AN ABSTRACT OF THE THESIS OF

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Title DIFFERENCES BETWEEN EXPECTATIONS OF PERFORMANCES IN BEGINNING FIRST GRADERS AND ACTUAL PERFORMANCE

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The purpose of this study was to explore under controlled conditions possible differences between teacher expectancy and child performance at the first grade level. The Beaverton Public Schools participated in the study with their first grade children and teachers, using an examination administered to a random sampling of children and comparing results with teacher expectancy. The study addressed itself to two main questions:

1. How well can first grade students perform specific developmental tasks?
2. What are first grade teachers' expectancies of performance of first graders?

Developmental tasks were selected by a panel of Oregon State University professors from a list applicable to beginning first graders. The Testing Instrument was developed through a pilot study in the Corvallis Public Schools. A sample of 60 beginning first graders from the Beaverton Public Schools composing the population of the study were

then tested to establish actual student performance upon school entrance.

Teachers were administered the Teacher Survey Instrument under controlled conditions to establish teacher expectancy. Seventy first grade teachers completed the instrument under controlled conditions.

Through the implementation of the Bernoulli binomial distribution formula, comparison was made of teacher expectancy on child performance. By the end of the binomial distribution formula, a confidence interval of teacher expectancy was established relative to actual student performance. The confidence interval was established at the 95 percent level of confidence and designated as "reasonable" expectancy of child performance.

The results of this study show a wide range of teacher expectancy of child performance. There was a strong tendency for teachers to underestimate and overestimate child performance on most items. Only four test items, two of which were related by numerical implementation, were not significantly overestimated by the teachers. The extreme ease of performance of these four tasks could have influenced the accuracy of teacher expectancy.

The most significant aspect of this study is the wide range of teacher expectancy of child performance. Teachers overestimated and underestimated child performance excessively suggesting extreme difficulty of teachers in making accurate judgments concerning child performance.

Differences Between Expectations of Performance in Beginning First Graders and Actual Performance

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Dedicated to all of the people
who helped me along the way,
but particularly to:

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INTRODUCTION

Statement of the Problem

One of the basic principles of teaching is to begin with the child where he is and proceed from that point. This principle is of critical importance to the first-grade teacher, whose small pupils are just starting school and come from a variety of environments and bring with them a range of abilities. When a child begins his school career, he enters upon an entirely new way of life and he may not be ready for it. Teachers of the primary grades need to know what a child can actually do upon entrance to school in order that they may make the proper approach. Since the first grade in most schools is centered on developing basic reading skills, the teacher must study carefully the behavior of the beginner to determine his readiness for learning.

Frost (1968) discusses the studies of psychologists and educators relative to the problems of developing a learning situation for young children. He indicates that children are influenced most during the susceptible preschool years in the development of human characteristics, and that developers of innovative approaches in school curricula must recognize the importance of understanding the learning process of the child as he begins school. In other words, he stresses the need for continued knowledgeability and verification of the child's performance during this critical school entrance period.

Since 1965 the writer has taught college courses in kindergarten teaching, Head Start, and primary education. It has been his experience that a great need exists for comparing expectations of performance and actual performance of primary youngsters. After consultation with numerous specialists in early childhood education, this study was considered appropriate.

Purpose of the Study

Preschool and primary teachers are constantly searching for ways to determine how ready a child is for learning and how he best may be prepared for his first-grade experience. Each teacher necessarily must make a judgment on an individual activity from his experience and previously acquired knowledge.

The purpose of this study is to explore under controlled conditions possible differences between teacher expectancy and child performance at the first-grade level.

The study will attempt to answer two questions:

1. How well can first-grade students perform specific developmental tasks?
2. What are first-grade teachers' expectancies of performance of first graders?

This study does not attempt to determine teacher expectancy more precisely than by an operational definition of underexpectancy, reasonable expectancy, or overexpectancy.

Significance of the Study

The Beaverton, Oregon, Public Schools agreed to participate in the study with their first-grade children and teachers, implementing an examination exercise to a random sampling of children and comparing results with teacher expectations. The results of this study will undoubtedly be of more benefit to this school district than any other, as the data reflect this population. Teachers will be able to compare their own expectancy of child performance by using the expectancy norms derived from the sample of first-graders in the Beaverton Public Schools.

The administration of the Beaverton Public Schools has requested feedback on the results of the study after tabulation and interpretation of data have been completed.

This research could be of value to all preschool and first-grade teachers during the crucial period of children's introduction to school as they compare their own expectations with the expectations of the Beaverton first-grade teachers. The beginning teacher may derive the most direction from the results of this study as he seeks information concerning child expectatancy.

Educators in preschool education, primary education, child behavior, child psychology, and teacher education also may find this study helpful. Educators and students wanting to broaden this research could use this study as a basis for comparison or as an instrument for extension.

The significance of the research for the writer has been in developing a comparison instrument of teacher expectancy for the practicing teacher interested in the adequacy of children's performance.

It is hoped that teachers may be able to go beyond value judgments on developmental task performance, that children will receive greater understanding as they enter this early stage of their educational life, and that teachers will be able to become more effective and affective teachers.

The examiners, who were from the Department of Special Education of Beaverton Public Schools, had been closely associated with all elementary schools through their testing program. They reported that the experience of administering the examination and the opportunity of viewing first-hand performance of the first graders were valuable. Teacher, examiners, and administrators expressed interest in gauging teacher expectancy of child performance.

Definitions

For the purpose of this study, it is necessary to identify the following terms:

A. First graders refers to children enrolling in first grade for the first time in the Beaverton Public Schools in the 1970-71 school year. Children having been enrolled in a first grade in any community prior to this year are not included in the sampling.

B. First grade teachers means the total population of teachers teaching first graders in the Beaverton Public Schools during the 1970-71 school year.

C. Examiners means professional educators from the Beaverton Public Schools with extensive testing experience.

D. Professional panel refers to the professors from Oregon State University which were experienced in preschool and primary education who selected the developmental tasks to be tested in the pilot study.

E. Developmental task - see page 19.

Pilot Study

A pilot study was undertaken with the cooperation of the Corvallis Public Schools at Roosevelt Elementary School. Two small classes of kindergarten children were enrolled in a four-week session during the 1970 summer school period. The sample for the pilot study included 17 children available for testing of the instrument during the third and fourth week of the summer school session.

The procedure for testing the instrument was designed to check time required for test completion, eliminate undesirable test items, examine testing equipment, set up testing situation, and determine the best method of obtaining the test results.

The pilot study established the appropriate testing procedures and finalized the items selected by the professional panel of Oregon State University to be used in the instrument.

Rationale Underlying the Design of the Study

It is important to realize that this study reflects a comparison of teacher expectations and actual child performance in the first grade of the Beaverton Public Schools. This study intends to show wherein teachers' expectations may be similar to or different from measured childrens' performance.

There is evidence to support how well children can perform designated tasks, but there is little evidence to compare teacher expectation with children's performance upon school entrance. The need for understanding child performance in early education has been of great interest to primary and preschool teachers.

A review of the literature indicated that the most detailed work on developmental tasks had been done by Gesell (1925), whose work provided considerable background for this study. Dr. Gesell identified developmental tasks and tested children to determine the degree of proficiency of child performance.

Some of the developmental task items reflected the period in which they were developed and had to be updated in the construction of student's test used in this study. The sketches or drawings used are interpretations of the original developmental task items developed by Gesell.

Limitations of the Study

One of the difficulties experienced in designing the Teacher Survey Instrument came from locating for the pilot study a sample population of the same age and experience as the expected population at the time the testing would take place. For this reason, the pilot population had to be selected from a group of children anticipating entrance into first grade. Although the testing in the Beaverton Public Schools went smoothly, it is impossible to know if the slight possibile difference between the two populations influenced the testing instrument. This might be considered a limitation.

Another limitation of this study involved the reaction of children to the testing situation. Experienced examiners gave the tests with every possible precaution taken for uniform administration. However, since six examiners were used, it is impossible to know whether this would have been different if only one examiner had been used.

Another limitation is the personal judgment necessary in accepting individual developmental tasks as "completed" items. Even though the examiners were experienced personnel, coached on the evaluation process immediately prior to the actual testing, it is impossible to know if all examiners made the same quality value judgment.

Another variable that can influence most testing situations is the way that children may feel at the time of testing. Children feeling motivated to participate may produce different results from those of a child when he feels ill or one who is not completely adapted to the school situation. This involves numerous factors that are impossible to control but could affect the outcome.

Some of the pictures used by Dr. Gesell in his earlier studies proved to be somewhat outdated. He utilized illustrations that could be brought up to date through modification. It is difficult to know how these changes may have influenced his original interpretations of each item used in the testing instrument.

Another variable to be considered is the number of students selected through random sampling. Sixty students were selected for testing from a population of 1,352 students. The validity of results of the study is limited to the statistical interpretation drawn from this sample size.

This study is limited in interpretation to the results obtained by the items selected as a consequence of the pilot study. The 14 items selected from the pilot study ranked in the top 16 of those selected by the panel of OSU professors. Results and interpretations of this study are limited to the interpretation of data of the instruments used.

The population was limited by sex of the participants. All teachers were females and ratio of boys to girls was not considered for interpretation in this study.

CHAPTER II

REVIEW OF THE LITERATURE

Developmental Theory

Gesell (1925) developed a series of developmental tasks which were used to test the various skills of five-year olds.

Ilg and Ames (1965) support Dr. Gesell's work.

> Dr. Gesell was already thinking of possible tools that would reveal the growth processes before he stated his magnificant march, in 1911 at Yale, literally chiseling his way bit by bit in the field of child development. It was a long and intricate way, the way of the research scientist who gives his heart and soul as well as his mind to his chosen work. In reverie one can still hear him say, "The mind grows." This short sentence summarizes his whole professional work. (p. 31)

Gesell (1925) stated, "Developmental diagnosis . . . becomes a form of comparative appraisal, using objective norms as points of departure and of orientation." (p. 415) He referred to the normative elements as "items" instead of "tests". The items were organized in a standardized form that could permit usage in a clinical situation.

Gesell (1925) further stated from this study,

> Developmental schedules as drawn up are designed to serve as instrumented aids in arriving at comparative judgments . . . The process of developmental diagnosis, therefore, becomes a combination of objective observations and controlled, comparative evaluation . . . If a clinical judgment is not kept under control, the subjective element in the judgment becomes a source of error. (p. 408, 411).

Delacado's (1963) extensive work in speed and reading problems acknowledges the difficulty in ascertaining the significance of normal

developmental progressions. There has not been much work to correlate the study of the developmental process to the study of neurology and neurological progressions. He observed Gesell's work and stated:

> Gesell, through his monumental work, has given us many insights into normal development, but he too was handicapped by the vagaries of chronology and by the total lack of neurological data. As a result, there does not exist in the literature a study of child development wherein the developmental data are correlated with actual neurological physiology. (p. 68)

Ilg and Ames (1965) developed a school placement examination from Gesell's developmental studies which they used in the Weston Study. This study was the first school placement of any scope and was performed for the Fund of the Advancement of Education in 1956. They observe, "Though we had initially surmised that the Weston Study could serve in standardizing the developmental examination, we soon realized this was not practical." (p. 28)

Ilg and Ames developed an examination for pupil placement at ages five, five and one-half, six, seven, eight, nine, and ten. Implementing the results of the testing, they found that additional problems in student placement resulted. "To be capable of conducting and evaluating a developmental test is one thing; to put it into practical use is another." (p. 332)

Don C. Dinkmeyer (1965) feels that,

> Many abrupt somatic and psychological changes occur in the child at six. The first baby teeth are lost, and first permanent molars make their appearance . . . His play is usually harmonious when only with another child . . . When he becomes a member of a large group, he needs direction and guidance . . . The six-year old's physical and muscular entity is alert and ready to act . . . The six-year old is ready to accept his teacher as a supplementary mother. (p. 96-97)

The first grader's major problem is to adjust to the demands and challenges of home and school. At school he is asked to make discriminatory judgments about numbers, recognize left and right directions, write his name and address, see order in geometric designs and mazes, and complete pictures. The difference in the type of activity carried on at home and school can be of great consequence to each child as his success in school will necessarily depend upon his preparation at home.

The six-year old thinks in a concrete fashion; he can discriminate among objects, he has a clearly defined idea before he draws, he has accepted and developed personal duties and habits such as washing, dressing, eating, toilet, sleep, he can run errands, he has become aware of being on time for school and he is developing self-reliance in his social interaction.

Gesell (1925) provided norms for the items he used in his tests, but he warned,

> Caution should be used in applying norms and standards in lieu of problems and questions concerning preschool development. These items furnish the objective basis for comparative appraisal . . . The developmental schedules will furnish a developmental rating, but a diagnosis in the true sense of the term must rest upon a critical and responsible interpretation of evidence from various sources. (p. 416)

Ilika (1963) indicated that developmental theory holds that maturation is more important than schooling and that starting school nine months early does not result in any significant differences in achievement when early entrants are compared to late entrants of equal intelligence. He stated,

> The preponderance of the evidence, therefore, shows that in final comparisons at 126 and 137 months, the reading, spelling, total language, and total achievement ages of early entrants were not significantly higher than the achievement ages of the late entrants, and therefore developmental theory, which holds that maturation is more important than schooling is upheld. (p. 110-111)

Hurlock (1942) summarized child development studies which indicate that effectiveness of learning depends on maturity. Behavior can be expected without phylogenic practice and is retarded only slightly even with interferences from the environment. Development is consistent with individual differences in children. A child that is developing slowly will probably continue to develop at a slower rate. Furthermore, development occurs at different rates for different parts of the body. Hurlock went on to say, "The child whose intellectual development is generally above average is generally above average in health, size, sociability, and special aptitudes." (p. 38)

Factors Influencing Performance and Learning

The sequence of physical and intellectual development has received a great deal of attention by Piaget, Montessori and others. The teacher who is working in a practical situation helping children grasp basic ideas needs to be aware of what six-year-old children can actually do.

Almy (1959) points out a number of important factors in the educational process:

1. There must be an ordering among conceptual tasks that children are asked to learn.

2. There must be activity in the learning process which involves manipulation of his own experimentation to make learning meaningful.

3. There must be social interaction as a contribution to forming a child's thought processes away from the ordinary egocentric tendency children have during their youngest years.

4. A child must discover things himself through the "discovery" process. The child understands the world through his own efforts.

5. Instruction of reading has no specific starting point in childhood education. (p. 136-39)

In discussing her theory, Honstead (1968) identified Piaget's three stages of development concerned with intellectual growth. Factors such as inherited intelligence, previous experience, and culture with approximate boundaries for ages determine her "stage dependent" theory. She stated,

> The sensori-motor period begins at birth and lasts until the average child is eighteen months or two years of age. The period of preparation for and organization of concrete operations hold from 18 months to two years to eleven or twelve years. (p. 137)

She observed further that Piaget's stages in the function of total development of the individual involves maturation, experience, social transition, and equilibration of self-regulation. Learning takes place through external stimulation limited in scope by essential process, whereby each element of learning becomes part of the total functioning process of the individual.

The Driscott Identification Test shown by Almy (1959) identified behavior that is normally expected as part of the educational process of children. This check list was designed as a help to teachers wishing to evaluate their teaching process and interaction with

children. Some of the observable behaviors in this check list are: conforming to classroom activities, working steadily on classwork, contributing ideas spontaneously, comprehending, interacting with other children, seeking attention, and appearing happy. Also noticeable will be a child's nervous habits, attendance, his physical coordination, and his speech inaccuracies.

