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## A Review of Academic Gains made by Non-Promoted Pupils in the Tenino Elementary School

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A REVIEW OF THE ACADEMIC GAINS MADE BY  
NON-PROMOTED AND PROMOTED PUPILS IN  
THE TENINO ELEMENTARY SCHOOL

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A Thesis  
Presented to the  
Faculty of the School of Education  
Central Washington State College

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In Partial Fulfillment  
of the Requirements for the Degree  
Master of Education

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by  
John Milton Long

Master of Education Thesis

by

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## CHAPTER I

### THE PROBLEM AND DEFINITIONS OF TERMS USED

#### I. THE PROBLEM

Statement of the problem. This study is designed to determine whether or not the pupil retention policies presently practiced by the Tenino Elementary School are justifiable in terms of benefiting the retained student academically. It was hypothesized that the academic gains of nonpromoted students will be considerably less than the gains made by promoted students when compared according to achievement tests results. To test this hypothesis, a list was compiled of students who had been retained during a three-year period, and an examination of their cumulative folders was conducted in order to determine academic gain during the year of retention. The same procedure was followed with the records of a group of promoted students who had been matched with the nonpromoted group on the basis of sex, chronological age, and intelligence. The findings were then compared.

Importance of the study. In the Tenino School District students have been retained for not achieving grade level norms when measured by the Metropolitan Achievement Tests. This did not occur automatically, however, for if a student had been retained once in the primary grades and once in the intermediate grades he was promoted on an annual promotion basis.

The practices of the Tenino School District may differ in



important aspects from other school districts where similar studies have been conducted. Therefore, it was considered important to have first-hand knowledge of how promotion and nonpromotion of matched groups of students affected their educational achievement.

Limitations of the study. The study is designed to compare the academic achievement of nonpromoted students matched with promoted students according to chronological age, grade level, sex, and intelligence quotient. The selected students were from grades two through seven in the Tenino Elementary School. The study was limited to the examination of median scores for reading and arithmetic from the Metropolitan Achievement Test. Conclusions were drawn, and recommendations made based on the results of the comparison of the data.

## II. DEFINITIONS OF TERMS USED

Nonpromotion. Throughout this paper the following term "nonpromotion" shall refer to the failure of a pupil to be promoted to the next higher grade at a regular promotion period.

Promotion. For the purpose of this paper, the following term "promotion" shall refer to the act of shifting a pupil's placement from a lower to the next higher grade.

Retention. Throughout this paper, the term "retention" shall be used synonymously with nonpromotion to mean failure of a pupil to be promoted to the next higher grade level.

Academic achievement. For the purpose of this paper, the term "academic achievement" shall refer to knowledge attained or skills

developed in school subjects, usually designated by test scores of pupils in the academic subjects such as reading and arithmetic.

Intelligence quotient "I.Q.". Throughout this paper the abbreviation "I.Q." shall refer to intelligence quotient. Intelligence quotient is the most commonly used device for expressing level of mental development in relation to chronological age.

### III. METHODS OF RESEARCH AND SOURCES OF DATA

Methods of research. The subjects used in this study were determined by examining personal pupil folders and profile sheets indicating class performance for the Metropolitan Achievement Tests and the California Tests of Mental Maturity. Members of the teaching staff and the building principal assisted by recalling the names of individual students retained during the three year period in which this study was conducted. Library research was conducted at the Central Washington State College library and the Washington State library located on the Capitol Campus in Olympia.

Sources of data. The sources of data consisted of student cumulative folders which were examined for Metropolitan Achievement Test scores and California Tests of Mental Maturity scores, numerous periodicals, journals and books related to the subject of promotion and nonpromotion.

### IV. ORGANIZATION OF THE REMAINDER OF THE THESIS

Chapter two of this study presents a review of the recent related literature. The procedure used in gathering the data and

selecting the sample is presented in Chapter three. Chapter four consists of an investigation of the results expressed in terms of percentages and a brief statistical analysis will be presented. The final chapter presents a summary of the literature reviewed followed by a summary of the results of this study and recommendations regarding these results.

## CHAPTER II

### REVIEW OF THE LITERATURE

This chapter's function will be the presentation of theories related to promotion and nonpromotion. Much has been written in regard to promotion and nonpromotion; but only a brief summary of recently written material related to this study will be included.

The performance of children in school does not always match the demands of society in general or the education profession. The result is often times nonpromotion. This was not always the case according to Peyton. The practice of promoting and retarding pupils arose as an inevitable consequence when, about 1860, schools began to organize their pupils into grades, with certain competencies and understandings specified for each grade level. Before that, pupil progress was determined largely on an individual basis. For example, each student moved through the readers at his own rate (15:36).

Grade level organization was an early attempt at achievement grouping. Competencies and understandings were specified as pre-requisites for membership at each level, and those who had not attained them at promotion time were held back until they did or until they dropped out of school. By the turn of the century it was evident that large numbers of pupils were being eliminated from schools by the process (15:37).

Shellhammer has indicated that planting and harvesting seasons sometimes influenced a school year.

Upon return from frequent and prolonged work periods, the student resumed his studies at that point in his textbook that marked his progress prior to his departure (18:25).

