures the child's ability to receive and express verbal thoughts and feelings. The gross motor screening will help identify children who may need help in developing the ability to use their large muscles. See Appendix B for samples of each

subtest.

Each test item is scored with numbers from 0 to 6. Scoring of each subtest for overall performance is as follows.

Eye-hand coordination - seven items

Adequate if total score is 16 or above
 Referred if total score is 15 or below
 No Response if child refuses to take the entire
 Eye-Hand Coordination Instrument.

Language Learning - nine items

Adequate if total score is 26 or above
 Referred if total score is 25 or below
 No Response if child refuses to take the entire
 Language-Learning Instrument.

Gross Motor - six items

Adequate if total score is 12 or above
 Referred if total score is 11 or below
 No Response if child refuses to take the entire
 Gross Motor Instrument.

Metropolitan Readiness Test

The authors of the Metropolitan Readiness Test (Hildreth et al., 1964) devised the instrument to measure the extent to which pre-first grade pupils have developed in the following areas considered necessary for beginning school readiness.

Linguistic attainments and aptitudes, visual and auditory perception, muscular coordination and motor skills, number knowledge, and the ability to follow directions and to pay attention in group work (Hildreth et al., 1964, p. 2).

Even though these tests are not designed to measure the effectiveness of a kindergarten program, some contribution

to development should be the result of a good program.

The Metropolitan Readiness Test (Hildreth, 1964) can be given by the classroom teacher, without previous special training. It is administered to groups of 15 or less children. All the student needs to take the test are the test booklet, a crayon and a pencil. Total working time for the entire test is approximately 60 minutes. It is recommended that the test be broken into three sessions so as not to tire the student.

Once the tests are given and results computed, the authors state that classification and grouping students by total score is adequate, rather than trying to interpret individual subtests. The total score is given a letter rating from A to E. A score of A indicates a child who is very well prepared for first-grade work; B indicates a good prospect for first-grade work; C is one likely to succeed with careful consideration of learning modes; one scoring a letter D is likely to have difficulty in first-grade work; one scoring the lowest letter E indicates a high chance of difficulty in first-grade work. If a student scores in the D or E category, then the authors suggest it may be of help to the teacher to study the subtests in order to find the student's areas of strength and weakness. See Tables I and II for the significance of scores, grading, and predictions.

Subtests of the Metropolitan that were used in this study and what each purports to measure are as follows.

TABLE I
TOTAL SCORE, LETTER RATING, AND SIGNIFICANCE
OF THE METROPOLITAN READINESS TEST

Score	Letter Rating	Predictive Achievement
above 76	A	Well prepared for first grade work - capable of enrichment activities
64-76	B	First grade success if provided with stable environment
45-63	C	Success likely if instruction given according to student's learning modes
24-44	D	Difficulty likely in first grade. Instruction should be individualized and given at slow pace.
below 24	E	High chance of difficulty in regular classroom. Needs readiness work, slow pace, and individualization.

TABLE II
LETTER RATING ON SCORES OF SUBTESTS OF THE
METROPOLITAN READINESS TEST

Letter Rating	Word Meaning	Matching	Alphabet	Numbers	Copying
A	14-16	14	16	19-26	13-14
B	11-13	11-13	13-15	15-18	10-12
C	8-10	6-10	7-12	10-14	5-9
D	4-7	1-5	3-6	5-9	1-4
E	0-3	0	0-2	0-4	0

Word Meaning measures the child's store of verbal concepts. It is presented in the form of a picture vocabulary test and permits the child to indicate the breadth of his oral vocabulary. Words are chosen mainly from standard kindergarten and primary word lists. Vocabulary is, of course, one of the best indices of general mental maturity, and it is believed that the Word Meaning test provides for a representation of this general mental maturity in the total readiness score.

Matching seeks to get at visual-perceptual skills akin to those involved in discriminating word forms in beginning reading. This test has consistently correlated well with beginning reading skills.

Alphabet gets at the child's ability to recognize letters of the alphabet when these are spoken by the examiner. This ability has been demonstrated to be among the best predictors of success in the early stages of reading, even though it is recognized that teaching of the letter names is not characteristic of all kindergarten or even very early first-grade work; nor is the inclusion of this Alphabet test in the Readiness Tests to be taken as supporting the provision of such instruction. However, the great majority of beginning first-grade children do manifest considerable familiarity with the names of the letters of the alphabet: indeed, familiarity with the names of the capital letters is so nearly universal among beginning first-grade pupils that no measure of the capital letters is included in the test, since such items failed to provide any significant discriminatin among pupils. Even a test made up exclusively of recognition of lower-case letters is rather easy for typical beginning first-graders. Pupils making very low scores on this test apparently are those who have had very little exposure to the printed word (blocks, books) or very little encouragement to attend to any of the formal characteristics of words and are in need of special assistance in this respect.

Numbers is an inventory of the child's stock of number concepts, number knowledge, ability to manipulate quantitative relationships, recognition of and ability to produce number symbols, and related knowledge, such as concepts of money. While such knowledge is obviously important in the prediction of success in first-grade work in mathematics, its inclusion in the test also attests to the belief that a child's sensitivity

to the numerical and geometric aspects of his environment that presumably enables him to do well on a test of this kind is also symptomatic of a general mental alertness that will help him in all first-grade work. Indeed, the Numbers test has repeatedly been shown to be the most powerful single predictive subtest of the earlier editions of Metropolitan Readiness Tests.