The concept of self-acceptance as it related to learning has been promoted by Forest, Rogers, Snygg, Combs, and Lecky. Self-concept is learned through interaction with others. The individual must accept himself in order to interact with his environment to the fullest degree. A secure child that has a positive self-image is less likely to meet crises within the school situation. Continued progress toward maturity comes when a child is successful in playing his developmental roles in society.

Kenneth D. Wann (1965) in his Foreword to Robinson (New Directions in the Kindergarten, 1965) traced a great reform in kindergarten programs to the turn of the century. Early in the century, the learning process was directed toward an interaction with the family and a closed environment. The kindergarten reform movement recognized that new demands were being made on children as a result of a rapidly developing twentieth-century way of life, and efforts were made to improve kindergarten instruction. Significant changes involving use of materials, new knowledge, and exploration by children were incorporated into the changing kindergarten curriculum.

Recognizing that cognitive learning involves language development and concept formation, more attention was paid to the total development

of the child. The developmental approach to learning as interpreted by developmental psychologists indicated that a child must deal with his concrete world before going on to symbolization, representation, or abstraction.

As research yields its implications for curriculum change, new ideas and programs are developed to meet children's needs.

Wann also stated (1965), "Changing views on young children's intellectual interests and abilities indicated the need for testing some new programs which could have significance for the young child."

Read (1966) emphasized the importance of preschool education as being a human development experience. He indicates that the nursery school is a laboratory where a child learns to play with materials and share experiences with other children. The importance of presenting opportunities for children to enrich themselves by relating to people around them comes from presenting opportunities for expression in their situation.

Gesell (1925) indicates that the curriculum should be under constant change in view of social changes that are such a part of evolving society. In addition, the objectives and values of the present school must continue to influence activities, evaluation of outcomes and criteria for the socialization of children.

In a study by Frost (1968) Spock stressed the influence that is clearly recognized in the Montessori School; children should seek great joy in their learning process. Social adjustment has priority as children involve themselves in cooperative marching, singing, dancing, and dramatic play. The shy child receives individual attention to help build his confidence in social interaction.

There is little question concerning the significance of communication or language development in kindergarten. Robinson (1965) enumerated language opportunities to be programmed at the kindergarten level. This list included:

1. Conversation
2. Perceiving and following instructions
3. Formulating questions and inquiries
4. Seeking information
5. Expressing feelings and ideas
6. Sharing information
7. Listening to stories, poems, books
8. Group discussion
9. Creative dramatics
10. Dramatic play
11. Vocabulary Development

The new kindergarten curriculum includes conceptual learning in academic areas such as economics, social science, mathematics, and language concepts. It is common to have children actively engaged in the development of concepts concerning jobs, money, prices, profits, labor symbols in math, abstract mathematical thinking, expression of ideas and feelings, group discussion, and question formulation.

Testing at Preschool and Primary Levels

Concerning testing time, C. E. Meyers and H. F. Dingman (1960) stated,

> The problems of testability at preschool ages is discouraging. In second and third grades, only thirty minutes of adequately controlled testing can be accomplished . . . The skeptic should watch the P. M. A. being administered even to a small, well-motivated kindergarten-primary group. Below, kindergarten, of course, no useful testing other than individual can be accomplished, and the cost factor becomes significant. (p. 520)

Gesell (1925) pointed out the importance of developing a specific technique for administering tests. The way the examiner makes first

contact, the method used in having the child perform the task, the rate of speed with which the examination is administered, and the physical environment are important in obtaining and observing accurate levels of performance. Approach and rapport in administering examinations were explained by Gesell (1925) as "consistently emphasized in the literature . . . it also contributes to the success of the developmental examination of preschool children at the higher age levels." (p. 400)

Gesell (1925) further stated,

> It is extremely difficult to generalize in regard to clinical procedure because of the very wide range of development. In a chronological sense, the preschool span is narrower than the elementary school span, but from a developmental point of view it is vastly wider. (p. 399)

Gesell placed greater importance on approach than on rapport. The way the examiner looks at a child may have an adverse effect on the child's reaction. It is probably best not to look at the child when he enters the room. Through a positive verbal approach which shows sincere trust, an establishment of controlled freedom can be established. A smile can reflect a friendly feeling toward the child who is to be examined. To receive the best results, the hostile-disturbed atomsphere must be avoided. No hard and rigid rules should be made regarding duration of an examination. The examinee must develop a working compromise that calls for consideration of the individual and the task to be preformed.

Gesell (1925) went on to state,

> Although we believe procedure should be standardized in detail and should so far as possible be uniform . . . By admitting a judicious amount of flexibility, we create a situation in which the child displays

> characteristic behavior and our major objective should be the observation which is truly representative of the child. (p. 404)

The progress a child makes in language development from three years to five years of age is typified by his ability to use prepositions appropriately, his employment of descriptive words, his ability to deal with longer units of thought, and his ability to bring clauses and sentences into logical relation both in imaginative and practical narration.

It is clear that there are significant differences among children at school entrance in performance styles and achievement. To date, few studies have addressed themselves to defining differences in cognitive behavior of social and ethnic groups. Hertzig (1968) stated, "Those studies which have been carried out on preschool children, have for the most part avoided consideration of behavioral style in response to cognitive demand and focused on achievement." (p. 2) It is hard to determine if an examiner can examine a child of a different class and truly measure the child's abilities and achievements.

Gesell classified his developmental tasks into four categories. Items from his tests have been utilized in other tests developed later for different purposes. Some examples of the items found in the Stanford-Binet I.Q. test which are similar are:

1. Block building bridge
2. Picture memory
3. Response to picures
4. Drawing a cross
5. Repeat digits
6. Copy a circle
7. Picture completion
8. Paper folding

Gesell observed that five-year-old children could perform certain motor, language, adaptive, and personal social tasks with measured proficiency. He developed a rating scale whereby he assigned letter grades from A+ to C to indicate proficiency of accomplishments, each grade representing a degree of proficiency on a percentile basis. Letter ratings were assigned to each item, based upon the frequency with which the item was found in the cases studied. Letter ratings rather than numerical expressions were used to avoid the disadvantages of over-precise formulation. Quoting from Gesell's study,

> Letters were used to indicate fields of behavior as follows: M, Motor; L, Language; A, Adaptive; and P, Personal-Social. Ratings were assigned by a letter indicating frequency as follows: A+ equals 1 percent to 19 percent; A equals 20 percent to 49 percent; B+ equals 50 percent to 64 percent; B equals 65 percent to 84 percent; C equals 85 percent to 100 percent. (p. 362)

Gesell's four major classifications were as follows:

I Motor includes items which relate to muscular and capacity and coordination.

II Language includes vocalization, speech, and auditory comprehension.

III Personal-Social group comprise items which largely involve experience and personality traits.

IV Adaptive-Behavior group is composed of remaining items which concern general capacity to exploit the environment or make adjustments to imposed situation. (p. 375)

In order to administer examinations effectively, one must consider carefully the characteristics of children as well as the kind of test to be given. For first-grade children some form of examination structure whereby the student may be observed or can perform functionally must be utilized. Tasks that are readily observable are the most usable

because, as C. E. Meyers (1962) indicated,

> The preschool children and the kindergarten primary-child are "pre-literate". The child cannot read directions or write responses. His cooperation in group examination is not dependable . . . For usable results, and individuality, administered examination is required. (p. 4)

Meyers went on to say, "There has been little departure from the methods of Binet, Stein, and Gesell in the last 50 years." (p. 3)

Testing continues to be done principally for the purpose of determining a general concept of intelligence. A score is expressed as a result of a test, and norms are developed for a given test. By the use of age and a deviation from the population norms, a score is converted into a quotient.

Below kindergarten, there is little value in any kind of testing other than by individual consideration. Even a well-motivated kindergarten group cannot stay adequately controlled to insure good results. The problem of testability before a child reads and writes is also discouraging from the standpoint of limited attention span and significant cost factor.

Related Readings

Jack R. Frymier (1969) points out that in order for a man to have positive feelings toward others he must first have positive feelings toward himself. If this is correct, then professional educators must be concerned about developing a positive self-image in children. It is estimated that during the course of the day, a school child experiences more than 650 interactions with his teacher. Each time

this interaction occurs, a positive or negative attitude in the given situation is experienced. This feedback given a child in his learning situation helps him develop the self-image he reflects in his social interaction.

Frymier (1969) cites Raymond Adams' study involving observations of teachers in many situations reveals important information related to teacher biases.

> One set of statistics illustrates this point particularly well. It tells us that boys volunteer, hold up their hands, try to get involved in classroom discussion eight times as often as girls. And yet, teachers call on girls ten times as often as boys. In other words, the girls are getting far more attention from teachers than the boys are getting. Moreover, none of this is conscious behavior on the teachers part, although they are in fact favoring youngsters according to sex. Other studies also indicate that youngsters who come from lower-income homes receive less physical attention, less eye-to-eye contact, less verbal attention from their teachers than do youngsters who come from advantaged homes. (p. 24)

A further study by Frymier (1969) involving 3,000 teachers being tested for attitudes, values, and perceptions illustrates the influence of negative attitude. By placing teachers' responses in a hierarchial fashion, inferences about how teachers perceive others in positive and negative ways could be made. Of those items above the median viewed in positive ways were superintendents, principals, and school board members. The items below the median, those persons viewed most negatively, pertained to children, parents or supervisors. The implication drawn by Frymier in extreme terms is that these teachers hated children.

Intelligence

Piaget (1968) theorizes that the ability to think is an adaptive action that develops in a sequence of stages related to age. Intelligence is developed in stages which holds true for all children. Each stage develops as the native endowment and the quality of the physical and social environment permit.

Many reactions have been written to Arthur Jensen's (1969) hypothesis of racial differences in I.Q. He suggests that about 80 percent of human intelligence can be attributed to genetics alone. Other sources would indicate this limit to be 50-60 percent. Jensen (1969) believes that intelligence as a natural trait is part of man's genetic pool and is unequally distributed among individuals. He infers that whites are more intelligent than blacks by 15 I.Q. points and that only 15 percent of the Negro population exceeds the average white.

Golden and Bridger (1969) made a complete study of Jensen's position on inequality of intelligence according to race and found the comparison of statistical data to be inaccurately interpreted. They state, "Jensen's conclusions are based on logical fallacy, and hence not valid. We are concerned that his views have an undue influence on politicians and teachers." (p. 648)

A previous study done by Golden and Birses (1969) between middle class and welfare families confirms earlier studies on I.Q. differences of children in contrasting social classes. A mean difference of 23 I.Q. points between three-year-old black children and welfare families was illustrated in this study. The mean I.Q. scores of the two groups were

116 and 93, respectively. These results are the same as those found by Terman and Merrill in 1937 for 837 white children whose fathers were either professionals or unskilled laborers. Their scores were 116 and 93, respectively.

David Elkind (1968) indicates in his article, "Giant in the Nursery," that Jean Piaget does not support the validity of intelligence testing. Piaget believes that there are two functions of intelligence (1) to understand the world and (2) to build or discover new structures within it. He also believes that I.Q. tests are not adequate to measure thinking processes. Piaget is in the process of developing and testing a different method of measuring a child's potential.

Gilbert Voyat (1969) states,

> Piagetian tests differ from I.Q. tests. Typical I.Q. tests are essentially an additive progression of acquired skills. In contrast, Piagetian tests are hierarchial; they describe progressive organization and individual potentialities. They provide a detailed analysis of the functioning of thinking. They do not qualify it. (p. 3)

Intelligence testing is under concentrated criticism from experts in the field of testing. Patricia Pine (1969) reports that J. P. Guilford, Professor Emeritus of Psychology at the University of Southern California, after more than 20 years of work supported by the U. S. Office of Education, believes he can identify at least 80 kinds of abilities involved in intelligence testing. He theorizes there are at least 40 other identifiable abilities.

Pine (1969) referring to Guilford's work states, "In Guilford's opinion, present day aptitude tests, with their measures of verbal, quantitative, and spatial skills, take readings on very few abilities children actually possess." (p. 4)

Pine believes that the social harm that can come about through intelligence testing is being rectified by utilizing achievement tests. Spanish-speaking children in Los Angeles were being labeled mentally retarded when tested in the English language. As a result of the misinterpretation of scores, school districts such as Los Angeles, St. Paul, and Philadelphia have limited scholastic testing in the elementary school.

Pine (1969) further states, "Most of the nation's leading psychometricians, specialists who design and administer the tests, agree to a large extent with their critics." (p. 3)

In her studies on I.Q., Pine reveals that Jules Grosswald, the Director of Testing in the Philadelphia schools, believes a test that is culturally fair cannot be developed. A test of this nature would have to be void of language and learning skills, making it a useless instrument for public schools.

The more current trends toward evaluation of student potential involve:

A. Teacher observations

B. Monitoring delicate responses the brain makes

C. Development of instruments to assess personality functioning, life style, self-concepts, and attitudes.

D. Better teacher training in guidance, counseling, testing, and evaluation.

The research supporting radical changes in I.Q. through Head Start programs, and special tutoring programs leads educators to wonder about intelligence testing as a measuring device. Patricia McBroom (1969) in her article, indicates that authorities acknowledge that there is such a thing as intelligence but, "intelligence potential is basically unknowable and unmeasurable." (p. 243)

CHAPTER III

FOCUS AND PROCEDURE OF RESEARCH

Selection of Cooperating School District

Several school districts were under consideration as appropriate schools or combination of schools which could be selected for this study. Student population, first-grade teacher population, and the existence of preschool experiences were considered as important factors in this selection. The Beaverton Public Schools were selected as the most appropriate situation in light of the previously stated criteria.

The cooperation of the school administration was imperative to the success of this study. The cooperation given throughout helped make the study considerably more meaningful by eliminating variables that could have influenced the results. In this cooperative effort, one central office administrator assisted in the coordination of the testing schedule.

The Beaverton School District does not have a public kindergarten but is generally recognized as a school district providing educational opportunities for children. Beaverton has been making an effort to add a kindergarten program onto the one-through-twelve structure. Although exact figures were not available, a large number of first-grade enrollees had had preschool experience, and the student-teacher population was adequate in size for this study.

Population for the Study

The Statistics Department of Oregon State University assisted in the random sampling procedure for selecting 60 first-grade students from a total population of 1,352 first-graders. The administration provided the most current list of first graders enrolled in first grade by September 3, 1970. Registration for first grade in the Beaverton schools is required during the last week in August. The accuracy of this list was insured by compilation just prior to the opening of school.

The following procedure was used in the random selection:

1. Through digit random selection, 70 numbers were chosen between 1 and 1,352, the first-grade student enrollment population of the Beaverton Public Schools. Lists of children from each school were placed on a continuum, and each of the 70 numbers selected was matched with the number assigned to each student until 70 numbers from 21 schools were selected. The method used called for repeating numbers already selected.
2. By checking with each school, the researcher made sure the randomly selected student was a non-repeating first grader. Children repeating first grade were not included in the sample. If a repeating first grader's number was selected, it was discarded and an additional number selected. Seventy numbers were selected in the

original sampling process to insure that additional children could be available for testing through the same sampling procedure if any of the original could not be tested.

All first-grade teachers of Beaverton (71) were asked to participate in the study for determining expectancy performance of beginning first-graders. The 70 teachers who completed the Teacher Survey Instrument made up the teacher population for the study (see Appendix A).