The elementary school later became graded so that children of the same age and attainment were grouped into classes representing grade levels (18:26).

## I. NONPROMOTION

Three principal assumptions underlie the practice of nonpromotion; that it facilitates achievement, that it reduces the range of abilities within the class, and that it produces motivation (15:36). Research in the past half century brings all these assumptions into question, and points to some undesirable side-effects produced by nonpromotion.

Will the child profit as a result of retention? Will the teacher have time to assure academic development for the retained child? Will the pupil adjust socially if retained? These are just several questions that parents, teachers, and administrators must consider when contemplating retention of a student. The intent of this section is to present responses to such questions as the above by examining recent research in the field of nonpromotion.

Otto notes that repetition of grades has no special educational value for children.

We used to think that repeating a grade would strengthen a child and build added background, thus equipping him to do better in subsequent years. This supposition has been shown to be false. The boredom inherent in repeating a grade tends to dampen educational development, whereas the exploration of new fields in a new grade has some motivating value (14:247).

Coffield and Blommers recently undertook an investigation

intended to add to the evidence on the relative quality of educational achievement of matched promoted and nonpromoted pupils. They concluded that:

Failure in the form of nonpromotion, as a device to insure greater mastery of elementary school subject matter does not appear justifiable. From the results reported, it would seem that slow learning children who are required to repeat a grade and slow learning children who are promoted, ultimately perform about the same level when this performance is measured in the same higher grade (4:248).

Coffield and Blommers note that their intent is not to imply that a child should never be failed as he progresses through elementary school. However, if the consideration is solely one of educational achievement, it would seem to them that little is gained by the repetition of a grade (4:249).

Kowitz discovered that many studies of the effect of school promotion policy have been concerned primarily with pupil's personal-social development, and not his academic achievement. Retention of pupils because of their inability to achieve academically can have undesirable effects on their personal-social development. Kowitz found that:

All too often the educational progress is judged tough or soft by one test only; the promotion policy of the school. The school with the highest rate of pupil failure is the better one (11:435).

Kowitz's study pointed out that:

When retention was used as a penalty for low achievement, a larger proportion of pupils showed a gain, and a smaller proportion showed no change. The suggestion of pressure toward achievement must be recognized in the shift (11:441).

This study indicates that a policy of high retention can result in a greater proportion of pupils who show an increasing rate of achievement. It would seem as though a school has a much broader

responsibility (11:441).

In a study involving the progress of promoted and nonpromoted pupils, Chansky identifies achievement as being greater in a school with a high failure policy in contrast to one with a low. He suggests that an additional year may provide the retained child with an opportunity to function at a level consistent with his mental ability.

Improvement in vocabulary contributes to improvement in reading and improvement in arithmetic fundamentals contributes to improvement in arithmetic reasoning.

A child may choose an area of competence upon which he will build during the course of a year. He develops a forte which gives him a claim to self esteem. He feels he cannot excel in all areas so he concentrates on one. A teacher may excel in instructing in certain academic areas rather than in others (3:230).

In contrast to what Chansky has suggested, Wardeberg indicates that:

Fear is one of the poorest devices to stimulate learning. Anxiety or panic produces disintegration of the human personality and performance suffers (20:60).

Wardeberg states that the pupil who fails a grade tends to make less progress academically the next year than a matched pupil who progresses with his group. Unless one can clearly predict that retention will have demonstrated advantages, the odds are in the pupil's favor by passing him. Wardeberg goes on to say that sometimes a child may profit from a slower pace and perhaps even repeating some work will have satisfactory results. Illness or moving may cause serious gaps in basic skills or concepts (20:60).

Calderon subscribes to the philosophy that it is much better to graduate the underachiever with a seventh grade reading ability than to have him drop out in the seventh grade with a third grade

reading achievement.

Calderon believes that retention could be the greatest injustice a student might face. Failure breeds more failure, and repeating material that has been learned is a waste of time, money and effort.

Furthermore, Calderon notes that children held back two or more years are potential dropouts. Thus, a school which fails large numbers of students is adding to the dropout problem (2:31).

Calderon indicates that one-third of our school population cannot cope adequately with average school work. We should not delude ourselves into trying to make every youngster conform to a curriculum designed for the average or better. Why should a student who has achieved only six months from a year's instruction be required to repeat the entire year to pick up those three extra months (2:31)?

In support of Calderon's opinion, Dobbs and Neville ask that if:

...the educational advantages claimed for retention include that of aiding the academic achievement of the child, maintaining high achievement standards for each grade, and decreasing the variability of achievement within a classroom; then why does it appear that retention has not been effective as a means of achieving the major educational objectives for which it is allegedly used?

Previous research cited indicated that nonpromotion is not advantageous to achievement. In the present study, results indicated that nonpromotion was actually a disadvantage to achievement. Retention is commonly used for curriculum adjustment for low achievers (6:472-74).