Copying is a test in which the child manifests a combination of visual perception and motor control similar to what is called for in learning handwriting (Hildreth et al., 1969, pp. 15-16).

The subtests present a moderate intercorrelation forming a meaningful composite readiness measure (Table III). This suggests that no two tests measure identical functions.

TABLE III
INTERCORRELATIONS AMONG SUBTEST SCORES : NORM GROUP
(N = 12,225)

Subtest	1	2	3	4	5
1. Word Meaning	-	0.43	0.46	0.55	0.39
2. Matching			0.53	0.60	0.49
3. Alphabet				0.64	0.45
4. Numbers					0.53
5. Copying					-
Mean*	8.67	7.49	9.39	12.02	6.82
S.D.	3.10	4.04	4.70	4.70	3.88

Source: Hildreth et al., 1969, p. 16.

*Will change because one subtest is not used.

The Metropolitan Readiness Tests have a strong (0.65) correlation with the Stanford Achievement Test: Primary I (Hildreth et al., 1969) for predictive validity. An overall estimate would place the prediction at a "level of at least 0.60, a value that must be considered as very good for test results for five- and six-year-old children" (Hildreth et al., 1969, p. 17).

The Metropolitan Readiness Test (Hildreth et al., 1964) was standardized in regions of New England, Middle Atlantic, South, Central and Pacific states. A total of 299 schools, including 12,225 pupils were included. The total score mean was 53.3, which is equivalent to a letter rating of C.

Discussion of Program

Introduction to Developmental

Kindergarten

According to Piaget (Wadsworth, 1971), cognitive development is the intellectual counterpart of biological adaptation to the environment. We adapt intellectually in much the same way as we do biologically to our environment. Children are ready to develop a particular concept when they have acquired the prerequisites that are necessary.

The two critical variables in cognitive development, that are in part determined by external events, are experience and social interaction. Therefore, these can be incorporated within the classroom structure to assure that each child experiences the stages of development that are

necessary to facilitate learning. Learning of a particular concept only occurs if the concepts that are prerequisites to the concept have been acquired (Biehler, 1974).

Program From Curriculum Guide On
All-Day Kindergarten

A sample schedule is shown for one week for at-risk, all-day students in Appendix E. As many as six or more games are played at the same time with groups of children moving from one game to another as the teacher would indicate. Each child works individually, or in a small group on an independent level of mastery.

After a child spends about 10 minutes at a game, the teacher indicates to the children to move on to another activity. If one child is poor in the area, however, the teacher will have the child continue the activity.

There is one period weekly during which the children are allowed to choose their own activity. Field trips are taken frequently after having taken part in activities and discussion about the trip to make it more relevant.

Keeping the activities on an appropriately high level is a major role for the teacher in a developmental program. The teacher must become a capable diagnostician in order to maintain an appropriate level of learning for the child.

Movement and thinking are interdependent. Games designed to engage the child in meaningful and structured play should enable the child to gain increased mastery over his body movements (Enid Public Schools, 1979, p. 5).

With development of a child in mind, games as well as the basis for the games are in a curriculum guide which is provided for each teacher of an all-day, every-day developmental kindergarten.

Each teacher meets weekly with the Director of Special Education in order to keep each program basically the same, to assist the teacher in any way necessary and to share ways of improving the program.

CHAPTER IV

RESULTS

Introduction

Data were collected and analyzed to determine if there were significant differences shown between three groups of kindergarten children: Group I was classified as at-risk and attended a half-day, every-day kindergarten class; Group II was at-risk and attended an all-day, every-day kindergarten class; and Group III was classified as normal and attended the half-day, every-day kindergarten class.

Testing the Hypotheses

The alternative hypotheses (IA, B, and C) presented in Chapter I were tested with data obtained from this investigation. The t-test (Bartz, 1981) procedure was used to determine the significance of the differences between the means of the three experimental groups at the end of the kindergarten year. These groups being: Group I, at-risk, half-day class; Group II, at-risk, all-day class; Group III, normal, half-day class kindergarten students. This information is shown on Table IV.

Hypothesis I-A stated:

At-risk kindergarten children who have completed a full day kindergarten program will show no differential progress on the Metropolitan Readiness Test, Level A (Hildreth et al., 1964), from normal children completing a half-day kindergarten program in:

- a) Total Score
- b) Word Meaning
- c) Matching
- d) Alphabet
- e) Numbers
- f) Copying

The following data compare Groups II and III. See Tables IV and V for details. In relation to a) Total Score ($t = -7.969$ with 47 and 234 degrees of freedom, $P < .0001$), b) Word Meaning ($t = -8.487$ with 47 and 23 degrees of freedom, $P < .0082$), c) Matching ($t = -5.308$ with 47 and 234 degrees of freedom, $P < .0001$), d) Alphabet ($t = -2.943$ with 47 and 234 degrees of freedom, $P < .00350$), e) Numbers ($t = -8.487$ with 47 and 234 degrees of freedom, $P < .0001$) and f) Copying ($t = -6.569$ with 47 and 234 degrees of freedom, $P < .00010$), all hypotheses in this group are significant.

An examination of Table V indicates that in all cases the half-day, normal children outperformed the all-day, at-risk children. Therefore the normal children were academically more ready for first grade at the end of the school year.