Development of the Instrument

To develop the testing instrument for the study, a list of Gesell's 36 developmental items was submitted by questionnaire to a panel composed of Oregon State University professors from elementary education and family life education. The purpose of this panel was to determine the items most applicable to beginning first-graders (see Appendix B). The developmental items (or tasks) that were designated as most relevant and appropriate by the panel became the items used in the final instrument. The four tasks that were omitted were either too long or too similar to others or demanded value judgments of a psychological nature.

Testing time for each item utilized in this study was from a few seconds to approximately three minutes. Time limitations were not a factor in the pilot study and were of no consequence in the testing situation. Successful item completion was enhanced through verbal encouragement. Each child was reassured and encouraged to try in case there were any misunderstood instructions or a tendancy towards shyness.

Examiners reported that the test was not excessive in length or burdensome for any child.

The testing instrument was also used in the form of a Teacher Survey Instrument and submitted to the teachers (see Appendix C). This instrument consisted of a list of the 14 tasks which the children were asked to perform, and the respondents gave their judgments indicating what percentage of the children they felt would be able to complete each task.

The Testing Procedure

After identification of children for testing, a check was made with each school to verify that each child was in actual attendance during the first day of school and would be available for testing. A schedule for testing was set up through the Department of Special Education and six educators with extensive experience in testing were given the assignment of administering the testing instrument on a one to one basis.

Each principal of the 21 participating schools was informed through the central office of the Beaverton schools that testing would take place in his school and each was requested to provide a room that would insure complete privacy (see Appendix E).

On the first day of the testing, the author met with the six examiners to instruct them in the testing procedure. Each item was covered carefully with as much time as necessary for questions. The information gained from the pilot study (see page 5) proved very useful in this phase of the study. Each examiner was assigned to schools

familiar to him and provided with a list of students and the names of the schools in which these children were enrolled. To insure cooperation between the examiner and the selected schools, each school was called by telephone as the examiner departed for the school.

The procedure called for a pre-testing period to establish rapport for each child after which each item was presented to the child for completion. Each item was rated as a completion or a non-completion (the item was regarded as valid and successful only if the entire task was performed). In no instance was part of a response rated on a percentage basis.

All 60 children were tested during a two-day period. Six school days had elapsed prior to the commencement of testing, and testing of students was completed by the end of the eighth school attendance day. The examiners reported that the testing was accomplished without incident, with no problems arising that influenced the testing process. Each examiner reported ease in administering the examination and felt that no special ability in testing would be required to give this test in another instance.

Testing conditions were a factor that could influence students' test results. The following conditions were established to insure maximum control of the testing situation:

1. A small room with closed door to restrict outside noise or distraction.

2. Materials were prepared and ready.

3. A period of about five minutes was provided before testing to give the examiner the opportunity to help each child feel as relaxed as possible before the test begins.

4. The examiners were given uniform instructions for testing. Each examiner was trained for test administration prior to actual testing of students.

5. Only the examiner and the child were in the room during testing period.

6. Students included in this test were limited to first graders that had not been enrolled in a first grade in any previous academic year.

7. There was no discrimination between boys and girls since the study was concerned with first graders not previously enrolled in a first grade in any district prior to September 1970.

Discussion of Testing Situation

The examiners were asked to observe four possible conditions of children and environmental factors which could influence the testing situation. Each examiner was requested to make a notation concerning the following situations:

a. Noticeable physical defects

b. Noticeable mental defects

c. Noticeable speech complications

d. Room testing conditions

Two children were reported as having physical defects. One child reportedly had to position his eyes approximately five inches from the drawing page, although this did not seem to influence the accuracy of his responses. The second child's physical defect was not specifically identified by the examiner. Five children were reported as having noticeable speech complications. This did not appear to have an unusual effect on the testing results of these children. Three persons reported

that room testing conditons were unsatisfactory but the children's responses did not reveal any unusual testing results as a consequence.

Students were tested on their performance before the teachers were administered the Teacher Survey Instrument in order to eliminate any possibility of "coaching" the children. On the ninth day of school (during school hours) the teachers were instructed to meet at Fir Grove Elementary School. Their part of the study was to complete the Teacher Survey Instrument which consisted of making estimates of what percentage of first-grade students could be expected to complete each of the 14 tasks successfully. Each item was displayed or demonstrated so that the teachers could read the description, see the test item as the child experienced it, and ask questions about it. Of the 71 first-grade teachers in the system, 70 teachers completed the Teacher Survey Instrument.

Statistical Procedure

Upon completion of the testing, the performance of the children will be tabulated for each item in the Student Test. The percentage of children successfully completing and unsuccessful in completing each task is calculated by tabular model as shown below.

EXAMPLE OF TABLE I*

Task Item	Complete		Not Complete	
	Number	Percent	Number	Percent
Test Item One	55	91.7%	5	8.3%
Test Item Two	42	70.0%	18	30.0%

*Table runs from Test Item One to Test Item Fourteen later in the text.

A frequency distribution of teacher expectancy for each test item will be drawn from the raw data in order to study its statistical implications. The distributions will show the range of responses on teacher expectancy of child performance. The following example of Table 2 is provided to illustrate the extended range of teacher expectancy as indicated in the distribution.

EXAMPLE OF TABLE 2*

Test Item	Teacher Expectancy
Test Item One	25% to 100%
Test Item Two	15% to 96%

The absence of normal distribution on teacher expectancy obtained from the data prescribed that the binomial distribution formula at the 95% level of confidence be used to determine confidence levels. As a means of describing the expectations of the teachers, a confidence interval for the true proportion of students able to complete each task was determined by the use of the binomial formula:

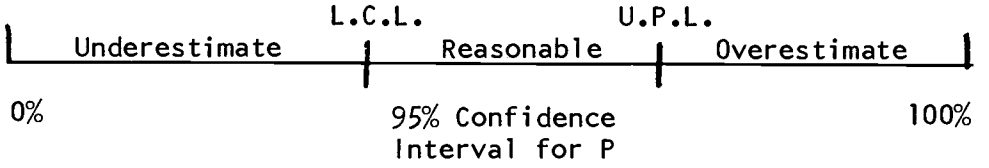
$$\hat{p} - 1.960 \cdot \frac{pq}{\sqrt{N}} \qquad \hat{p} + 1.960 \cdot \frac{pq}{\sqrt{N}}$$

This formula provides intervals of which 95 percent contain the true value of p, where p is the proportion of Beaverton first graders who successfully completed the tasks.

The confidence interval for p is termed "reasonable expectation" of teachers. Teacher expectations falling above the upper limit of the confidence interval are termed "over-estimate" of children's ability. Any expectancies falling below the children's ability are an "under-estimate" of children's ability.

*Table runs from Test Item One to Test Item Fourteen later in the text.

EXAMPLE:



The percentage score produced for any one task by the teachers was compared to the percentage score produced by the students. Each student's performance of each task resulted in a "yes" or "no" category, reflecting successful accomplishment or failure of the task. The accumulated sum of "yes" produced a ratio; in turn, it yielded a percentage score of successful accomplishment.

Each student was assigned as a Bernoulli random variable X_i, and results were formulated as:

$$X_i = 1 \text{ if YES}$$

$$X_i = 0 \text{ if NO}$$

This formulates a binominal distribution where N is the sampling size. Then

$$\left(\sum_{i=1}^{n} X_i \right) \Big/ n - \hat{p}$$

is the sample ratio of student performance of developmental tasks. The random variable $\dfrac{\hat{p} - p}{\sqrt{\frac{pq}{N}}}$ is distributed approximately as the standard normal distribution. This random variable is used to construct a 95 percent confidence interval for the actual proportion of Beaverton first-grade students who can complete each task. The lower limit of the interval is $\hat{p} - Z_{0.025}\sqrt{\frac{pq}{N}} - \frac{1}{2N}$, and the upper limit

$\hat{p} + Z .025\sqrt{\frac{pq}{N}} + \frac{1}{2N}$. The term $\frac{1}{2N}$ is correct for continuity. (The binomial is a discrete distribution and a normal distribution is a continuous distribution.) Z 0.025 is a value of a standard normal distribution that is found by statistical table. Z 0.025 = 1.960, p (estimate of children).

In the usual case, a sample size greater than 30 is called a large sample size; therefore, selection of 60 students in the sample size seems adequate to research this study.

The total population of 71 first-grade teachers was administered the opinion questionnaire. No special method of sampling was necessary since a 100 percent return of the questionnaire was anticipated as a census population. Seventy first-grade teachers of the 71 available completed the questionnaire instrument.

CHAPTER IV

RESULTS OF THE STUDY

The purpose of this study was to explore under controlled conditions possible differences between teacher expectancy of first-graders performance and the measured performance of first-graders. The questions raised in the study were:

1. How well can first graders perform developmental tasks?

2. What are first grade teachers' expectancies of performance of first graders?

In response to question 1, the actual performance of the sample of children in this study was incurred by the Student Test Form as shown in Table 1. Actual performance was indicated in two categories signifying completion or noncompletion of each test item. Each category shows the number and percent of children completing or not completing each test item.

In order to show first grade teachers' expectancy (question 2) of performance of first graders, a table of teachers' range of expectancy of first graders was provided.

Histograms showing teacher expectancy on each task exhibiting the range of responses considered as underestimates, reasonable, and overestimates as calculated by statistical procedures are shown in the following pages. The teacher expectancies falling within the confidence interval are termed reasonable estimates of the first graders' performance on the test items. Estimates falling above or

TABLE 1. Number and Percentage of First Graders Completing and Not Completing Each Task Item

Task Item	Complete		Not Complete	
	Number	Percent	Number	Percent
Test Item One	55	91.7%	5	8.3%
Test Item Two	42	70. %	18	30. %
Test Item Three	48	80. %	12	20. %
Test Item Four	50	83.3%	10	16.7%
Test Item Five	46	76.6%	14	23.4%
Test Item Six	55	92. %	5	8. %
Test Item Seven	54	90. %	6	10. %
Test Item Eight	56	93.3%	4	6.6%
Test Item Nine	59	98.3%	1	1.7%
Test Item Ten	25	41.7%	35	58.3%
Test Item Eleven	59	98.3%	1	1.7%
Test Item Twelve	46	76.6%	14	23.4%
Test Item Thirteen	53	88.3%	7	11.7%
Test Item Fourteen	58	96.6%	2	3.4%

TABLE 2. Teacher's Range of Expectancy of Child Performance in Percent

Task Item	Teacher Expectancy
Test Item One	25% to 100 %
Test Item Two	15% to 96%
Test Item Three	1% to 98%
Test Item Four	3% to 99%
Test Item Five	23% to 100%
Test Item Six	61% to 100%
Test Item Seven	51% to 100%
Test Item Eight	1% to 98%
Test Item Nine	22% to 100%
Test Item Ten	50% to 100%
Test Item Eleven	35% to 100%
Test Item Twelve	15% to 100%
Test Item Thirteen	5% to 99%
Test Item Fourteen	20% to 100%

below the confidence interval are termed underestimates and overestimates of child performance. Each histogram also shows teachers' expectancy of child performance by number and percent.

Each of the fourteen tasks was compiled as a separate effort on the part of the sample group of first graders. The percentage (P) of first graders that were successful in completing each specific task is shown in Table 1. The table that follows each histogram indicates the 95 percent confidence interval for actual proportion of students who completed each task by the designation of a upper and lower confidence limit. L.C.L. for P indicates the Lower Confidence Limit for the Population of first graders and U.C.L. for P shows the Upper Confidence Limit of the Population of first graders in the sample.

Table 3 is a histogram showing a distribution of teachers' expectancy on Developmental Task 1, the Construction of a Block Gate. The examiner revealed the finished product to the child and encourages the child to place five blocks in the same arrangement as the examiner displays. In this task, 39 teachers or 58 percent of the teachers made a reasonable estimate. There were 24 teachers or 34 percent who underestimated and 8 teachers or 11 percent who overestimated. The teachers' range of expectancy was from 25 to 100 percent.

TABLE 3. Histogram of Teacher Expectancy of Beginning First Graders on Developmental Task 1.

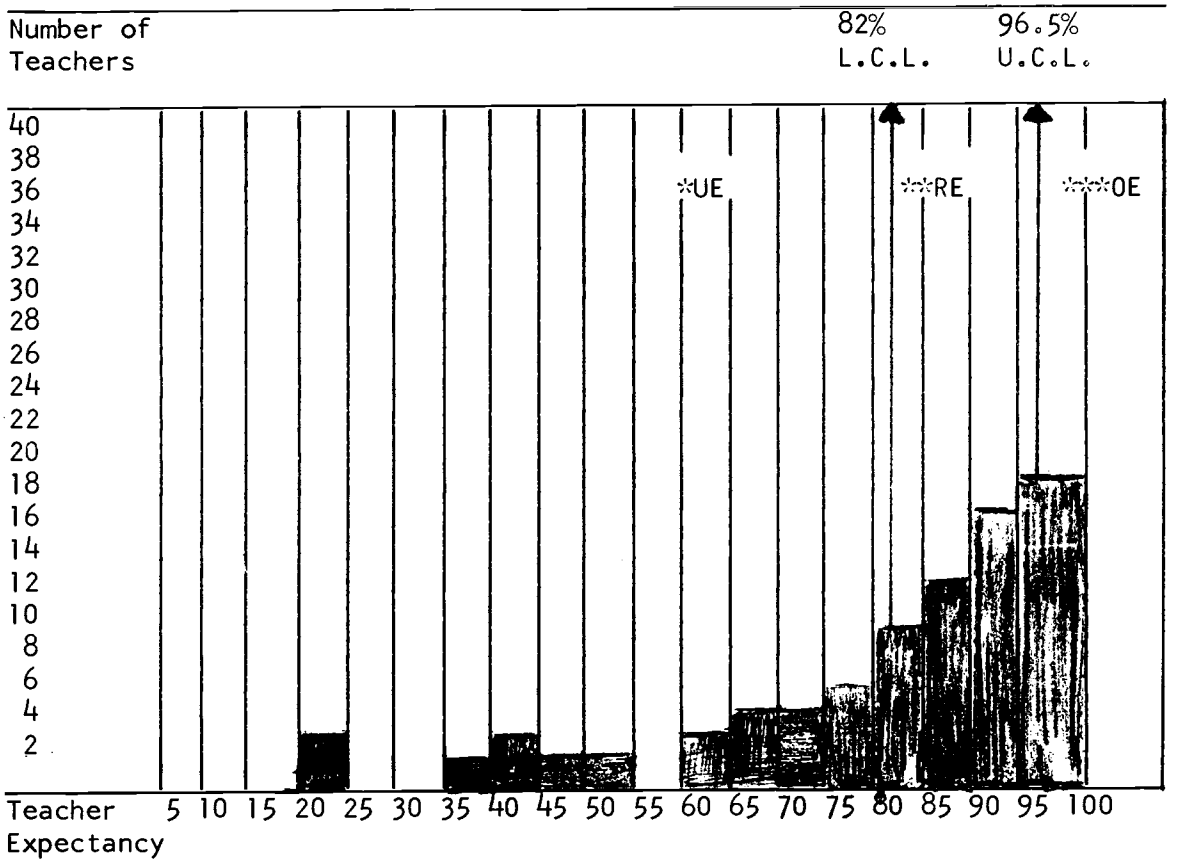


Table 4 denotes the teachers' estimate on Development Task Item 1, Construction of a Block Gate, by number and percentage of students falling under the categories of Underestimate, Reasonable, and Overestimate.