Dobbs and Neville state that even though attempts have been made to provide maximum educational opportunity for low achievers, the problem of low achievers in the classrooms remains unsolved. They do show encouragement in efforts to abolish grade levels and with the institution of systems of continuous progress which are now being



conducted (6:475). Other fruitful approaches that they mention include ungraded classes, team teaching or track systems, achievement or ability grouping, remedial reading, provisions for smaller class enrollment with teachers who have attitudes and skills which permit them to vary instruction according to individual progress. Dobbs and Neville summarize their findings by stating that:

The needs of low achievers will not be met until they have an educational setting which provides for maximum academic growth and fosters a more positive life adjustment through satisfying success experiences (6:475).

## II. PROMOTION POLICIES

What is the best promotion policy for slow pupils in elementary grades? Should they be promoted along with their own age groups or kept back until they meet academic standards?

The National Education Association Research Division asked the above questions in a poll conducted in 1962 (13:57). The poll included the following checklist:

- ☐ promote slow pupils each year to keep them with their age group
- ☐ retain slow pupils one or two years then promote even if standards are not met
- ☐ retain slow pupils as long as it takes them to meet standards
- ☐ promote or retain slow pupils according to the individual case (13:57)

Of the teachers polled, seventy-nine percent believed that the problem of automatic promotion versus rigid enforcement of academic standards was not an either-or-issue. The teachers polled believed that it is a problem to be viewed in light of the individual pupil's case.

The poll found no evidence of support for the frequently voiced

criticism that America's teachers favor automatic promotion and the abandonment of academic standards.

Two per cent favored automatic promotion, fifteen per cent favored retention one or two years, three per cent favored retention until standards are met and the majority, eighty per cent, favored considering policies according to the individual case (13:57).

Carl Kumpf indicates that educators are now appreciating the fact that all children are unique and that they are attempting to individualize instruction.

He points out that the curriculum must meet individual needs with instruction and content that is significant to the life of each child. A student doing close to his best mentally, physically, emotionally, and socially should stay with his class. He should not repeat work, for learning is a continuous process (12:36-37).

Kumpf believes that if a child is not achieving or growing to expected levels, it is for the principal and the teachers to plan to overcome the difficulties. In this process he would involve the parents, educational specialists, and the child. He refers to this process as guidance promotion. Guidance promotion is predicated on the conviction that, given the proper conditions, children will put forth great effort to realize their goals.

All too few educators and fewer laymen realize that standards, however high, deal in minimums--what is the least achievement that will be accepted for promotion? This puts undue pressure on children of low ability and allows the very able to move along with little effort (12:137).

Smith suggests an eight step plan designed to serve as a policy which could be adopted and utilized at the elementary school level.

(1) Except in special cases (each decided on its own merits),

the promotion policy and practice in the elementary grades should be to promote every child at the end of the school year.

(2) In cases where nonpromotion is considered, chronological age, mental maturity, social adjustment, scholastic achievement, and the hopes and desires of the pupil involved should be the factors weighed.

(3) Special provision should be made for the advancement or enrichment (or both) of the gifted pupil.

(4) The welfare of the pupil as an individual should be considered. There is no justification for an automatic promotion policy or an automatic policy of retaining a certain portion.

(5) Research relative to the problem should be consulted as it becomes available.

(6) In general, the promotion policy should be a flexible, individualized one.

(7) Research should be extended into high schools and colleges.

(8) More study of the extremes is advisable, since it is conceivable that what is true of the mean is not true of the extremes (19:45).

Gerberich and Blaha propose that strong reliance on test results in making decisions about the promotion of pupils on a regular basis, or about their retardation or acceleration would be dangerous. They warn that test results should be used only to supplement other evidence including teacher judgements. Most sources of conflict could be avoided if a continuous program of understanding and communication between school personnel and parents were exercised. Gerberich and Blaha point out that when:

...tests are used in conjunction with other data, results can provide evidence needed in coming to a decision on many types of promotional problems. Evidence of pupil initiative, effort, personality, and other intangibles sometimes tends to indicate a higher degree of attainment, or perhaps even the contrary, than do achievement test results. It is often true, also, that results from different tests or from achievement tests and teacher marks are not in harmony. If there appears to be any real doubt for these or other reasons, more tests or different varieties of tests can be administered (9:22).

Douglas outlines a procedure used in her school in regard to promotion policy which is founded on the theory that school personnel work to discover why a child should not be retained rather than why

he should be (7:42). The following criteria determine the route which her policy dictates.

Our promotion policy emphasizes the relationship between ability and achievement. A child's achievement is analyzed in terms of his ability, and the findings are used to measure the degree of his success.

It holds attainable standards. A continuous study of countless children of varying ability under healthful educational conditions is carried on.

The policy is positive. Reasons for promotion are developed and standards set. Only those children are retained for whom no evidence can be found to justify promotion. Emphasis is on what children need for success, not on what they lack.

It is applied individually to each child. Since all children are different, any effective weighing device can perform accurately on only one child at a time.

It is logical. Causes for retention and reasons for promotion are properly classified and not confused.

It is objective. Careful cumulative records are kept and opinions are supported by statistical evidence.

The policy respects individual differences. Despite the inability to define differences, it is commonly accepted that children differ in their capabilities. A good policy allows for these differences.

It takes into consideration emotional disturbances. The need to improve and correct an emotional disturbance supersedes the findings in any other area.