Hypothesis 1-B stated:

At-risk kindergarten children who have completed a half-day kindergarten program will show no differential progress on the Metropolitan Readiness Test, Level A (Hildreth et al., 1964), from normal children completing a half-day kindergarten program in:

TABLE IV
T-TEST PROCEDURE ON METROPOLITAN
READINESS TEST

Half-day At-Risk versus Half-day Normal			
Subtest	t	P	DF
Matching	-4.358	.0001	139, 234
Alphabet	-2.824	.005	139, 234
Word Meaning	-3.519	.0005	139, 234
Numbers	-5.018	.0001	139, 234
Copying	-2.629	.0089	139, 234
TOTAL	-4.824	.0001	139, 234

Half-day At-Risk versus All-day At-Risk			
Subtest	t	P	DF
Matching	2.023	.0445	139, 47
Alphabet	.9395	.3487	139, 47
Word Meaning	.3960	.7289	139, 47
Numbers	4.7395	.0001	139, 47
Copying	4.4334	.0001	139, 47
TOTAL	4.3677	.0001	139, 47

All-day At-Risk versus Half-day Normal			
Subtest	t	P	DF
Matching	-5.308	.0001	47, 234
Alphabet	-2.943	.0035	47, 234
Word Meaning	-2.661	.0082	47, 234
Numbers	-8.487	.0001	47, 234
Copying	-6.569	.0001	47, 234
TOTAL	-7.969	.0001	47, 234

TABLE V
 MEANS AND STANDARD DEVIATIONS FOR GROUPS I, II, III
 ON RAW SCORES OF METROPOLITAN READINESS TEST

		Group I	Group II	Group III	Norm Group*
Matching	M	9.124	8.104	10.387	7.49
	SD	2.920	3.250	2.595	4.04
Alphabet	M	13.743	13.313	14.426	9.39
	SD	2.477	3.397	2.128	4.70
Word Meaning	M	8.093	7.938	9.098	8.67
	SD	2.600	2.920	2.718	3.10
Numbers	M	13.743	10.521	15.898	12.02
	SD	4.074	4.037	3.992	4.70
Copying	M	8.086	5.625	8.991	6.82
	SD	3.280	3.431	3.195	3.88
Total Score	M	63.243	54.042	69.357	53.30
	SD	12.103	13.950	11.736	

Group I (Half-day, At-risk Student) - N = 140
 Group II (All-day, At-risk Student) - N = 47
 Group III (Half-day, Normal Student) - N = 235
 Norm Group - N = 12,225

*Source: Hildreth, Griffiths, and McGauvran, 1969.

- a) Total Score
- b) Word Meaning
- c) Matching
- d) Alphabet
- e) Numbers
- f) Copying

The t-test procedure was also used in finding significance between Group I, the at-risk, half-day students and Group II, the at-risk, all-day students on the Kindergarten Screening Instrument (Houston Independent School District, 1975) which was given at the beginning of the kindergarten school year. There was no significance on the language learning ($t=1.675$ with 35 and 15 degrees of freedom, $P<.1003$); eye-hand ($t=2.050$ with 40 and 45 degrees of freedom, $P<.0435$); and gross motor ($t=2.105$ with 44 and 113 degrees of freedom, $P<.0369$). Eye-hand and gross motor are significant. This indicates that since the at-risk children who were placed in the all-day program were significantly behind in readiness skills, the program did work in that all children showed gains that brought them equal to or above the average of the normative group upon which this instrument was standardized.

Hypothesis I-B looks at comparisons of Groups I and III. The comparisons are as follows: a) Total Score ($t=-4.824$ with 139 and 234 degrees of freedom, $P<.0001$); b) Word Meaning ($t=-3.519$ with 234 and 139 degrees of freedom, $P<.0005$); c) Matching ($t=-4.358$ with 139 and 234 degrees of freedom, $P<.0001$); d) Alphabet ($t=-2.824$ with 139 and 234 degrees of freedom, $P<.0050$); e) Numbers ($t=-5.018$ with 139 and 234 degrees of freedom, $P<.0001$); f) Copying ($t=-2.629$

with 139 and 234 degrees of freedom, $P < .0089$). All of the comparisons are significant.

Examination of Table V indicates that the children assigned to the half-day, at-risk group performed at a lower level than did the normal children.

Hypothesis I-C stated:

At-risk kindergarten children who have completed a full day kindergarten program will show no differential progress on the Metropolitan Readiness Test, Level A, from at-risk children completing a half-day kindergarten program in:

- a) Total Score
- b) Word Meaning
- c) Matching
- d) Alphabet
- e) Numbers
- f) Copying

Hypothesis I-C looks at comparisons between Groups I and II. The results are as follows: a) Total Score ($t = 4.3677$ with 139 and 45 degrees of freedom, $P < .0001$); b) Word Meaning ($t = 0.3460$ with 139 and 47 degrees of freedom, $P < .7289$); c) Matching ($t = 2.023$ with 139 and 47 degrees of freedom, $P < .0445$); d) Alphabet ($t = .9395$ with 139 and 47 degrees of freedom, $P < .3487$); e) Numbers ($t = 4.7395$ with 139 and 47 degrees of freedom, $P < .0001$); and f) Copying ($t = 4.4334$ with 139 and 47 degrees of freedom, $P < .0001$). All hypotheses except c and d were significant.

As shown in Table V, the half-day, at-risk students outperformed the all-day, at-risk students in four of six cases. In the areas of Alphabet and Word Meaning, there were no differences in the means.