TABLE 4. Developmental Task 1, Construction of a Block Gate

Underestimate	Reasonable	Overestimate
24 (34%)	39 (58%)	8 (11%)

Table 5 was the histogram for Task 2. This task involves having the child place five cardboard designs to complete five of eight half-images which appear on three separate sheets. Only five of the half-images can be used correctly in placing the five figures. Twenty-seven

*UE - Underestimate **RE - Reasonable ***OE-Overestimate

percent of the teachers underestimated, 31 percent made reasonable estimates, and 41 percent made overestimates. The teachers' range of expectancy was from 15 to 96 percent.

TABLE 5. Histogram of Teachers Expectancy of Beginning First Graders on Developmental Task 2.

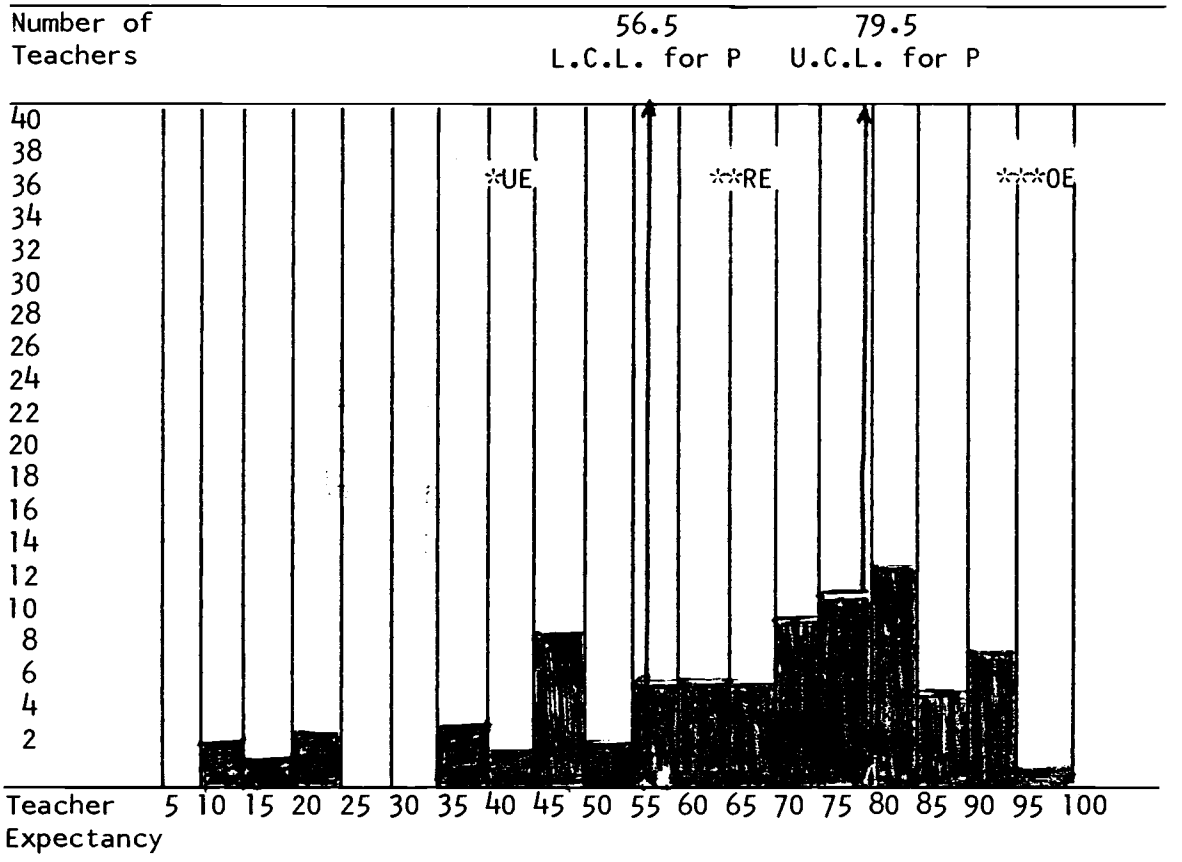


Table 6 shows the teachers' estimates on Developmental Task 2, Form Completion Test, by number and percentage of students falling under the categories of Underestimate, Reasonable, and Overestimate.

TABLE 6. Developmental Task Item 2, Form Completion Test

Underestimate	Reasonable	Overestimate
19 (27%)	22 (31%)	29 (41%)

*UE - Underestimate **RE - Reasonable ***OE - Overestimate

Table 7 is the histogram for Task 3. The child was asked to draw a man, successful completion of which depends on the number of parts included in the drawing. Nineteen percent of the teachers underestimated child performance, 42 percent made reasonable estimates, and 37 percent made overestimates. The teachers' range of expectancy was from 1 to 98 percent.

TABLE 7. Histogram of Teacher Expectancy of Beginning First Graders on Developmental Task 3.

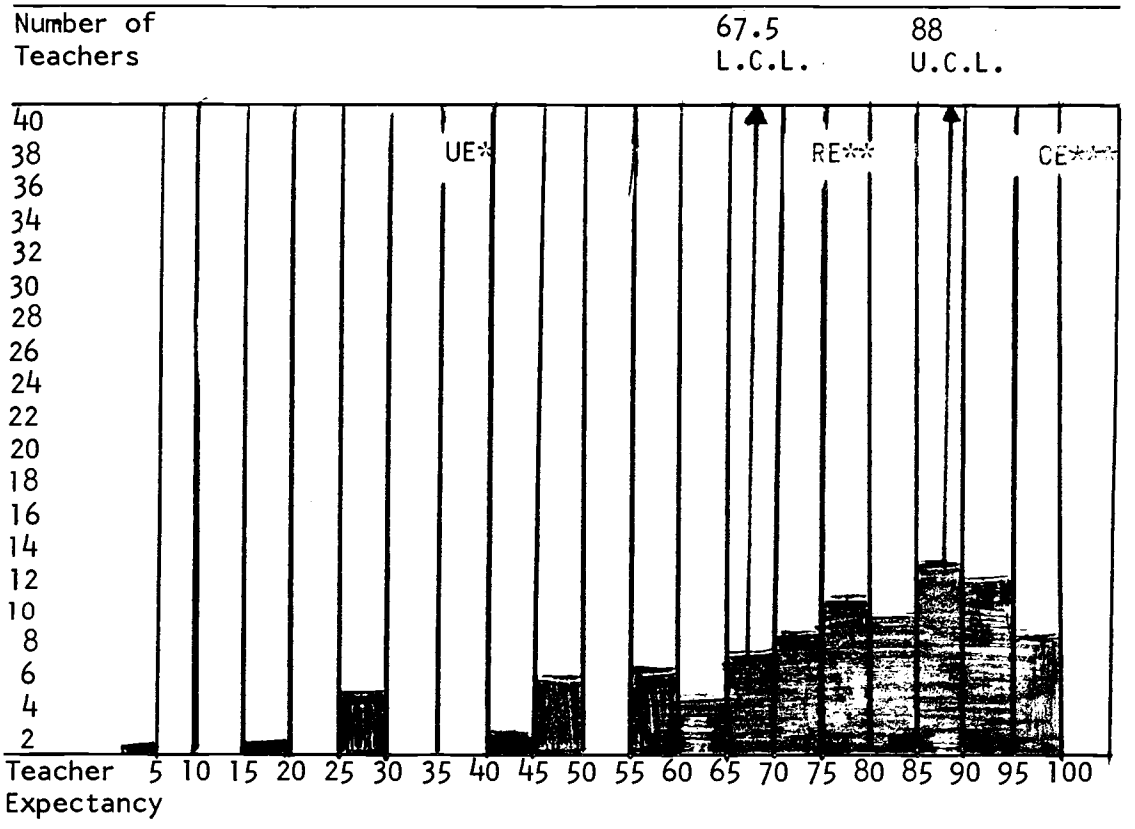


Table 8 shows the teachers' estimate on Developmental Task Item 3, by number and percentage of students falling under the categories of Underestimate, Reasonable, and Overestimate.

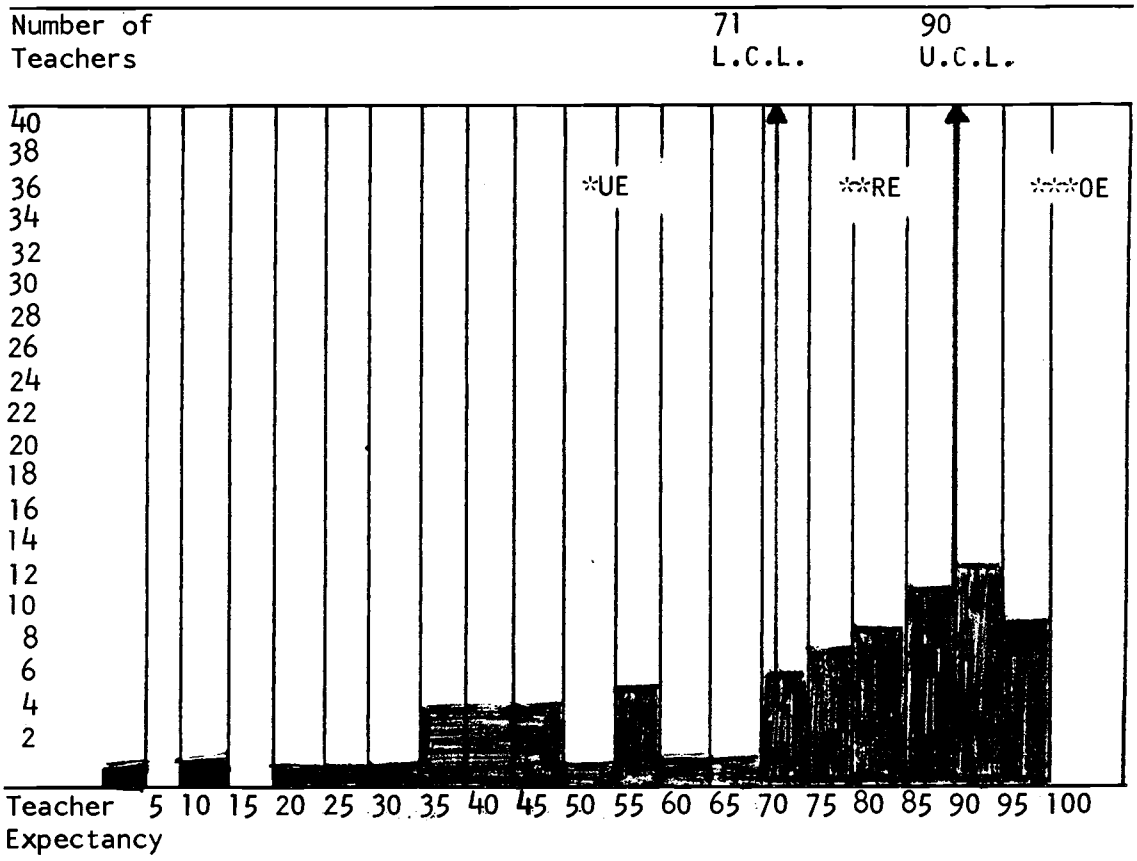
*UE - Underestimate **RE - Reasonable ***OE - Overestimate

TABLE 8. Developmental Task Item 3, Draw a Man

Underestimate	Reasonable	Overestimate
14 (19%)	37 (44%)	19 (37%)

Table 9 is the histogram of Task 4. The examiner presents a picture to the child who describes the picture. The task was judged correct if the child responds correctly over half the time. Thirty-four percent of the teachers underestimated child performance, 37 percent made reasonable estimates, and 29 percent made overestimates. The teachers' range of expectancy was from 3 to 99 percent.

TABLE 9. Histograms of Teacher Expectancy of Beginning First Graders on Developmental Task 4.



*UE - Underestimate **RE - Reasonable ***OE - Overestimate

Table 10 shows the teachers' estimate on Developmental Task Item 4, Describes Picture, by number and percentage of students falling under the categories of Underestimate, Reasonable, and Overestimate.

TABLE 10. Developmental Task Item 4, Describes Picture.

Underestimate	Reasonable	Overestimate
24 (34%)	26 (37%)	20 (29%)

Table 11, the histogram of Task 5. The examiner asks the child to repeat short sentences. The idea of repetition was the determining factor of completion for this task. Ten percent of the teachers underestimated child performance, 26 percent made reasonable estimates, and 64 percent made overestimates. The teachers' range of expectancy was from 23 to 100 percent.

TABLE 11. Histogram of Teacher Expectancy of Beginning First graders on Developmental Task 5.

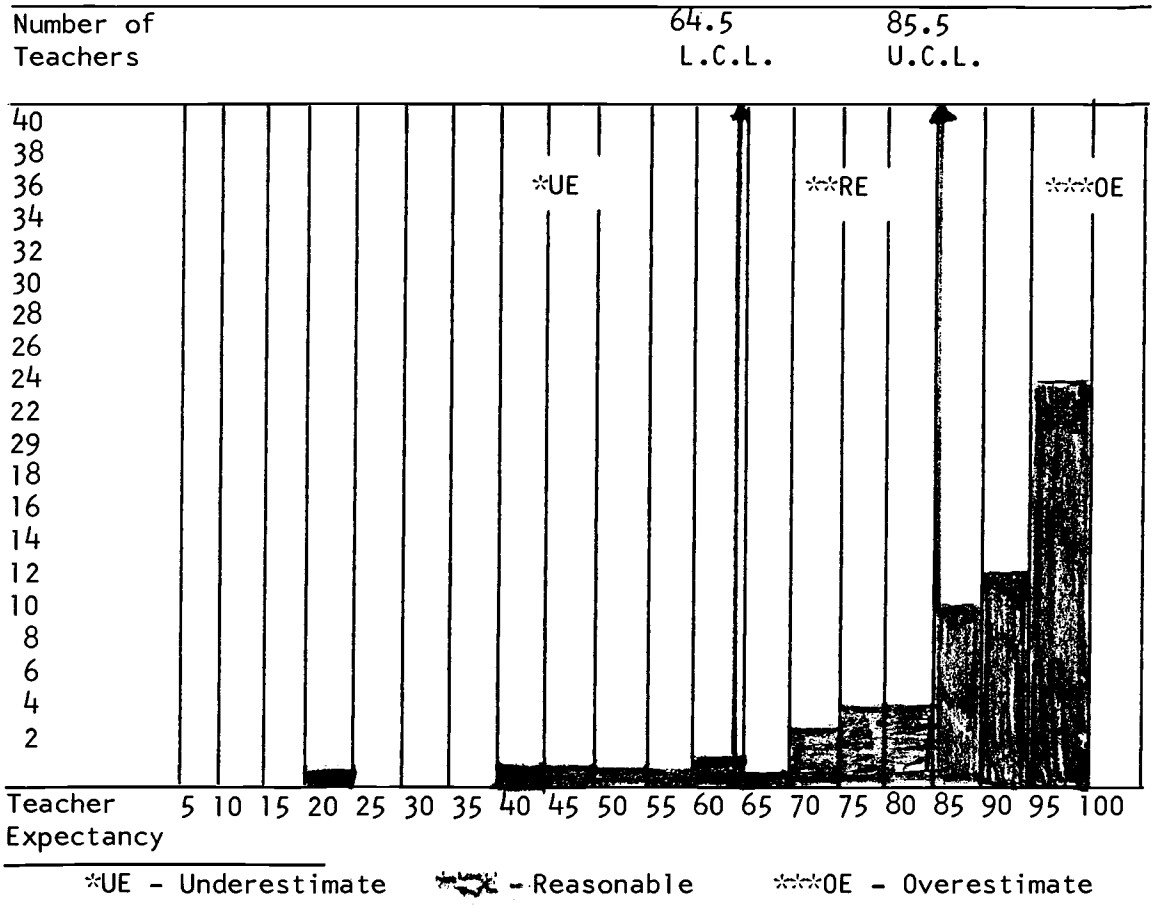


Table 12 shows the teachers' estimate on Developmental Task Item 5, Repeating Three or Four Word Sentences, by number and percentage of students falling under the categories of Underestimate, Reasonable, and Overestimate.