It provides for overage children. The negative sociological and psychological forces that might influence a child placed in a classroom with younger children outweigh any possible profit from retention.

It recognizes growth in low-ability children. The low ability child who will never come up to grade level is not retained.

It is in harmony with the philosophy of the school. In order to function effectively, the policy is conducive to the objectives of the school.

It is a policy developed by professionals. We believe that training in a field gives insight. Therefore, it follows that we are responsible for affecting the lives of the children in our school (7:42).

Douglas indicates that any child completing satisfactory grade level work, or satisfactory results on a standardized test is automatically promoted. Any child with an I.Q. of below 90 and who is doing superior work for his ability is promoted. If any child is more than two years above optimum age for entrance to a grade, he is promoted (7:42).

### III. CONCLUSIONS FROM THE LITERATURE

While the practice of nonpromotion has not been completely discredited, research has raised serious doubts as to its effectiveness.

A policy of nonpromotion may tend to deprive pupils academically and later result in their dropping out of school (2:31).

A nonpromoted pupil will often times be required to repeat a nearly identical program his second year. The research states that he generally makes no more progress than he would had he been promoted. There is, however, evidence that the nonpromoted pupil tends to improve when exposed to a different kind of program (20:60-1).

Efforts to reduce the incidence of nonpromotion have included setting more realistic expectations for children in school, nongradedness, and improving individualized instruction (12:36).

Each school is obligated to incorporate a policy which will be of value not only to the school, but to the child as well. In light of the previous material, it is a task which should be determined by the individual case.

## CHAPTER III

### METHODS AND PROCEDURE

The purpose of this study was to determine whether or not the retention policies presently practiced by the Tenino Elementary school are justifiable in terms of benefiting the nonpromoted student academically.

This chapter includes sections which describe (1) the school setting where the study occurred; (2) the tests which were included in the pupil cumulative folders; (3) the sample; and (4) the procedure used in gathering the data.

#### I. SCHOOL SETTING

Tenino is a small community located eleven miles south of Olympia, Washington. The physical plants of the district are located within the city limits. They include one elementary school, kindergarten through sixth grade; a junior high school, grades seven through eight; and a four-year high school. The student population is approximately seven-hundred-fifty with a teaching staff of forty-two.

Tenino's chief industries at the turn of the century included the excavation of sandstone and logging. While Tenino is still the site of a limited logging industry, many citizens now use the community as a residence and commute to nearby cities for their employment.

## II. TESTS USED

Metropolitan Achievement Test. The Metropolitan Achievement Tests, published by the World Book Company, are composed of a series of comprehensive achievement tests developed to measure the important knowledge, skills and understandings commonly accepted as desirable outcomes of the major branches of the elementary curriculum. The tests are intended to provide dependable measures of these outcomes, comparable from subject to subject and grade to grade, for use in connection with improvement of instruction, pupil guidance and evaluation of progress (1:67).

The Metropolitan Achievement Tests are administered to the students in the Tenino Elementary school during the last two weeks in April of each spring.

California Test of Mental Maturity. According to Buros' Fifth Book of Mental Measurement, the California Tests of Mental Maturity is an excellent and usable test of general intelligence and has real value for comparing an individual's verbal and nonverbal abilities. The manuals state that the original California Tests of Mental Maturity were designed to correlate with the Stanford-Binet. Herein, it is said, lies one of the chief claims for validity (1:314).

## III. THE SAMPLE

The sample was composed of thirty-four students from the Tenino Elementary Schools. The students selected ranged from grade two through grade five.

Seventeen nonpromoted students were matched with seventeen

promoted students and were paired according to sex, grade level, age, and intelligence. All paired students were within three months of age and had I.Q. scores with no greater variance than two points.

The sample included eleven nonpromoted boy students and six nonpromoted girl students. The nonpromoted boys students were matched with promoted boy students resulting in twenty-two matched boy students, and when the nonpromoted girl students were matched the sample included twelve matched girl students.

In selecting the sample based on I.Q., no attempt was made to limit the upper I.Q. range, although an attempt was made to insure that no students were included with an I.Q. below ninety. The inherent intelligence possessed by the subjects of the sample varied from a low I.Q. of ninety, to a high of one-hundred eleven in the nonpromoted group. The I.Q.'s in the promoted group ranged from a low of ninety-one to a high of one-hundred and eleven. Tables I and II represent the I.Q.'s of the subjects.

The mean I.Q. for the nonpromoted boys was ninety-eight and thirty-six one hundredths and the mean for the promoted boys was ninety-eight and eighty-one one hundredths.

The mean I.Q. for the nonpromoted girls was ninety-five and thirty-three one hundredths, and the mean for the promoted girls was ninety-six and sixteen one hundredths.

The chronological ages of the students also differed, Appendix A and Appendix B pages 39-41. The youngest student in the nonpromoted group was seven years while the oldest was ten years eleven months. In the promoted group the youngest was six years eleven months and the oldest was ten years and nine months.



These ages represent the students' ages at the time they took their first test. Their ages at the time of the second test would be exactly one year older.