The hypotheses (IIA, B, and C) presented in Chapter I were tested with data obtained from this investigation. Correlation coefficients were used to determine significance of the Kindergarten Screening Instrument (Houston Independent School District, 1975) to predict scores on the Metropolitan Readiness Test (Hildreth et al., 1964). Table VI shows this data. At $P < .05$, Eye-Hand Coordination is significantly correlated with Word Meaning, and Language Learning and Eye-Hand Coordination are significantly correlated with Numbers. At $P < .01$, Eye-Hand Coordination is significantly correlated with Copying. The number of students with each of the subtest varies because of the fact that only scores that may have influenced placement of a child into a special program were recorded on the pretests. The numbers used were 52 for the Language Learning, 89 for the Eye-Hand Coordination and 160 for the Gross Motor. The number used on the posttest was 425.

Because the sample in this study is restricted, the correlation is deflated and, even though significance is indicated, it may have been at higher levels with a sample which was not restricted.

Hypothesis II-A stated:

Kindergarten children's scores on the Gross Motor section of the Kindergarten Screening Instrument will not predict scores on any one of five subtests of the Metropolitan Readiness Test.

Scores in relation to the Gross Motor section of the Kindergarten Screening Instrument and the Metropolitan Readiness test show no significant relationship, therefore

The hypotheses (IIA, B, and C) presented in Chapter I were tested with data obtained from this investigation. Correlation coefficients were used to determine significance of the Kindergarten Screening Instrument (Houston Independent School District, 1975) to predict scores on the Metropolitan Readiness Test (Hildreth et al., 1964). Table VI shows this data. At $P < .05$, Eye-Hand Coordination is significantly correlated with Word Meaning, and Language Learning and Eye-Hand Coordination are significantly correlated with Numbers. At $P < .1$, Eye-Hand Coordination is significantly correlated with Copying. The number of students with each of the subtest varies because of the fact that only scores that may have influenced placement of a child into a special program were recorded on the pretests. The numbers used were 52 for the Language Learning, 89 for the Eye-Hand Coordination and 160 for the Gross Motor. The number used on the posttest was 425.

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Scores in relation to the Gross Motor section of the Kindergarten Screening Instrument and the Metropolitan Readiness test show no significant relationship, therefore

Hypothesis II-A is not rejected.

Hypothesis II-B stated:

Kindergarten children's scores on the Language Learning section of the Houston Kindergarten Screening Instrument will not predict scores on any one of five subtests of the Metropolitan Readiness Test.

TABLE VI
CORRELATION COEFFICIENTS WITH THE METROPOLITAN
READINESS TEST SUBTESTS

	Gross Motor (n=160)	Language Learning (n=52)	Eye-Hand Coordination (n=89)
Matching	.079	.231	.107
Alphabet	.109	.142	.121
Word Meaning	.065	.250	.220*
Numbers	.139	.323*	.262*
Copying	.096	.083	.370**

* < 0.05
** < 0.01

Scores in relation to Language Learning section of the Kindergarten Screening Instrument and the Metropolitan Readiness test are significantly correlated with the Numbers subtest. Therefore Hypothesis II-B is rejected regarding the Numbers subtest. Matching, Alphabet, Word Meaning and

Copying subtests are not significantly correlated, and Hypothesis II-B in relation to these subtests is not rejected.

Hypothesis II-C stated:

Kindergarten children's scores on the Eye-Hand Coordination section of the Houston Kindergarten Screening Instrument will not predict scores on any one of five subtests of the Metropolitan Readiness Test.

Scores in relation to Eye-Hand Coordination section of the Kindergarten Screening Instrument and the Metropolitan Readiness test are significantly correlated with the subtests Word Meaning, Numbers and Copying. Therefore these subtests of Hypothesis II-C are rejected. The Matching and Alphabet subtests are not significantly correlated and Hypothesis II-C in relation to these subtests is not rejected.

Summary

The population utilized in this study was that of 425 children who were attending kindergarten at the beginning of the school year. The t-test procedures found that all subtest comparisons were significant except Alphabet and Word Meaning between Groups I and II.

The Correlation Coefficients showed significant scores on the Eye-Hand of the pretest and the Word Meaning, Numbers and Copying subtests of the posttests. Significance was also shown between the Language-Learning subtest of the pretest and the Numbers subtest of the posttest.

CHAPTER V

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Discussion

When considering the results as a whole, it is the more academic areas that are influenced whether the at-risk child attends the all-day or half-day program. This may be due to the fact that most teachers spend more time on the areas which are considered to be academic, particularly numbers and the alphabet. Therefore, the program itself may be more important than the amount of time spent in the classroom.

Even though the normal children's mean posttest scores were higher, this does not necessarily indicate that the alternative program of all-day attendance is not getting optimal results from the at-risk child. This is shown on Table VII of the pretest means. The pretest indicates that the groups were non-equivalent. Because of this, the non-equivalent relationship held throughout the treatment. All groups gained, but the relationship stayed the same. The posttest in relation to the norm group for the Metropolitan Readiness Test (Hildreth et al., 1964) shows that all groups exceeded the norm group. The treatment was very powerful in relation to variables measured by the Kindergarten Screening

TABLE VII
 MEANS AND STANDARD DEVIATIONS FOR GROUP I AND
 GROUP II AND T-TEST PROCEDURE ON RAW SCORES
 OF THE KINDERGARTEN SCREENING INSTRUMENT

	Group I	Group II
Language Learning		
M	25.5	20.7
SD	9.00	9.8
N	16	36
t-score		1.6745 P<.1003
Eye-Hand Coordination		
M	12.2	9.5
SD	4.7	7.4
N	46	41
t-score		2.0500 P<.0435
Gross Motor		
M	7.9	6.5
SD	2.8	5.1
N	114	45
t-score		2.1045 P<.0369

Group I - at-risk; half-day.
 Group II - at-risk; all-day.