TABLE 12. Developmental Task Item 5, Repeating Three or Four Word Sentences.

Underestimate	Reasonable	Overestimate
7 (10%)	18 (26%)	45 (64%)

Table 13 is the histogram of Task 6. The child was asked to name four color cubes placed on a white backboard. Successful completion was indicated if all four colors were named correctly. Eleven percent of the teachers underestimated child performance, 36 percent made reasonable estimates, and 53 percent made overestimates. The teachers' range of expectancy was from 61 to 100 percent. Over half of the teachers estimated between 96 to 100 percent.

TABLE 13. Histogram of Teacher Expectancy of Beginning First Graders on Developmental Task 6.

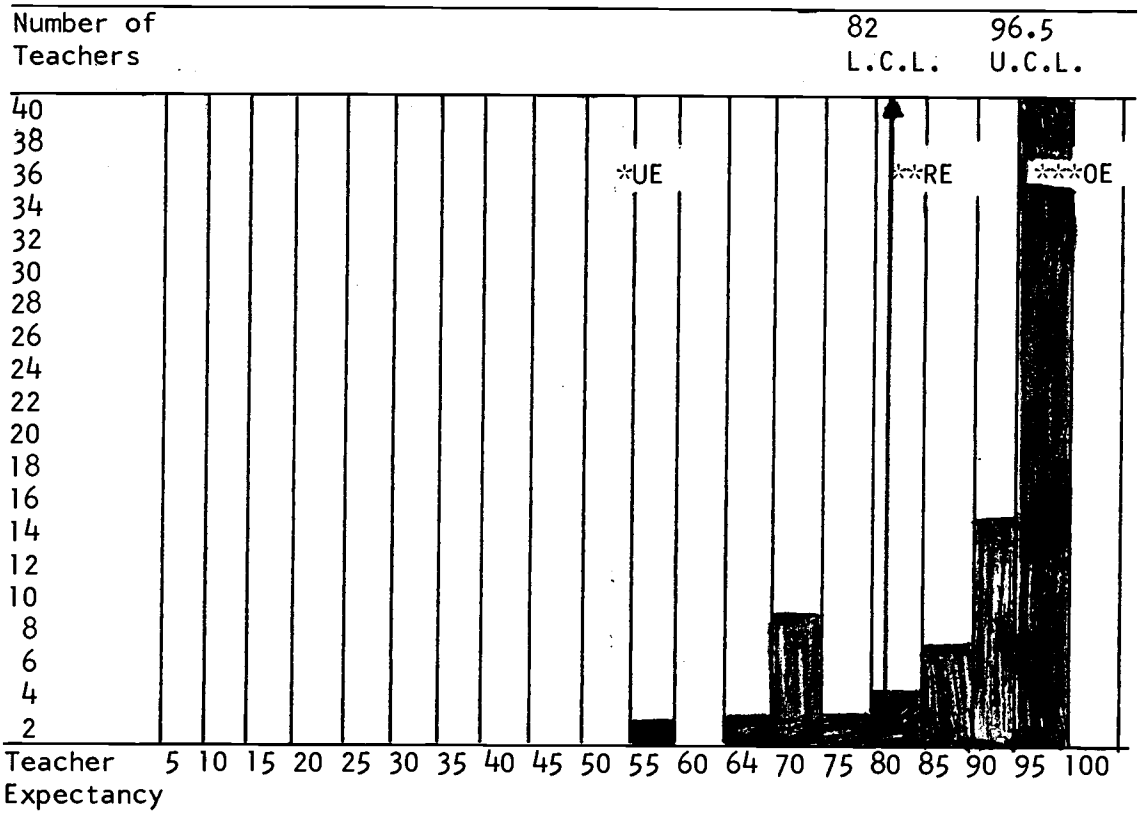


Table 14 shows the teachers' estimate on Developmental Task Item 6, Give Color Names, by number and percentage of students falling under the categories of Underestimate, Reasonable, and Overestimate.

TABLE 14. Developmental Task Item 6, Give Color Name.

Underestimate	Reasonable	Overestimate
8 (11%)	25 (36%)	37 (53%)

Table 15 is the histogram for Task 7. The child was asked to identify an object by telling its use. If the child gives a correct response, a completion is recorded. Nine percent of the teachers underestimated child performance, 50 percent made reasonable estimates, and

*UE - Underestimate **RE - Reasonable ***OE - Overestimate

TABLE 15. Histogram of Teacher Expectancy of Beginning First Graders on Developmental Task 7.

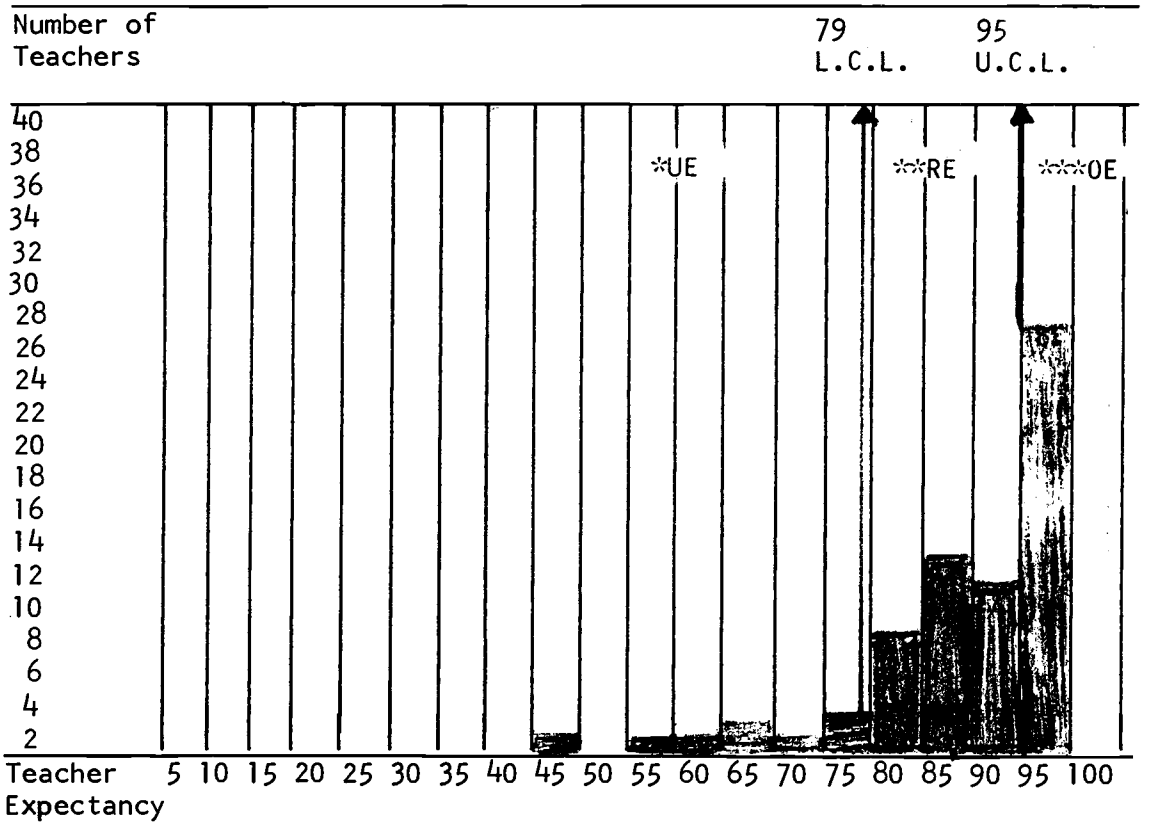


Table 16 shows the teachers' estimate on Developmental Task Item 7, Defines Use of Objects, by number and percentage of students falling under the categories of Underestimate, Reasonable, and Overestimate.

TABLE 16. Developmental Task Item 7, Defines Use of Objects.

Underestimate	Reasonable	Overestimate
6 (9%)	35 (50%)	29 (41%)

Table 17 is the histogram for Task 8. Two cards cut into triangles are placed in front of the child and he was asked to form a rectangle with them. A rectangular card was used as a guide for the child as he placed

*UE - Underestimate **RE - Reasonable ***OE - Overestimate

his two pieces together in replication. Fifty percent of the teachers underestimated child performance, 49 percent made reasonable estimates, and one percent overestimated. The range of teacher expectancy was from 1 to 98 percent.

TABLE 17. Histogram of Teacher Expectancy of Beginning First Graders on Developmental Task 8.

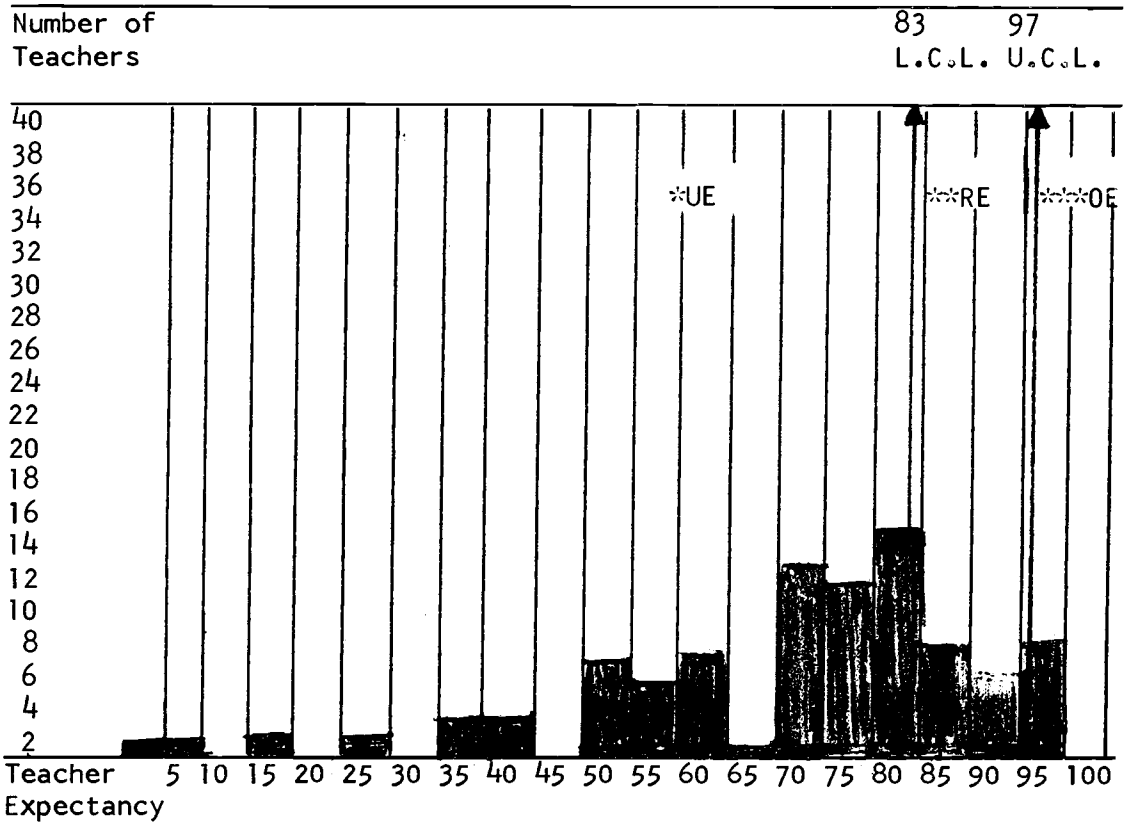


Table 18 shows the teachers' estimate on Developmental Task Item 8, Complete Rectangle, by number and percentage of students falling under the categories of Underestimate, Reasonable, and Overestimate.

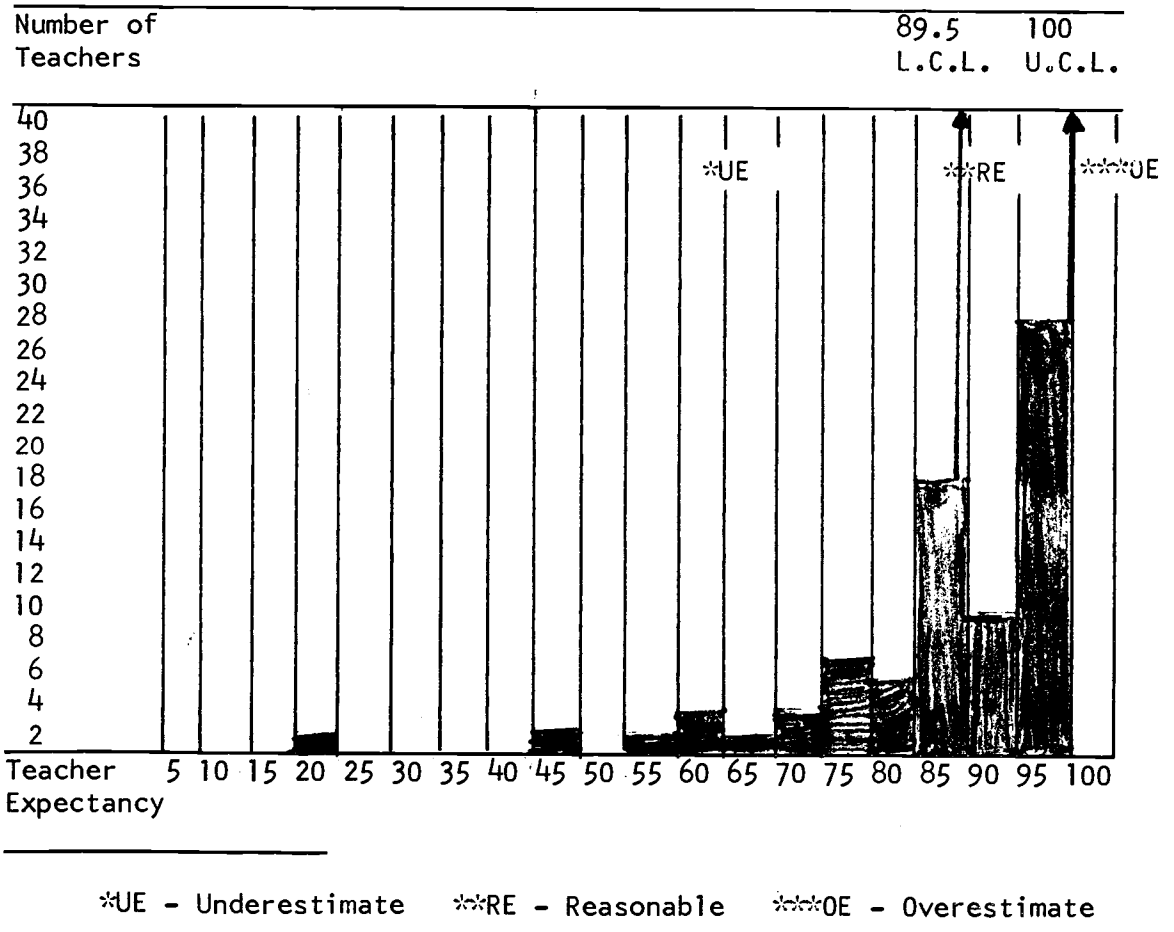
TABLE 18. Developmental Task Item 8, Complete Rectangle.