#### IV. PROCEDURE

The first step was to locate the names of students who had a record on nonpromotion in the Tenino School District. These students were eventually identified with the assistance of the principal and the classroom teachers and a survey of the class and individual student folders conducted by the investigator.

Several nonpromoted students were disqualified for the study. They were not eligible due to various reasons: (1) lack of sufficient measured intelligence, (2) incomplete records, (3) unavailability of a matched promoted student, or (4) the student did not begin his education in the district.

Upon completing the selection for the sample the records of each nonpromoted student were then carefully examined and pertinent data recorded.

The second step was to gather data of promoted students in the district. This was accomplished by again surveying the class and individual student folders. Students with records of continuous promotion were selected and compared with the nonpromoted students. The records of this group were then carefully examined and recorded.

For the purposes of comprehension and ease of comparison, only the battery median score for the reading tests, the battery median score for the arithmetic tests, and the battery median score for the complete battery of tests were recorded.

TABLE I  
CALIFORNIA TESTS OF MENTAL MATURITY  
BOY SUBJECTS

| Nonpromoted<br>subjects | I.Q.  | Promoted<br>subjects | I.Q.  |
|-------------------------|-------|----------------------|-------|
| 1                       | 94    | 1                    | 95    |
| 2                       | 111   | 2                    | 111   |
| 3                       | 94    | 3                    | 94    |
| 4                       | 91    | 4                    | 91    |
| 5                       | 96    | 5                    | 97    |
| 6                       | 107   | 6                    | 107   |
| 7                       | 93    | 7                    | 95    |
| 8                       | 109   | 8                    | 109   |
| 9                       | 101   | 9                    | 102   |
| 10                      | 93    | 10                   | 92    |
| 11                      | 93    | 11                   | 94    |
| Average I.Q.            | 98.36 |                      | 98.81 |

TABLE II  
CALIFORNIA TESTS OF MENTAL MATURITY  
GIRL SUBJECTS

| Nonpromoted<br>subjects | I.Q.  | Promoted<br>subjects | I.Q.  |
|-------------------------|-------|----------------------|-------|
| 1                       | 103   | 1                    | 104   |
| 2                       | 95    | 2                    | 95    |
| 3                       | 98    | 3                    | 99    |
| 4                       | 96    | 4                    | 97    |
| 5                       | 90    | 5                    | 91    |
| 6                       | 90    | 6                    | 91    |
| Average I.Q.            | 95.33 |                      | 96.16 |

Although the California Tests of Mental Maturity measure both verbal and non-verbal abilities, only the total I.Q. scores were recorded, for the purpose of simplification of recorded data.

The data was then arranged in a logical order. The students were organized in rank order according to the age they were when retained. Their tests scores the year prior to nonpromotion were placed beside their age. Just to the right the students' test scores for the year following the nonpromotion were recorded. The same procedure was followed for the promoted group of students. The total months' growth was determined and recorded beside the battery median scores.

The students were then divided into four sub groups: non-promoted girls, promoted girls, nonpromoted boys and promoted boys.

The data was then separated into specific areas of achievement for the purpose of determining the growth achieved by each group in the areas of reading and arithmetic. The pupil's total growth in months, determined by the battery median score on the tests, was also calculated separately for each individual group.

## CHAPTER IV

### RESULTS OF THE STUDY

The purpose of this study was to discover if there was or was not justification in retaining students in the Tenino Elementary school when based on the academic achievement of these students.

The hypothesis was that when students are retained they do not make the academic gains of students who are promoted. If this hypothesis were proven by this investigation, it would indicate a lack of justification for retention when the purpose is academic gain of subject matter.

The total sample of nonpromoted students is shown in Appendix C, page 43, and the total sample of promoted students is also included. The growth is shown by the academic gain each student achieved and also by the mean growth achieved by the total sample in each group. The mean growth is presented in months at the end of each column.

The total sample of nonpromoted students showed a gain of eight and two tenths months, while the promoted students achieved a mean growth of five and five tenths months. The nonpromoted students showed a two and seven tenths greater gain in total subject areas.

The average student is expected to achieve a ten month gain on the Metropolitan Achievement Test per one year's attendance. Therefore, the nonpromoted students made a 33.4 per cent greater gain than did the promoted students.

It may be observed in Table III, that there were six boy

students in the nonpromoted group who made far greater gains than the rest in the nonpromoted and promoted boys sample. The composite gain of these six students accounted for 66.9 per cent of the total gain made by the nonpromoted group.

Table III presents the growth achieved on the battery median scores by the nonpromoted boys in the total sample compared to growth achieved by promoted boys in the sample.

The nonpromoted boys made a mean growth of nine and seven tenths months, while the promoted boys achieved a mean growth of four and three tenths months, thus giving the nonpromoted boys an average of five and four tenths months or a 56.7 per cent greater gain than the promoted group of boys on their battery median scores.

Table IV, page 25, presents the growth achieved by the nonpromoted girls in the sample compared to the promoted girls, as measured by their total months' gain computed from their battery median scores.

The nonpromoted girls achieved a mean gain of five and three tenths months while the promoted girls' mean gain was seven and seven tenths months, thus showing a greater gain of two and four tenths months or a 31.2 per cent greater gain accomplished by the promoted group of girls.