Instrument (Houston Independent School District, 1975). More investigation is needed. The child may have been developmentally delayed to the degree that without the special all-day program the posttest scores would have been considerably lower. It is not known if the normal child would have scored at a higher performance level had the child attended kindergarten for a full day. Until a study with a randomly selected population consisting of at-risk and normal children in a half-day program and also in an all-day program is conducted, uncertainty will remain concerning the effectiveness of alternative kindergarten programs.

If numbers within groups had not been restricted by not having scores on all children, where significance is shown, greater levels may have been indicated. The correlation is deflated because of this restriction. It is difficult to justify the use or nonuse of the Kindergarten Screening Instrument (Houston Independent School District, 1975) in identifying at-risk children.

Another factor that may be considered is that the children gained because of natural growth and maturation in development rather than the time spent in school.

Conclusions

The effects of achievement in three groups of kindergarten children were examined in this study. The three groups involved were: Group I consisted of children

having been identified as at-risk who attended a regular half-day, every-day kindergarten class; Group II, children who were identified as being at-risk developmentally and were placed in all-day, every-day enrichment kindergarten; and Group III included children considered normal who attended the half-day regular kindergarten class.

Children considered to be at-risk are those found to be immature in cognitive, psychomotor, affective or linguistic skills, if all or any one of these areas is not fully developed a child may be considered not ready to enter kindergarten. After participating in the all-day kindergarten program, these students had a total mean score of 54 as compared to 53 for the national norms of the Metropolitan Readiness Test. With the two half-day groups scoring 63 for at-risk children and 69 for normal children, all groups scored above national norms. These scores fall in the C group which indicates school success when correct modes are used for the student.

Caution is to be used in identifying the at-risk child in order to not make the mistake of giving that child an incorrect label. This study used the Kindergarten Screening Instrument (Houston Independent School District, 1975) as the pretest to see if there was a correlation with the Metropolitan Readiness Test (Hildreth et al., 1964) when used as a posttest. Hypotheses were formulated to determine the effects of the length of the program. Other hypotheses concerned the predictive validity of the pretest score.

Children of legal kindergarten age were tested with the Kindergarten Screening Instrument (Houston Independent School District, 1975), which is designed to determine a child's readiness for a kindergarten program. The children attended either a half-day kindergarten program or an all-day kindergarten program. At the end of the year each was given the Metropolitan Readiness Test (Hildreth et al., 1964) to determine readiness for first grade academics.

Based upon the previously identified hypotheses, the following conclusions are suggested.

Hypothesis I-A: Posttest scores in this group were all significant. In all cases the half-day, normal children outperformed the all day, at-risk children. Therefore the normal children were more ready for academics at the end of the school year.

Hypothesis I-B: Posttest scores in this group were all significant. Therefore the normal children outperformed the at-risk children attending a half-day program at the end of the kindergarten year.

Hypothesis I-C: Posttest scores in this group showed that all were significant except in the areas of Matching and Alphabet. The half-day, at-risk students outperformed the all-day, at-risk students in all areas except Alphabet and Word Meaning, where no differences were shown. Even though the normal children outperformed the at-risk children, all children showed gains when considering the differences in means at the beginning of the kindergarten

year.

Hypothesis II-A: Scores in the area of Gross Motor skills show no significant relationship with any of five subtests of the posttest which was given.

Hypothesis II-B: Scores in the area of Language Learning show significance on the subtest of Numbers of the posttest. No significance was shown on any of the other four subtests.

Hypothesis II-C: Scores in the area of Eye-Hand Coordination show a significance on the subtests Word Meaning, Numbers and Copying. The Matching and Alphabet subtests were not found to be significant.

It is concluded that this study raises numerous areas in which further research is needed in order to determine the effectiveness of an all-day, every-day kindergarten class, as well as the effectiveness of the Kindergarten Screening Instrument (Houston Independent School District, 1975). Until a study using a control group of normal children as well as the at-risk children in the all-day program is conducted, the significance of the results remains in question. It is not known if the at-risk and normal students would have made greater gains had they attended the all-day program.

If the Kindergarten Screening Instrument (Houston Independent School District, 1975) were used as a posttest as well as a pretest, further information would be gained in evaluating the all-day, every-day kindergarten program.

Until research is conducted on the correlation of the Kindergarten Screening Instrument (Houston Independent School District, 1975) and the Metropolitan Readiness Test (Hildreth et al., 1964) using children whose scores are available on all three subtests of the Kindergarten Screening Instrument (Houston Independent School District, 1975) as well as the Metropolitan Readiness Test (Hildreth et al., 1964) the correlation may differ. Therefore, the Kindergarten Screening Instrument (Houston Independent School District, 1975) should not be ruled out as a screening instrument.