Underestimate	Reasonable	Overestimate
35 (50%)	34 (49%)	1 (1%)

*UE - Underestimate **RE - Reasonable ***OE - Overestimate

Table 19 is the histogram for Task 9. The examiner asks the child for his full name, his sex, and age. The examiner has obtained this information prior to examining the child in order to insure accuracy. The child's response on age was not considered correct if the child had to count on his fingures in order to respond. Thirty-four percent of the teachers underestimated child performance, 66 percent made reasonable estimates, and none overestimated. The range of teacher expectancy was from 22 to 100 percent. Forty-one percent of the teachers estimated between 96 and 100 percent.

TABLE 19. Histogram of Teacher Expectancy of Beginning First Graders on Developmental Task 9.



*UE - Underestimate **RE - Reasonable ***OE - Overestimate

Table 20 shows the teachers' estimate on Developmental Task Item 9, Tells Name, Sex, and Age, by number and percentage of students falling under the categories of Underestimate, Reasonable, and Overestimate.

TABLE 20. Developmental Task Item 9, Tells Name, Sex, and Age.

Underestimate	Reasonable	Overestimate
24 (34%)	46 (66%)	0 (0%)

Table 21, the histogram for Task 10. The examiner showed each child four pictures with a face. Each face had a part missing, such as an eye. The child was asked to identify the missing part. A completion was scored only if all four missing parts could be named correctly. One percent of the teachers underestimated child performance, 11 percent made reasonable estimates, and 87 percent overestimated. The range of teacher expectancy was from 50 to 100 percent.

TABLE 21. Histogram of Teacher Expectancy of Beginning First Graders on Developmental Task 10.

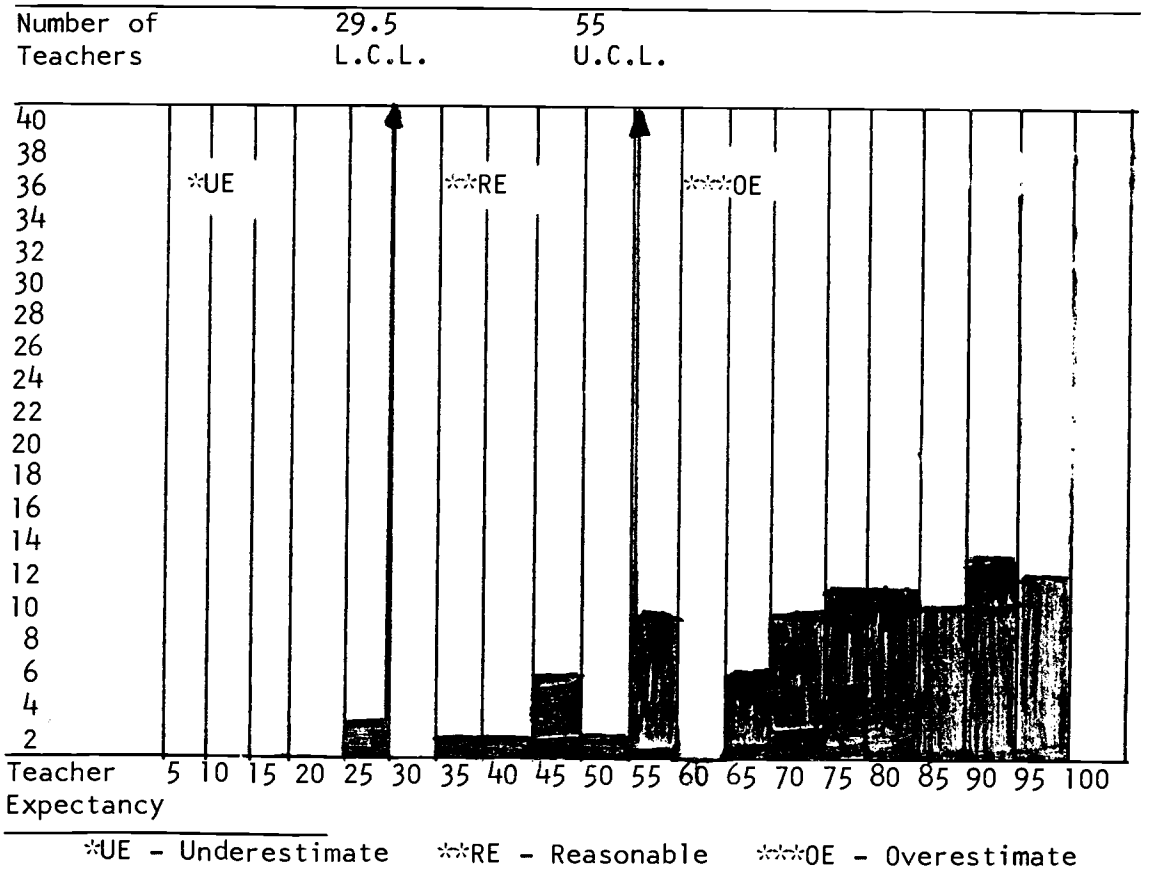


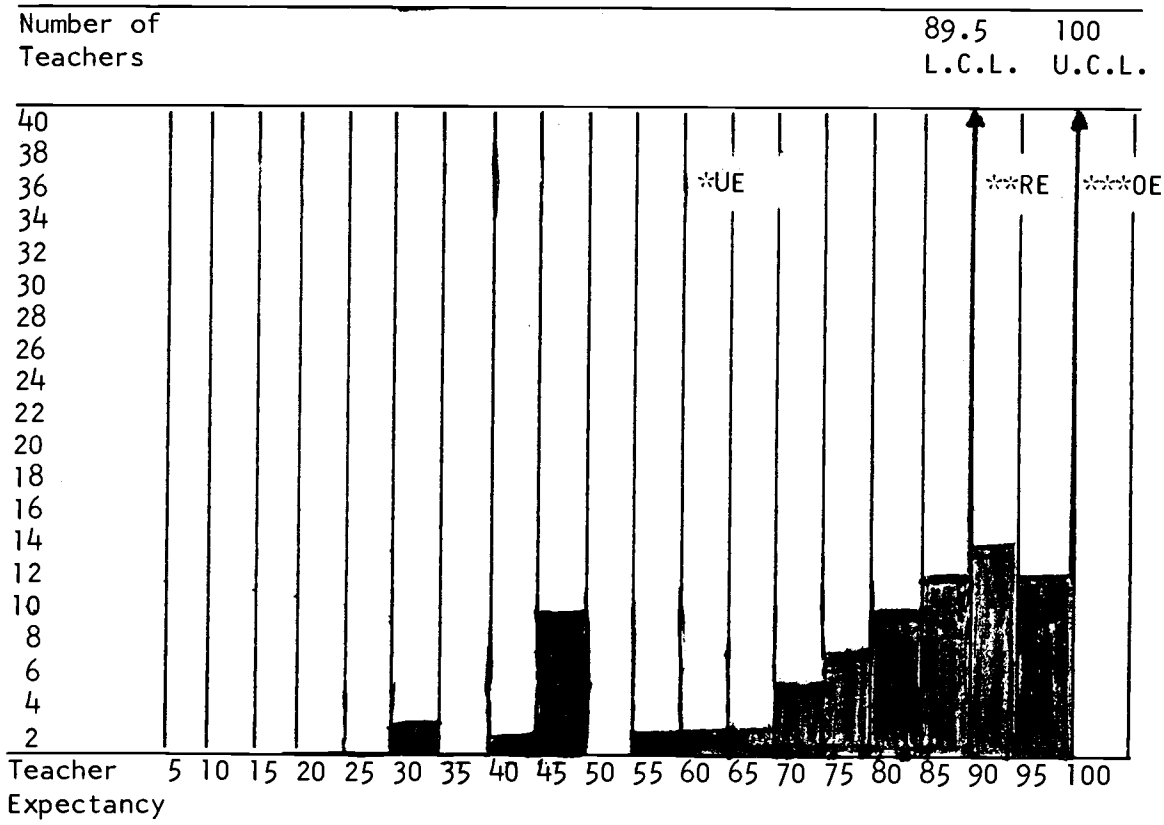
Table 22 shows the teachers' estimate on Developmental Task Item 10, Supplies Missing Parts, by number and percentage of students falling under the categories of Underestimate, Reasonable, and Overestimate.

TABLE 22. Developmental Task Item 10, Supplies Missing Parts.

Underestimate	Reasonable	Overestimate
1 (1%)	8 (11%)	61 (87%)

Table 23 is the histogram for Task 11. The examiner placed ten pennies on the table and asked the examinee to count them. If a child counted too rapidly making an error, the child was encouraged to recount them slowly. Fifty-three percent of the teachers underestimated child performance, 47 percent made reasonable estimates, and none overestimates. The range of teacher expectancy was from 35 to 100 percent.

TABLE 23. Histogram of Teacher Expectancy of Beginning First Graders on Developmental Task 11.



*UE - Underestimate **RE - Reasonable ***OE - Overestimate

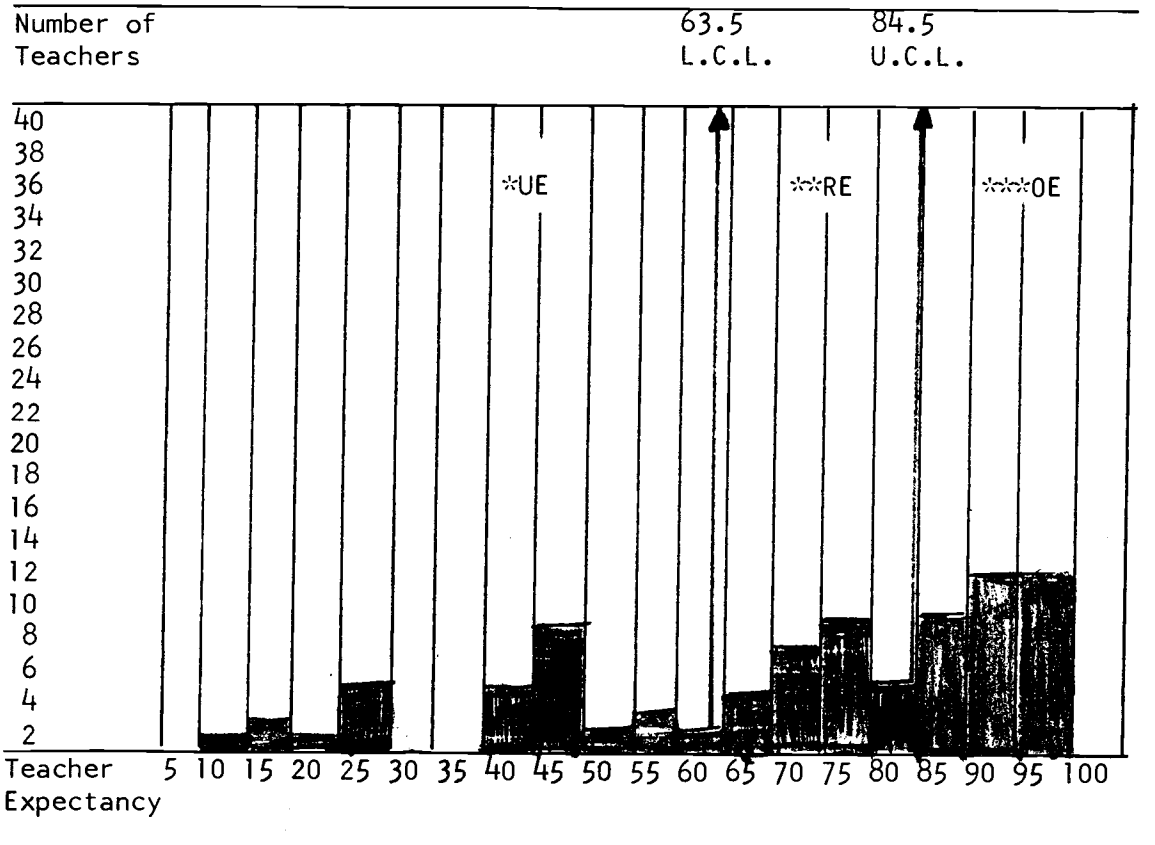
Table 24 shows the teachers' estimate on Developmental Task Item 11 Counting Pennies, by number and percentage of students falling under the categories of Underestimate, Reasonable, and Overestimate.

TABLE 24. Developmental Task Item 11, Counting Pennies.

Underestimate	Reasonable	Overestimate
37 (53%)	33 (47%)	0 (0%)

Table 25 is the histogram of Task 12. The child was asked to respond to the question, "It is morning or afternoon?" Thirty-one percent of the teachers underestimated child performance, 27 percent made reasonable estimates, and 41 percent overestimated. The range of teacher expectancy was from 15 to 100 percent.

TABLE 25. Histogram of Teacher Expectancy of Beginning First Graders on Developmental Task 12.



*UE - Underestimate **RE - Reasonable ***OE - Overestimate

Table 26 shows the teachers' estimate on Developmental Task Item 12, Distinguishes Between A.M. and P.M., by number and percentage of students falling under the categories of Underestimate, Reasonable, and Overestimate.

TABLE 26. Developmental Task Item 12, Distinguishes Between A.M. and P.M.

Underestimate	Reasonable	Overestimate
22 (31%)	19 (27%)	29 (41%)

Table 27 is the histogram of Task 13. The examiner held one hand up asking the child to tell the number of fingers on one hand. The act was repeated with the other hand and then with both hands. Since a child may distinguish between thumb and finger, correct responses are: 5, 5, 10 or 4, 4, 8. Seventy-six percent of the teachers underestimated child performance, 21 percent made reasonable estimates, and 3 percent overestimated. The range of teacher expectancy was from 5 to 99 percent.

TABLE 27. Histogram of Teacher Expectancy of Beginning First Graders on Developmental Task 13.