Table V contains the results of the arithmetic scores obtained by both groups of boys in the study. The nonpromoted boys achieved an average growth of four and nine tenths months, while the promoted boys achieved an average gain of five and six tenths months. The promoted boys showed a seven tenths of a month or a 12.5 per cent greater gain in the arithmetic area than the nonpromoted boys.

TABLE III  
METROPOLITAN ACHIEVEMENT TEST  
BATTERY MEDIAN SCORES  
BOY SUBJECTS

| Growth made by nonpromoted<br>boys |                       | Growth made by promoted<br>boys |                       |
|------------------------------------|-----------------------|---------------------------------|-----------------------|
| Subject                            | Growth<br>(in months) | Subject                         | Growth<br>(in months) |
| 1                                  | 3                     | 1                               | 5                     |
| 2                                  | 17                    | 2                               | 3                     |
| 3                                  | 11                    | 3                               | 5                     |
| 4                                  | 15                    | 4                               | 3                     |
| 5                                  | 7                     | 5                               | 3                     |
| 6                                  | 12                    | 6                               | 9                     |
| 7                                  | 14                    | 7                               | 2                     |
| 8                                  | 7                     | 8                               | - 2                   |
| 9                                  | - 2                   | 9                               | 2                     |
| 10                                 | 14                    | 10                              | 9                     |
| 11                                 | 9                     | 11                              | 8                     |
| Mean growth                        |                       |                                 | 4.3                   |

TABLE IV  
METROPOLITAN ACHIEVEMENT TEST  
BATTERY MEDIAN SCORES  
GIRL SUBJECTS

| Growth made by nonpromoted girls |                       | Growth made by promoted girls |                       |
|----------------------------------|-----------------------|-------------------------------|-----------------------|
| Subject                          | Growth<br>(in months) | Subject                       | Growth<br>(in months) |
| 1                                | 1                     | 1                             | 15                    |
| 2                                | 5                     | 2                             | 7                     |
| 3                                | 5                     | 3                             | 12                    |
| 4                                | 11                    | 4                             | 8                     |
| 5                                | 7                     | 5                             | - 1                   |
| 6                                | 3                     | 6                             | 5                     |
| Mean growth                      | 5.3                   |                               | 7.7                   |



TABLE V  
METROPOLITAN ACHIEVEMENT TEST  
ARITHMETIC SCORES  
BOY SUBJECTS

| Subject     | Nonpromoted boys |            |        | Subject | Promoted boys |            |        |
|-------------|------------------|------------|--------|---------|---------------|------------|--------|
|             | 1st<br>yr.       | 2nd<br>yr. | Growth |         | 1st<br>yr.    | 2nd<br>yr. | Growth |
| 1           | 4.2              | 4.0        | - 2    | 1       | 3.5           | 4.2        | 7      |
| 2           | 3.3              | 3.5        | 2      | 2       | 3.2           | 3.8        | 6      |
| 3           | 2.5              | 3.4        | 9      | 3       | 2.2           | 2.9        | 7      |
| 4           | 2.6              | 3.9        | 13     | 4       | 3.6           | 4.6        | 10     |
| 5           | 2.0              | 1.9        | - 1    | 5       | 3.5           | 4.1        | 6      |
| 6           | 3.6              | 4.2        | 6      | 6       | 5.4           | 5.4        | 0      |
| 7           | 4.4              | 6.2        | 18     | 7       | 4.6           | 4.7        | 1      |
| 8           | 5.6              | 6.3        | 7      | 8       | 5.0           | 5.3        | 3      |
| 9           | 5.2              | 4.8        | - 4    | 9       | 5.1           | 5.4        | 3      |
| 10          | 4.4              | 5.5        | 11     | 10      | 2.7           | 3.4        | 7      |
| 11          | 4.3              | 3.8        | - 5    | 11      | 4.1           | 5.2        | 11     |
| Mean growth |                  |            | 4.9    |         |               |            | 5.5    |

TABLE VI  
METROPOLITAN ACHIEVEMENT TEST  
ARITHMETIC SCORES  
GIRL SUBJECTS

| Subject     | Nonpromoted girls |            |        | Subject | Promoted girls |            |        |
|-------------|-------------------|------------|--------|---------|----------------|------------|--------|
|             | 1st<br>yr.        | 2nd<br>yr. | Growth |         | 1st<br>yr.     | 2nd<br>yr. | Growth |
| 1           | 2.7               | 2.7        | 0      | 1       | 2.2            | 4.2        | 20     |
| 2           | 5.4               | 4.3        | -11    | 2       | 3.8            | 3.8        | 0      |
| 3           | 3.6               | 4.2        | 6      | 3       | 3.7            | 4.1        | 4      |
| 4           | 4.3               | 5.2        | 9      | 4       | 3.9            | 5.6        | 17     |
| 5           | 3.9               | 4.4        | 5      | 5       | 5.3            | 5.6        | 3      |
| 6           | 3.9               | 4.4        | 5      | 6       | 4.7            | 3.6        | -11    |
| Mean growth |                   |            | 2.3    |         |                |            | 5.5    |