Recommendations

1. Similar research in this area be conducted using randomly selected subjects.
2. Research be conducted over a period of several years in order to determine the longitudinal effects of a kindergarten program on academic success in the early grades.
3. Further study to determine if fatigue, home environment, measured intelligence, social-economic status of parents, teacher effectiveness, attendance patterns and testing procedures are variables which affect performance.
4. Additional data should be gathered from a questionnaire given to the parent, teacher and administrator of the school to determine attitude and their effect on a program.
5. Continue screening for at-risk children to enable

the school district to make long-range plans as to how many children will be possible candidates for special classes.

6. Thoroughly review the nature and scheduling of compensatory programs to maximize their effectiveness.

7. Use early intervention with caution in that a child may be labeled erroneously and optimal development may be hampered (Phye and Reschly, 1979).

8. Differentiate at-risk or normal children in a.m. and p.m. kindergarten program.

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APPENDIXES

APPENDIX A

KINDERGARTEN SCREENING INSTRUMENT

MATERIAL AND SUPPLIES

Eye-Hand Coordination Screening

1. One primary table for each child - important to have smooth surface.
2. One primary chair for each child.
3. One large chair for each screener.
4. Six primary size pencils (husky-fat) for child's use - keep sharpened.
5. Two #2 pencils for recording only.
6. Marks-A-Lot for demonstration of items 1 and 3.
7. Unlined white paper.
8. Ruler for item 3.
9. Chalk and blackboard or easel and paper (big enough for 12" triangle).
10. Sample of square for item 1.
11. Maze drawings for child's use.
12. Visual discrimination sheet for child's use.
13. Block (dots) drawings - screener's copy and child's copy.
14. Stick in box drawings - screener's copy and child's copy.
15. Scissors for screener.
16. Report sheets.

Language-Learning Screening

1. One primary chair for child.
2. One primary table for child.
3. One large chair for screener.
4. Two #2 pencils.
5. Plural pictures (2 pages).
6. "Ing" pictures (2 pages).
7. Category pictures (6 pages).
8. Scissors for screener.
9. 3" x 5" card.
10. Book.
11. Report sheets.

Gross Motor Screening

1. One table for each scorer.
2. One large chair for each scorer.
3. 24" hoop (to make, connect one end of tubing to end containing dowel).
4. Tape measure.
5. Masking tape to mark lines for items 5 and 6.
6. Five bean bags.
7. Two #2 pencils.
8. Report sheets.

Supplies For All Screeners

1. Data sheets (Original and attached carbon).
2. Individual screening instruments.
3. Student identification and check card.

Supplies For All Teachers

1. Kindergarten Screening Manuals (Houston Independent School District, 1975).
2. Kindergarten Screening Follow-Up Activities (Perry and Cater, 1977).

APPENDIX B

KINDERGARTEN SCREENING INSTRUMENT

Eye-Hand Coordination

Procedure

After the child is seated, ask the child his name and establish rapport. Give directions in English first, then in Spanish if needed.

Note: if the child refuses to take the entire Eye-Hand Coordination Instrument, grid only NO RESPONSE on the Data Sheet. If the child refuses only certain items of the Instrument, grid those =0=.

1. COPIES A SQUARE

Place a big, husky pencil and unlined paper directly in front of the child. Place the picture of a square flat on the table above the child's paper and say "Make one just like this." (Do not name it.)

If he cannot make a square, say, "Watch what I am doing." Draw a square on his sheet (start at child's upper left hand corner, move down, then across to the child's right, then up, then across to the child's left) making sure that the angles are well defined and that the sides are approximately equal in length. Say, "Now you do it."

See samples, back of instrument.

Score on Data Sheet as illustrated below.

Drawing:

Unrecog- nizable	1 square corner	2 square corners	3 square corners	4 square corners, sides un- equal or rotated	Perfect square, not rotated more than 30°
---------------------	--------------------	---------------------	---------------------	--	--

Score:

=0=

=1=

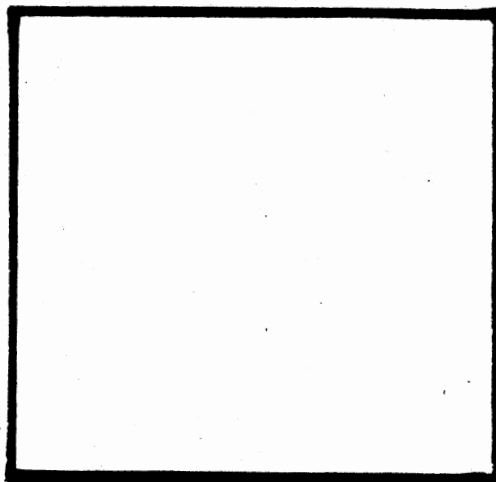
=2=

=3=



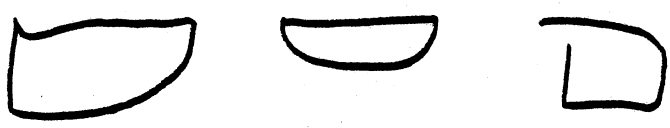

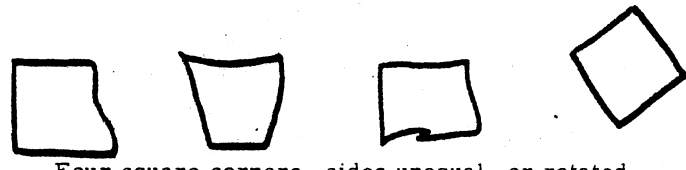
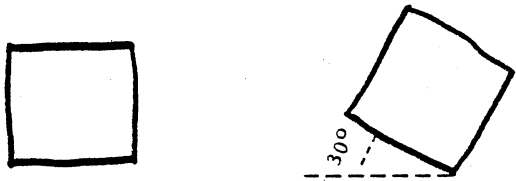
=4=

=5=

Item 1 - Sample square



EYE-HAND COORDINATION
 ITEM 1 - Sample Squares to be Expected

			SCORE
			
Unrecognizable			=0=
			
One square corner			=1=
			
Two square corners			=2=
			
Three square corners			=3=
			
Four square corners, sides unequal, or rotated			=4=
			
Perfect square, not rotated more than 30°			=5=

Language Learning Screening

The items should be presented with enthusiasm. The screener should develop the ability to adjust to delayed response patterns in the young child.