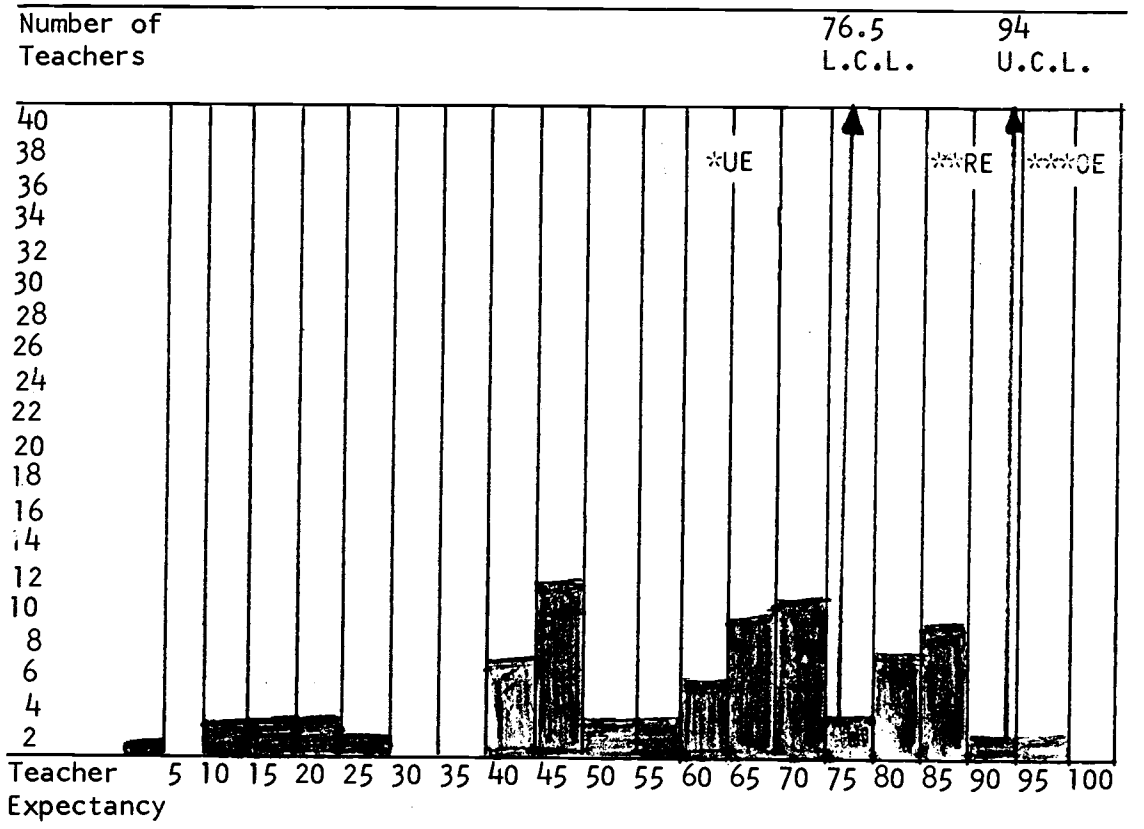


Table 28 shows the teachers' estimate on Developmental Task Item 13, Tells Number of Fingers, by number and percentage of students falling under the categories of Underestimate, Reasonable, and Overestimate.

TABLE 28. Developmental Task Item 13, Tells Number of Fingers.

Underestimate	Reasonable	Overestimate
53 (76%)	15 (21%)	2 (3%)

Table 29 is the histogram of Task 14. Two drawings that were slightly different were shown to the child. If the child could verbally

*UE - Underestimate **RE - Reasonable ***OE - Overestimate

indicate the difference, a correct response was recorded. Fifty-seven percent of the teachers underestimated child performance, 41 percent made reasonable estimates and, 1 percent overestimated. The range of teacher expectancy was from 20 to 100 percent.

TABLE 29. Histogram of Teacher Expectancy of Beginning First Graders on Developmental Task 14.

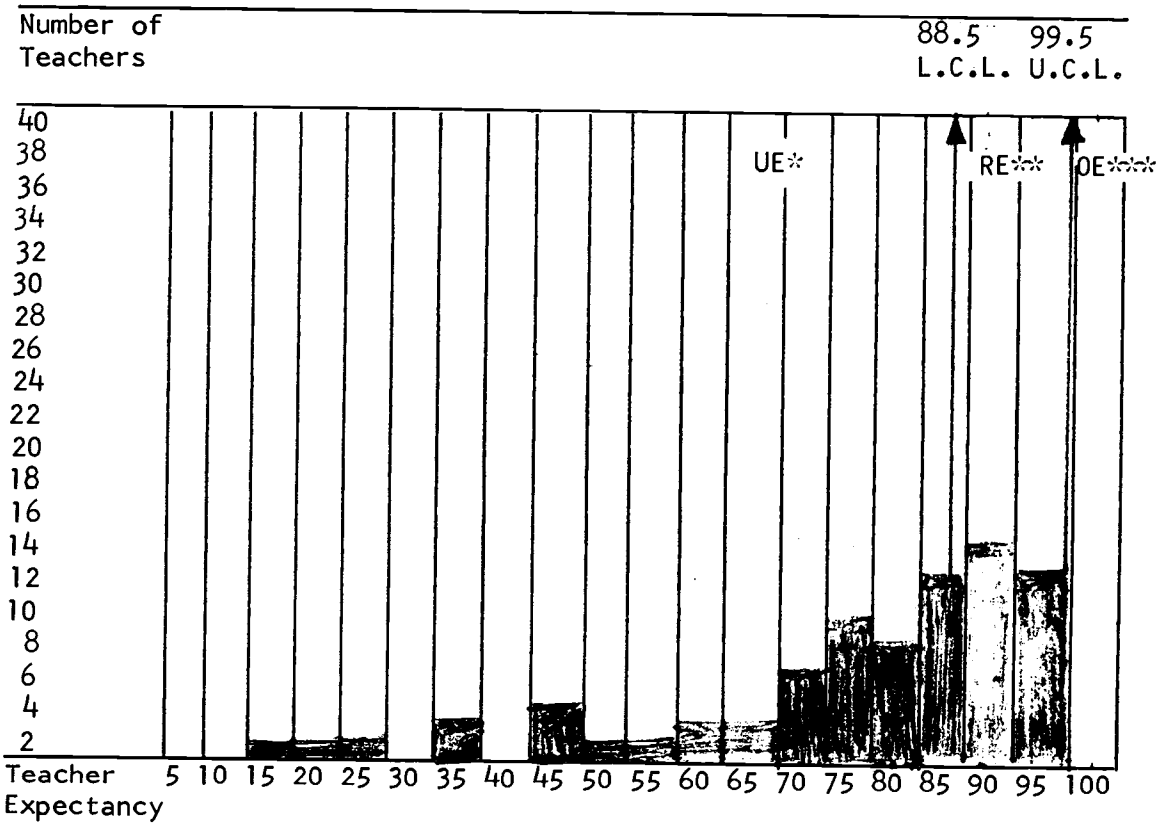


Table 30 shows the teachers' esimate on Developmental Task Item 14, Gives Differences, by numbers and percentage of students falling under the categories of Underestimate, Reasonable, and Overestimate.

---

*UE - Underestimate **RE - Reasonable ***OE - Overestimate

TABLE 30. Developmental Task Item 14, Gives Differences.

Underestimate	Reasonable	Overestimate
40 (57%)	29 (41%)	1 (1%)

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

As early as 1925 children's performance was considered by Gesell, using developmental tasks as a method of measurement. Child performance was subdivided by percentage of children able to complete specific tasks presented to them. Until 1965, little had been done to utilize these developmental tasks as a form of measurement. Ilg and Ames (1965) developed grade placement tests using some of the developmental tasks originally tested by Gesell. Their work started in 1957 with the Weston Study exploring the use of teacher aides. They defined age levels and described behavioral characteristics of children by grade level. Their tests suggested a level of intelligence, powers of organization, and interests of children of various age levels.

A review of the literature failed to reveal any research comparing teacher expectancy with child performance. Tests developed by Ilg and Ames (1965) covered a wide range of measurement, but did not compare teacher expectancy with child performance. This study utilizes the work of Gesell and makes test item comparisons necessary to adapt Gesell's developmental task items making these compatable with the times.

The study addressed itself to two main questions:

1. How well can first-grade students perform specific developmental tasks?
2. What are first-grade teachers' expectancies of performance of first-graders.

Three school districts in the state of Oregon were considered appropriate as to population and willingness to investigate the problem. The most likely was the Beaverton School District because it satisfied best the criteria in initiating a kindergarten program in the public schools. This district welcomed the study in hopes of improving the primary school as a consequence.

All children enrolled by September 3, 1970, were included in the population of the study prior to random selection, when 60 beginning first graders were chosen. Each selected child was administered the 14 item Student Test. Each task was given completion credit only if the entire task was completed successfully. After the students completed this testing phase, 70 first grade teachers were exposed to the Teacher Survey Instrument in a controlled situation to estimate teacher expectancy of beginning first graders.

After the data were tabulated, it was determined that through a binomial distribution formula at the 95 percent level of confidence, teacher expectancy could be clearly visualized for the reader. A histogram illustrating teacher expectancy of child performance is followed by a numerical table explaining reasonable statistical expectancy (see Chapter 4). The area considered as reasonable expectancy of child performance falls between the two red lines which show the Lower Confidence Limit and Upper Confidence Limit of each distribution.

In answering the two questions of the study, it can be said that:

1. Student performance, limited to the sample of 60 beginning first graders selected randomly, was determined

through the testing of these students on the 14 item test, and the percentage who could complete each task was established.

2. Teachers' estimates of child performance were obtained and compared with the actual performance of the sample of first graders. This revealed a wide range of teacher expectancy resulting in statistical classification of underexpectancy, reasonable, and overexpectancy of child performance.

Conclusions

The single most important result of this study is the wide range of teacher expectancy of child performance. Some teachers estimated a low percentage of children who could perform a task while others estimated a high percentage of children who could successfully complete the same task.

Particularly low estimates of child performance was apparent in test items 1, 8, 9, 11, 13 and 14. The percentage of underestimation was as follows:

Test Item One, Construction of a Block Gate 34%

Test Item Eight, Complete Rectangle 50%

Test Item Nine, Tells Name, Sex, and Age 34%

Test Item Eleven, Counting Pennies 53%

Test Item Thirteen, Tells Number of Fingers 76%

Test Item Fourteen, Gives Differences 57%

Particularly high estimates of child performance was apparent in items 2, 3, 5, 6, 7, 10 and 12. The percentage of overestimation was as follows:

Test Item Two, Form Completion Test 41%

Test Item Three, Draw a Man 37%

Test Item Five, Repeating Three and Four Word Sentences 64%

Test Item Six, Give Color Names 53%

Test Item Seven, Defines Use of Objects 41%

Test Item Ten, Supplies Missing Parts 87%

Test Item Twelve, Distinguishes A.M. and P.M. 41%

A high degree of accuracy was apparent in teacher expectancy by the lack of overestimation of child performance on item 8, 11, 13 and 14. The percentage of overestimation was as follows:

Test Item Eight, Complete Rectangle 1%

Test Item Eleven, Counting Pennies 0%

Test Item Thirteen, Tells Number of Fingers 3%

Test Item Fourteen, Gives Differences 1%

The significance of teacher expectancy of reasonable child performance is established at the 95% level of confidence. Teachers making reasonable estimates of child performances should theoretically predict successful task completion 95 percent of the time.

On Test Item One, Construction of a Block Gate, 58 percent of the teachers made reasonable estimates of child performance as compared to 92 percent successful task completion by children. Thirty-four percent of the teachers underestimated child performance and 11 percent overestimated. The range of teacher expectancy was from 25 to 100 percent.

On Test Item Two, Form Completion Test, 31 percent of the teachers made reasonable estimates of child performance as compared to 70 percent successful completion by children. Twenty-seven percent of the teachers underestimated child performance and 41 percent overestimated. The range of teacher expectancy was from 15 to 100 percent.

On Test Item Three, Draw a Man, 44 percent of the teachers made reasonable estimates of child performance as compared to 80 percent successful task completion by children. Nineteen percent of the teachers underestimated child performance and 37 percent overestimated. The range of teacher expectancy was from 1 to 98 percent.

On Test Item Four, Describes Pictures, 37 percent of the teachers made reasonable estimates of child performance as compared to 83 percent successful task completion by children. Thirty-four percent of the teachers underestimated child performance and 29 percent overestimated. The range of teacher expectancy was from 3 to 99 percent.

On Test Item Five, Repeating Three and Four Word Sentences, 26 percent of the teachers made reasonable estimates of child performance as compared to 77 percent successful task completion by children. Ten percent of the teachers underestimated child performance and 64 percent overestimated. The range of teacher expectancy was from 23 to 100 percent.

On Test Item Six, Give Color Names, 36 percent of the teachers made reasonable estimates of child performance as compared to 92 percent successful task completion by children. Eleven percent of the teachers underestimated child performance and 53 percent overestimated. The range of teachers expectancy was from 61 to 100 percent.

On Test Item Seven, Defines Use of Objects, 50 percent of the teachers made reasonable estimates of child performance as compared to 90 percent successful task completion by children. Nine percent of the teachers underestimated child performance and 41 percent overestimated. The range of teacher expectancy was from 51 to 100 percent.

On Test Item Eight, Complete Rectangle, 49 percent of the teachers made reasonable estimates of child performance as compared to 93 percent successful task completion by children. Thirty-five percent of the teachers underestimated child performance and 1 percent overestimated. The range of teacher expectancy was from 1 to 98 percent.

On Test Item Nine, Tells Name, Sex, and Age, 66 percent of the teachers made reasonable estimates of child performance as compared to 98 percent successful task completion by children. Thirty-four percent of the teachers underestimated child performance and 0 percent overestimated. The range of teacher expectancy was from 22 to 100 percent.

On Test Item Ten, Supplies Missing Parts, 11 percent of the teachers made reasonable estimates of child performances as compared with 42 percent successful task completion by children. One percent of the teachers underestimated child performance and 87 percent overestimated. The range of teacher expectancy was from 50 to 100 percent.

On Test Item Eleven, Counting Pennies, 47 percent of the teachers made reasonable estimates of child performance as compared to 98 percent successful task completion by children. Fifty-three percent of the teachers underestimated child performance and 0 percent overestimated. The range of teacher expectancy was from 35 to 100 percent.

On Test Item Twelve, Distinguishes A.M. and P.M., 27 percent of the teachers made reasonable estimates of child performance as compared to 77 percent successful task completion by children. Thirty-one percent of the teachers underestimated child performance and 41 percent overestimated. The range of teacher expectancy was from 15 to 100 percent.

On Test Item Thirteen, Tells Number of Fingers, 21 percent of the teachers made reasonable estimates of child performance as compared to 88 percent successful task completion by children. Seventy-six percent of the teachers underestimated child performance and 3 percent overestimated. The range of teacher expectancy was from 5 to 99 percent.

On Test Item Fourteen, Gives Differences, 41 percent of the teachers made reasonable estimates of child performance as compared to 97 percent successful task completion by children. Forty percent of the teachers underestimated child performance and 1 percent overestimated. The range of teacher expectancy was from 20 to 100 percent.

The following tendencies of teacher expectancy are evident as reflected by the comparison of the data.

1. There is a high range of teacher expectancy on all developmental task items. The greatest range of expectancy by teachers is 1 to 98 percent and the smallest is from 50 to 100 percent. The average low percentage expectancy on all items is 22 percent and 99 percent for the average high expectancy.
2. There is a slight tendency for teachers to underestimate child performance. The greatest underestimation

of child performance was 76 percent on Test Item Thirteen Tells Numbers of Fingers. The greatest overestimation was 87 percent Test Item Ten, Supplies Missing Parts.

3. Lack of overestimation on Test Item Eight, Complete Rectangle; Test Item Eleven, Counting Pennies; Test Item Thirteen, Tells Number of Fingers; and Test Item Fourteen, Gives Differences, occurred only on these items. Items eleven and thirteen involve the use of numbers by counting no higher than 10. Item eight involves a simple movement of two paper triangles to form a rectangle. Item fourteen calls for a visual discrimination of differences between two pictures. All of these items give the appearance of not being difficult which probably accounts for the low overestimates.
4. The general pattern of high overestimation, high underestimation, and low reasonable estimation is apparent throughout the study. The implications for making judgments of child performance warrants careful consideration.