TABLE VII  
METROPOLITAN ACHIEVEMENT TEST  
READING SCORES  
BOY SUBJECTS

| Subject     | Nonpromoted boys |            |        | Subject | Promoted boys |            |        |
|-------------|------------------|------------|--------|---------|---------------|------------|--------|
|             | 1st<br>yr.       | 2nd<br>yr. | Growth |         | 1st<br>yr.    | 2nd<br>yr. | Growth |
| 1           | 2.6              | 2.8        | 2      | 1       | 3.2           | 4.3        | 11     |
| 2           | 2.0              | 4.4        | 24     | 2       | 3.2           | 3.1        | - 1    |
| 3           | 2.1              | 3.1        | 10     | 3       | 2.1           | 2.8        | 7      |
| 4           | 1.6              | 2.8        | 12     | 4       | 3.3           | 3.7        | 4      |
| 5           | 1.6              | 2.7        | 11     | 5       | 4.0           | 4.6        | 6      |
| 6           | 3.6              | 5.5        | 19     | 6       | 4.6           | 6.5        | 19     |
| 7           | 3.6              | 4.4        | 8      | 7       | 4.3           | 5.1        | 8      |
| 8           | 3.7              | 5.9        | 22     | 8       | 5.1           | 5.4        | 3      |
| 9           | 5.7              | 4.8        | - 9    | 9       | 4.2           | 5.3        | 11     |
| 10          | 3.4              | 4.4        | 10     | 10      | 4.0           | 4.4        | 4      |
| 11          | 4.9              | 3.6        | -13    | 11      | 4.1           | 4.6        | 5      |
| Mean growth |                  |            | 8.7    |         |               |            | 7.0    |

In referring to Table V, it may be noted that three boys made gains totalling ten or more months. These three scores have a total of forty-two months or 77 per cent of the total gains of the non-promoted boys score.

From examination of scores in Table VI, page 27, a comparison can be made of the two groups of girls in the subject area of arithmetic. The nonpromoted girls achieved a mean growth of two and three tenths months and the promoted girls attained a mean growth of five and five tenths months or a 58.2 per cent greater gain than the non-promoted girls in the arithmetic battery.

The mean difference between the nonpromoted and promoted boys in the reading area may be observed in Table VII, page 28. The non-promoted boys achieved a mean gain of eight and seven tenths months, while the promoted boys showed a mean gain of seven months.

The nonpromoted boys made a one and seven tenths months or 19.6 per cent greater gain in this area than did the promoted boys.

Table VIII represents the reading data recorded for the two groups of girls in the sample. The nonpromoted group received four months' growth, while the promoted group received a gain of nine and two tenths months. The promoted group made a five and two tenths months or 56.1 per cent greater gain than did the nonpromoted group.

TABLE VIII  
METROPOLITAN ACHIEVEMENT TEST  
READING SCORES  
GIRL SUBJECTS

| Nonpromoted girls |            |            |        | Promoted girls |            |            |        |
|-------------------|------------|------------|--------|----------------|------------|------------|--------|
| Subject           | 1st<br>yr. | 2nd<br>yr. | Growth | Subject        | 1st<br>yr. | 2nd<br>yr. | Growth |
| 1                 | 2.5        | 2.7        | 2      | 1              | 2.4        | 4.0        | 16     |
| 2                 | 3.9        | 4.3        | 4      | 2              | 3.0        | 4.5        | 15     |
| 3                 | 3.2        | 2.3        | - 9    | 3              | 3.2        | 4.7        | 15     |
| 4                 | 5.7        | 6.3        | 6      | 4              | 4.7        | 4.2        | - 5    |
| 5                 | 3.1        | 4.5        | 14     | 5              | 4.0        | 4.2        | 2      |
| 6                 | 3.5        | 4.2        | 7      | 6              | 3.6        | 4.8        | 12     |
| Mean growth       |            |            | 4.0    |                |            |            | 9.2    |

## CHAPTER V

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### I. SUMMARY

The purpose of this study was to discover if there is or is not justification in retaining pupils in the Tenino Elementary school with the purpose of improving their academic gain.

It was hypothesized that the academic gains of nonpromoted students would be considerably less than the gains made by promoted students.

The cumulative folders of nonpromoted students were examined to record scores from the Metropolitan Achievement Test and I.Q. scores from the California Tests of Mental Maturity. Records of promoted students were also examined for data which would allow the examiner to match the nonpromoted group of students with promoted youngsters based on sex, chronological age, and intelligence. This information made it possible to compare the academic gains of the nonpromoted group with those of the promoted group.

This study was concerned with a comparison of academic gains of a nonpromoted group and a promoted group. It was not the intent of this study to discover any other variables which may lead to non-promotion.

#### II. CONCLUSIONS

The results of this study do not substantiate the hypothesis.

The practice of nonpromotion with regard to the girl students in this study has no justifiable basis when academic achievement was the sole purpose for nonpromotion. The comparison of mean academic gain of the two groups of boys indicates that the nonpromoted group gained more than did the promoted group. Six of the nonpromoted boys gained a minimum of eleven months achievement, when based on the battery median, for their year of retention (Appendix A page 39). These six non-promoted boys made substantial improvement.