Note: If the child refuses to take the entire Language-Learning Instrument, grid only NO RESPONSE on the Data Sheet. If the child refuses only certain items of the Instrument, grid those =0=.

1. GIVES AGE, FULL NAME, BIRTH DATE AND ADDRESS

- a. Say, "What is your name?" If he gives his first name only, say, "What is the rest of your name?" Or, "What is your whole name?" (Middle name not required)
- b. Say, "How old are you?" (Years only)
- c. Say, "When is your birthday?" (Day and month for credit)
- d. Say, "Where do you live?" (Number and street; if the child does not give street and number, say, "What street and number?")

Score on Data Sheet as illustrated below.

Responses:

None 1 of above 2 of above 3 of above 4 of above

Score:

=0= =1= =2= =3= =4=

2. BODY IDENTIFICATION

The screener will score the child on six body parts. The child names the body part as the screener touches her own eye, ear, thumb, elbow, knee, ankle.

Say, "Tell me what I am touching."

If the child does not respond, the screener may encourage by saying, "What is this?"

Screener touches her own eye.
 Screener touches her own ear.
 Screener touches her own thumb.
 Screener touches her own elbow.
 Screener touches her own knee.
 Screener touches her own ankle.

Score on Data Sheet as illustrated below.

Body Parts:	None	1	2	3	4	5	6
Score:	=0=	=1=	=2=	=3=	=4=	=5=	=6=

7. PREPOSITIONS

Place a book upright (standing up) and a 3" x 5" card in front of the child.

Say, "Put the card on the book."
 Say, "Put the card behind the book."
 Say, "Put the card in front of the book."
 Say, "Put the card under the book."
 Say, "Put the card in the book."

Score on Data Sheet as illustrated below.

Responses:	None	1	2	3	4	5
Score:	=0=	=1=	=2=	=3=	=4=	=5=

8. GIVES OPPOSITE ANALOGIES

Say, "I am going to say something, and you tell me what comes next."
 Say, "An elephant is big. A cat is _____."

If the child does not say "little" or "small," repeat the sentence and complete it with emphasis on the word "little." This is a practice item and will not count in the scoring. Give the rest of the items without prompting.

Say, "Fire is hot. Ice is _____." (cold)
 Say, "A block is square. A ball is _____." (round or circle)
 Say, "A boy is short. A man is _____." (tall)
 Say, "A rock is hard. A pillow is _____." (soft)
 Say, "A rabbit is fast. A turtle is _____." (slow)

Score on Data Sheet as illustrated below.

Responses:	None	1	2	3	4	5
Score:	=0=	=1=	=2=	=3=	=4=	=5=

Gross Motor Screening

Instrument

1. STANDS ON ONE FOOT (STATIC BALANCE)

Screener should be standing directly in front of the child. Explain to child that he should not touch raised foot to floor or to his other leg. Say, "Let me see how long you can stand on one foot while I count." (May be demonstrated) Count out loud to 20 seconds or until the child makes one of the following errors to regain balance:

- Touches raised foot to floor
- Touches raised leg to standing leg

Score on Data Sheet as illustrated below.

Stands:

less than

5 seconds 5 seconds 10 seconds 15 seconds 20 seconds

Score:

=0=

=1=

=2=

=3=

=4=

2. STANDS ON ONE FOOT WITH EYES CLOSED (STATIC BALANCE)

Screener should be standing directly in front of the child. Remind child that he should not touch raised foot to the floor or to his other leg. Say, "Close your eyes and stand on one foot while I count. Don't peek!" (May be demonstrated) Count out loud to 10 seconds or until child makes one of the following errors to regain balance:

- Touches raised foot to floor
- Touches raised leg to standing leg
- Opens eyes

Score on Data Sheet as illustrated below.

Stands: (eyes closed)

less than

3 seconds 3 seconds 5 seconds 7 seconds 10 seconds

Score:

=0=

=1=

=2=

=3=

=4=

APPENDIX C

GENERAL PLAN OF A FIRST-YEAR SCHOOL DAY

Kindergarten
All-Day, Every-Day

Time	Period	Activities
8:45 - 8:55	-	Opening
8:55 - 9:45	1	General movement (Reading 55 minutes)
9:45 - 10:20	2	Discriminative movement
10:20 - 10:30	-	Break for children and teacher
10:30 - 11:00	3	Mathematics, Logic
11:00 - 11:30	4	Physical Education
11:30 - 12:45	-	Lunch, Recess
12:45 - 1:00	5	Story Reading
1:00 - 2:00	6	Visual, Hand, Social
2:00 - 2:30	7	Auditory, Logic
2:30 - 2:50	8	Arts, Crafts, Music
2:50 - 3:05	9	Drama, Logic (Reading 10 minutes)

This timetable covers about five hours of organized learning, broken down into nine periods of varying lengths. The time distribution of activities is, of course, not a rigid schedule.