It is noted that each developmental task was demonstrated for each teacher and all questions related to the task were answered. This gives some indication concerning judgment of child performance in the classroom upon entering first grade. Since teachers are asked to make judgments which influence a child's self-image, caution should be considered in demanding or expecting a specified degree of performance of beginning first graders.

The developmental tasks formulating the instrument used in this study may not represent the most important identifiable developmental tasks which could be observed in a first grade classroom. It would be interesting to investigate other tasks which could possibly help determine teacher expectancy with greater accuracy.

The wide range of teacher expectancies for each task was classified as being underestimates, reasonable, and overestimates. No judgment is made to establish any deviation beyond that determined through establishing a confidence interval. The data compiled for this study are not intended to reflect other school districts or larger populations.

Recommendations

It is recommended that parallel studies be made using a larger sample. This could be accomplished by

1. using a larger school district,
2. using various school districts of equal size with similar conditions,
3. using a sampling from various states or regions, or
4. comparing school districts with contrasting situations.

It would be interesting to compare results in school districts of similar size in the same region. A study of this nature could support or influence the results of this study.

The need for comparing preschool teachers' estimates of child performance with first-grade teachers could be valuable. Since the work of preschool teachers often involve preparation of children for the structured first-grade situation, it would be of concern to

investigate this situation. It is also recommended that regional factors related to teacher expectancy of child performance be considered as a follow-up to this study. Teachers from the South could be compared with teachers from the North. Black teachers could be compared with white teachers on student expectancy. Teachers could be compared on the levels of academic preparation to determine the possible influence of college preparation in teacher expectancy. The years of teaching experience could be taken into consideration as a mode of comparing teacher expectancy. Also, the comparison of affluent school districts and ghetto schools could reveal interesting results relative to teacher expectancy in dissimilar teaching situations.

With the attention now given to preschool education, the development of a healthy self-image in children, and flexible curricula to meet individual needs, teachers should be aware of their expectancy of children. It appears that an investigation of this type could be only an initial move toward understanding the relationship of child performance to teacher expectancy.

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APPENDICES

APPENDIX A

Participating Elementary Schools

Participating Elementary Schools

The following elementary schools in the Beaverton School District participated in the study:

Aloha Park

Barnes

Beaver Acres

Cedar Hills

Cedar Mill

C. E. Mason

Cooper Mt.

Fir Grove

Garden Home

Hazeldale

McKay

Merle Davies

Oak Hills

Raleigh Hills

Raleigh Park

Ridgewood

Sunset Valley

Terra Linda

Vose

West Tualatin View

William Walker

APPENDIX B

Developmental Tasks List Submitted

To Oregon State University Panel

Appendix B

The following pages contain a list of Gesell's developmental items. Please rate the items as suggested to accomplish the following criteria:

1. Be applicable to beginning first graders.
2. Be items that could ordinarily be performed by beginning first graders.
3. Be items that would ordinarily be observed by first grade teachers and could provide immediate feedback on successful performance.

Use this numerical scale to rate each item:

5 Outstanding

4 Very Good

3 Average

2 Fair

1 Poor

____ 1. Building block gate

With one hand, build a block gate consisting of five red cubes without the child observing the construction. Ask the child to build one just like it. Time: 2 minutes

____ 2. Build memory steps

Examiner builds a stairway of four flights consisting of ten red blocks and asks child to duplicate after testee examines model. Time: 3 minutes

____ 3. Steadiness Fish test

Have the child attempt to hook a cardboard fish with a metal rod. The fish has an eye for hooking it. The child must use only one hand. Use of two hands must be controlled after two or three warnings. Time: 3 minutes

____ 4. Folds paper diagonally three times after viewing demonstration. Time: 3 minutes

____ 5. Copies Drawings

The child is asked to draw eight geometric designs: circle, square, cross, oblique cross, square triangle, prism, hexagon, and diamond. These trials are given with judgment made on the number of lines that each design has. Time: 8 minutes

____ 6. Coordinated tracing

A piece of paper with double diamonds (octagon) is placed on a drawing paper on the table. The examiner traces a pathway around the diamond. The child is asked to draw a line around the diamond. If the child's line crosses the traced line more than three times, he may have a second chance only. Time: 4 minutes

____ 7. Threads garden maze

The child is given 110 seconds on a 9 x 12 maze test after observation on another maze. The maze has 14 blind alleys and is imagined to be a garden path. This test is used primarily to bring out personality differences. Time: 2 minutes

____ 8. Form Completion Test

Bright colored design cut-outs consisting of a circle, square, rectangle, maltese cross, and lozenge are emptied from an envelope onto the table. There are sheets with incomplete design outlines that are placed on the table and the child is asked to match up the design cut-out with the incomplete image. Time: 1 minute, 30 seconds

____ 9. Draws recognizable man

Ask the child to draw a man. Time: 3 min, 30 seconds

____10. Interprets Humor

By interview, a child makes drawings spontaneously or on suggestion and gives them dramatic interpretation. Precise standardization of criteria must be determined to gauge child success. Time: 8 minutes

____11. Crosses Street Alone

A specific street corner is designated with a recognized degree of traffic. The degree of independence to cross the street and the difficulty of the task are factors in this test. Time: 10 minutes

____12. Names Pictures

Two cards, one with four, one with six pictures of simple objects, are presented and the child is asked to name them. Examiner may encourage child by pointing to pictures. Time: 3 minutes

____13. Repeats 3 or 4 digits

Ask child to say, "Can you say Mama?" Now say "Nice Kitty." Now say, "See the cat." Next, "I have a dog." Next, "Where is Mama?" Time: 30 seconds

____14. Compares Weights

Have the child lift two weights to determine which is heavier. Time: 2 minutes

____15. Give Color Names

Ask the child to name four color cubes placed on a white background. The colors, red, white, blue, and yellow are presented to the student. Time: 1 minute

____16. Aesthetic Comparison

Show pictures with pairs of faces in order from top to bottom of card. Child is asked to determine which of the two pictures is prettier.

____17. Defines the use

Use the words chair, horse, fork, doll, pencil, and table. Say, "You have seen a chair. You know what a chair is. Tell me what a chair is," and so on. Time: 4 minutes

____18. Completes rectangle

Use two cards, each 2 x 3 inches. Divide one of them diagonally into two triangles. Place cards on the table and ask child to place them together to form a rectangle design which is exposed for comparison. Time: 30 seconds

____19. Tells Name, Sex, and Age

Examiner asks for full name, sex, and age. Time: 1 minute

____20. Distinguishes Right from Left

Tell the child, "Show me your right hand." Use items such as eyes, ears and arms to demonstrate that he knows. Time: 1 minute

____21. Supplies the Missing Parts

The examiner says, "There is something wrong with this face. It is not all there. Look carefully and tell me what part of the face is not there. Four pictures are shown. Time: 2 minutes

____22. Counting Pennies

Counts 10 pennies. Time: 30 seconds.

____23. Comprehension of Questions

Procedure: Say,

a. "What's the thing to do if it is raining when you start to school?"
b. "What's the thing to do if you find that your house is on fire?"
c. "What's the thing to do if you are going some place and you miss your train (car)?"

Time: 5 minutes

____24. Names four coins

Show a penny, nickel, dime, and quarter. Time: 1 minute

____25. Distinguishes A.M. and P.M.

Examiner asks (if it is morning), "Is it morning or afternoon?" Time: 30 seconds

____26. Tells number of fingers

Say, "How many fingers do you have on one hand?" "How many on the other hand?" "How many on both hands together?" Time: 30 seconds

____27. Describes picture

The examiner presents a picture with the question, "What is this picture about?" Over one-half of the responses should be descriptive in nature. Time: 4 minutes

____28. Puts on Shoes and Ties Bow knot

Have the child put on shoes and lace them up.
Time: 1 minute

____29. Give differences

Example: Two drawings that are slightly different. Ask child to identify differences. Time: 2 minutes

____30. Copies Diamond in Ink

Individual cards are presented with the following designs drawn in bold black outline: circle, square, cross, oblique cross, square triangle, prism, hexagon, diamond. The cards are placed before him, one at a time, with the remark, "Make one for me like this." Use of pen and ink is encouraged. Time: 7 minutes

____31. Three commissions

Give a child three tasks to perform in sequence using terms such as <u>first</u> and <u>then</u> to establish order.

____32. Orderliness

A child is assigned a group of objects to be put away in a box. The examiner says to the child, "Now put these things away as nicely and neatly as you can for me in this box." The examiner depends on interview to determine if child has acquired any habits of orderliness to toys and possessions. Time: 5 minutes

____33. Washes Self and combs hair. Time: 3 minutes

____34. Constructive play

Spoon, cup, and saucer are placed on the table within reach of the child. The three objects are separated because we wish to note whether the child makes constructive or combining use of these materials. Time: 2 min, 30 seconds

APPENDIX C

Teacher Survey Instrument

TEACHER SURVEY INSTRUMENT

This is a list of developmental tasks that will be used to measure the performance of beginning non-repeating first graders. Each developmental task can be performed by a certain percentage of non-repeating beginning first graders. Based on your knowledge and/or experience make a judgment about the percentage (0 to 100) of non-repeating first graders that you think can perform each task. Make each estimate as specific as possible.

Name_____ Sex_____

No. of years teaching experience in grade one_____

No. of years teaching experience in other grades_____

Married - YES_____ NO_____ Number of Children_____

School_____

Percentage Estimated

_____ Task 1. Building block gate
Material: 10 cubes
Procedure: Tell the child "Close your eyes and I'll make something for you." Proceed to build the gate using five of the blocks. Then show the gate to the child. Now, say to the child, "Now you go ahead and make one for me just like this one." Encourage the child to build the gate, but do not interrupt the child unless he does something completely different.

_____ Task 2. Form Completion Test
Material: bright cardboard designs consisting of a circle, square, rectangle, maltese cross, and lozenge (diamond)
Procedure: An envelope full of bright-colored cardboard designs is emptied out on the table. There are three sheets with incomplete outlines of the designs on them. The child is supposed to put each design on the matching outline forms.

_____ Task 3. Draws a man
Material: paper and pencil
Procedure: Ask the child to draw a man. We assign a rating of completion if the child draws a conventional figure with an eye, mouth, a body, an arm, and legs. Or he could draw a face with eyes, nose, mouth, and hair.

_____ Task 4. Describes picture
Procedure: The examiner presents a picture with the question, "What is this picture about?" Over half of the responses should be descriptive in nature.

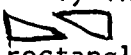
_____ Task 5. Repeats 3 or 4 word sentences
Procedure: Begins by saying, "Can you say 'Mama'"? Now say, "Nice Kitty," "I have a dog;" next, "Where is mama?" If the child grasps the idea that repetition and not an answer to the remark is desired, a completion is given.

_____ Task 6. Give color names
Procedure: Ask the child to name four color cubes placed on a white background. The colors, red, white, blue, and yellow are presented to the student.

_____ Task 7. Defines the use
Procedure: Use the words chair, horse, fork, doll, pencil, and table. Say, "You have seen a chair. You know what a chair is. Tell what a chair is," and so on.

Percentage
Estimated

_____ Task 8. Complete rectangle

Procedure: Use two cards, each 2 x 3 inches. Divide one of them diagonally into two triangles. Place cards on the table thus  and ask the child to place them together to form a rectangle design which is exposed for comparison. Examiner says, "Take these two pieces (touching the two triangles) and put them together so they look exactly like this" (pointing to rectangle).

_____ Task 9. Tells name, sex, and age

Procedure: Examiner asks for full name, sex, and age. Age refers to years of age (not months), with response being vocal.

_____ Task 10. Supplies missing parts

Procedure: The examiner says, "There is something wrong with this face. It is not all there. Look carefully and tell me what part of the face is not there." Four pictures are shown with an eye, ear, mouth, and nose missing respectively on each of the four pictures.

_____ Task 11. Counting Pennies

Procedure: Counts ten pennies.

_____ Task 12. Distinguishes A.M. and P.M.

Procedure: Examiner asks (if it is morning), "Is it morning or afternoon?"

_____ Task 13. Tells number of fingers

Procedure: Say, "How many fingers have you on one hand?" "How many on the other hand?" "How many on both hands together?" If the child begins to count, say, "No, don't count. Tell me without counting." Question may be repeated. Credit is given if all three questions are answered correctly and promptly without counting. Correct answers are: 5, 5, 10 or 4, 4, 8.

_____ Task 14. Gives differences

Procedure: Two drawings that are slightly different. Ask child to identify differences.

APPENDIX D

Student Test Form

STUDENT TEST FORM

Name_____ Age_____
(Years) (Months)

Sex_____Kdg. Experience Yes or No Family Size_____

Family Position_____

Noticeable physical defects Yes No

Noticeable mental defects Yes No

Noticeable speech complications Yes No

Room testing conditions Satisfactory Unsatisfactory

	Check One Completed	Not Completed	Remarks
Test Item One			
Test Item Two			
Test Item Three			
Test Item Four			
Test Item Five			
Test Item Six			
Test Item Seven			
Test Item Eight			
Test Item Nine			
Test Item Ten			
Test Item Eleven			
Test Item Twelve			
Test Item Thirteen			
Test Item Fourteen			
Test Item Fifteen			
Test Item Sixteen			

APPENDIX E

Memo to Elementary Principals and First Grade Teachers

TO : All Elementary Principals and First Grade Teachers

FROM: Gene Park, Assistant Superintendent

RE : Beaverton Schools/Oregon State University Research Project

The Beaverton Schools in cooperation with Oregon State University and Mr. Peter Garcia have undertaken a research project involving 60 randomly selected first grade students from throughout the district.

As you are aware the students have been selected and on Wednesday and Thursday, September 16 and 17 six district staff members will administer a developmental scale to the 60 students. All elementary buildings were selected and are represented in the study except Bethany, Bonny Slope, McKinley and Montclair. This means no students from those four schools are included in the study. However, first grade teachers from these schools will report to Cedar Park with all other first grade teachers as stated below.

Since these individually administered scales require approximately 20 to 25 minutes for completion the youngsters will be out of the classroom only a short period of time.

The developmental scale is similar to our readiness tests and should not be confused with instruments which attempt to measure attitudes, intelligence, personality, etc. Therefore no parental permission is necessary.

I am requesting that provision be made for a room in your building which will allow some privacy for the administration of the scale.

On Monday, September 21, all first grade teachers are to report to Cedar Park Intermediate School Band Room for a 45 minute meeting during which time each teacher will be asked to complete an opinion questionnaire.

These two tasks will complete the district's responsibility in this project.

Attached are the schools, number of students involved in the study, and the staff members assigned to administer the scale.

Thank you for your cooperation.

First Grade OSU/Beaverton Schools Project

1. Tester Janice Turin

School	Number of Students
Raleigh Park	4
Raleigh Hills	4
Garden Home	1

2. Tester Pat Smith

School	Number of Students
Hazeldale	3
Aloha Park	5
Beaver Acres	3

3. Tester Ada Hill

School	Number of Students
McKay	1
C. E. Mason	1
Ridgewood	3
Barnes	1
Cedar Hills	1

4. Tester Joel Neuschwander

School	Number of Students
Sunset Valley	6
Cedar Mill	2
West Tualatin View	2

5. Tester Bill Wiseman

School	Number of Students
Fir Grove	6
Merle Davies	2
Wm. Walker	3

6. Tester Ed Raduenzal

School	Number of Students
Oak Hills	5
Terra Linda	3
Vose	1
Cooper Mt.	3