APPENDIX D

SAMPLE DAY FOR HALF-DAY
KINDERGARTEN CLASS

Morning Session 8:30 a.m. to 11:00 a.m.
 Afternoon Session 12:35 p.m. to 3:05 p.m.

8:30 to 9:00*	Opening Exercise Identify leader for day Flag salute Discuss: Day of week Weather Other Listen to record while developing Gross-Motor Skills
12:35 to 1:05**	
9:00 to 9:15 1:05 to 1:20	Readiness Skills Use workbook page on either Math or Reading readiness skills
9:15 to 9:30 1:20 to 1:35	Restroom Break
9:30 to 10:00 1:35 to 2:05	Listening Skills Seat work involves oral directions with follow-through on paper
10:00 to 10:20 2:05 to 2:25	Center Time (rotate on a daily basis) Each Center is identified with a colored arrow to identify specific learning skill as follows: Library Fine Motor (puzzles, etc.) Gross Motor (larger blocks, bean bags, etc.) Housekeeping (role playing) Individual Help (used when student has not mastered an introduced skill) Discipline (a student may not participate in any of the above centers if her/his behavior has been unacceptable)
10:20 to 10:30 2:25 to 2:35	Clean-Up Time
10:30 to 10:45 2:35 to 2:50	Story Time May relate to the specific letter being studied, or to other relevant material

10:45 to 11:00
2:50 to 3:05

Prepare to Leave for Day
Pass out papers, get coats, etc.

If there is any free time, various activities such as finger play are used.

*Morning Schedule
**Afternoon Schedule

APPENDIX E

SAMPLE SCHEDULE OF A WEEK'S ALL-DAY,
EVERY-DAY KINDERGARTEN ACTIVITIES

SAMPLE SCHEDULE OF A WEEK'S ALL-DAY, EVERY-DAY KINDERGARTEN ACTIVITIES

Period	Monday	Tuesday	Wednesday	Thursday	Friday
1 (50 min.)	Angels in the snow Balance board Bimanual circles on chalkboard Body lifts Trampoline Walking rail	Body lifts Body question Line walk Rolling Swimming in place	Angels in the snow Body lifts Body pinwheel Push-me-over Rolling	Bimanual circles on chalkboard Crawling Hopping Rhythm walk Trampoline	Body question Push-me-over Swimming in place Wheelbarrow Where did I touch you?
2 (35 min.)	Construct-o-line Perception bingo (Visual 15) Do-what-I-say Rhythm (Auditory 20)	Prewriting sequence Tearing paper Tongue movement (Discriminative movement 35)	Conservation Symbol logic (Logic 20) Form board What-am-I-where (Hand 15)	Dots Getman's SSTB Graphic tracking (Graphic 15) Pegboards (Visual 20)	Clap patterns High-low Loud-soft (Auditory 20) Familiar objects Feel-find beads (Hand 15)
3 (30 min.)	Cuisinaire rods Permutation Probability (Logic 15)	Cuisinaire rods (Math 15) Circle classification (Logic 15)	Arts and Crafts (20) Blocks of clay (Drama 10)	Arithmetic Scales (Math 10) Probability Seriation (Logic 20)	Drama and discussion of experience excursion (30)
4 (30 min.)	- - - - -	- - - - -	PHYSICAL EDUCATION	- - - - -	- - - - -
5 (15 min.)	- - - - -	- - - - -	STORY READING	- - - - -	- - - - -

Period	Monday	Tuesday	Wednesday	Thursday	Friday
6 (60 min.)	Parquetry blocks Tachistoscope (Visual 20) Dominoes Familiar objects (Hand 20) Blindfold fellow Touch fellow (Drama 20)	Templates (Graphic 10) Comparison Seriation (Hand 10) Keep-looking-at-me See-me-clear (Discriminative movement 20) Discussion (Social 30)	Parquetry communication Parquetry match (Visual 20) Buzzer board Nonsense word discrimination (Auditory 20) Comic faces Paper tearing (Discriminative movement 20)	Dominoes Hidden-draw-me (Hand 20) Loud-soft Number and letter recall (Auditory 20) Button battle Follow-the-bug Flashlight fight (Discriminative movement 20)	Experience Excursion
7 (30 min.)	Clap pattern High-low Sound patterns (Auditory 15) Symbol logic (Logic 15)	Mates Story clap (Drama 15) Music (15)	Free activity (30)	Listening and walking (Drama 30)	Experience Excursion
8 (20 min.)	Art (20)	Memory X's Pegboard match Tachistoscope Tell-a-story-about-picture (Visual 20)	Graphic puzzles Getman SSTB Hare and hound Prewriting sequence (Graphic 20)	Matrix Permutation Symbol logic (Logic 20)	Experience Excursion

Period	Monday	Tuesday	Wednesday	Thursday	Friday
9 (30 min.)	Talking body (Drama 10) Classification Clay and scales (Logic 20)	Science discussion (30)	Familiar objects Feel and find (Hand 15) Measurements Time (Math 15)	Fit-a-space Puzzle talk (Visual 10) Music (20)	Experience Excursion

2
VITA

Helen Karban Smith

Candidate for the Degree of
Master of Science

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PROGRAMS ON THE READINESS LEVELS OF AT-RISK
CHILDREN

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