The comparison of reading scores of the two groups of girls indicates that the promoted group achieved a five and two tenths months greater gain than did the nonpromoted group. Examination of arithmetic scores for the two groups of girls show the promoted group making a three and two tenths months average gain over the nonpromoted group. When the groups were compared with regard to battery median scores, the promoted girls made a two and four tenths greater gain than the non-promoted girls.

In the light of the superior performance of the promoted group of girls, it would appear as though the nonpromoted group of girls sacrificed a year of their education if academic gain was the prime reason for retention.

The nonpromoted group of boys made a one and seven tenths greater gain than did the promoted group, and 77 per cent of the non-promoted group made greater gains than did the promoted group in the area of reading. Comparison of arithmetic scores for the two groups of boys shows the promoted group achieving a greater mean growth by six tenths of a month. This is the only area where the promoted boys excelled over the nonpromoted boys. When the battery median scores

for the two groups of boys were compared, the nonpromoted boys showed a five and four tenths months greater gain than did the promoted boys.

The nonpromoted boy students in this study made an average gain of eight and two tenths months when measured by their total battery median score. The promoted students achieved an average growth of five and five tenths months.

The validity and reliability of this study may be questioned because of the small number of students included in the sample. The sample is representative of the promotion policy practiced in the Tenino Elementary school. All students retained in the Tenino Elementary school during the three year period encompassed by this study were included in the sample except for those disqualified as mentioned on page 18.

The review of literature in Chapter II, would suggest that a student will experience failure through retention or through continued promotion unless classroom activities are adjusted to the ability level of the individual child.

### III. RECOMMENDATIONS

In light of the results reported and more specifically the academic achievement of the nonpromoted boys it is recommended that a study be conducted which would attempt to discover the variables that accounted for their success and how they were set into force.

Another variable that requires consideration is the student-teacher relationship. Grade placement might make only a slight difference. The teacher-pupil interaction is an area which requires further study.



Other variables not studied in this investigation deserve a more thorough understanding. Among these are personal and social adjustment or maturity, chronological age, and physical maturity. Also, the possible increase in cost of instruction accompanying a rigid promotion policy is a factor worthy of more careful consideration, especially in this day and age of limited revenue for the operation of schools.

It is possible that studying the effects of nonpromotion so closely on the heels of the disturbance, which the experience of failure might have caused, may not show a true indication of the long-range effect. If this is the case, a study of delayed effect attempting to discover if the findings of this study are representative would be recommended.

## BIBLIOGRAPHY

## BIBLIOGRAPHY

1. Buros, Oscar Krisen. Fifth Mental Measurements Yearbook. Highland Park, New Jersey: Gyphon Press, 1959. 872 pp.
2. Calderon, Carlos I. "Retain Johnny? Never!" Texas Outlook, 50:30-1, February, 1966.
3. Chansky, Norman M. "Progress of Promoted and Repeating Grade 1 Failures," The Journal of Experimental Education, 32:226-30, Spring, 1964.
4. Coffield, William H. and Paul Blommers. "Effects of Non-promotion on Educational Achievement in the Elementary School," Journal of Educational Research, 47:235-50, April, 1956.
5. Dimond, Stanley E. "Who Should Fail," The Nation's Schools, 63:63-65, May, 1959.
6. Dobbs, Virginia and Donald Neville. "The Effect of Nonpromotion on the Achievement of Groups Matched from Retained First Graders and Promoted Second Graders," The Journal of Educational Research, 60:472-5, July and August, 1967.
7. Douglas, Genevieve M. "A Promotion Policy That Works," The Instructor, 74:42, January, 1965.
8. Ehel, Robert L. and others. Encyclopedia of Educational Research (Fourth Edition). London: The Macmillan Company, 1969. 1522 pp.
9. Gerberich, J. Raymond, and M. Jay Blaha. "Using Test Results to Make Decisions About Pupil Placement, Grouping, and Promotion," The National Elementary Principal, 41:18-22+, November, 1961.
10. Goodlad, John I. and Robert H. Anderson. The Nongraded Elementary School. New York: Harcourt, Brace and World, 1963. 248 pp.
11. Kowitz, G. J. and C. M. Armstrong. "The Effect of Promotion Policy on Academic Achievement," The Elementary School Journal, 61:435-43, May, 1961.
12. Kumpf, Carl H. "Social Promotion--A Misnomer?" The National Elementary Principal, 40:35-37, May 1, 1961.
13. National Education Association Research Division. "Teacher - Opinion Poll: Promotion Policy," National Education Association Journal, 51:57, December, 1962.

14. Otto, Henry J. "Grading and Promotion Policies," National Education Association Journal, 40:128-9, February, 1951.
15. Peyton, Jim. "Nonpromotion: Related Factors Noted in Kentucky Study," Education Digest, 34:36-9, September, 1968.
16. Sandin, Adolph A. Social and Emotional Adjustments of Regularly Promoted and Non-promoted Pupils. New York: Columbia University Press, 1944. 142 pp.
17. Saunders, Carleton M. Promotion or Failure for the Elementary School Pupil? New York: Columbia University Press, 1941. 77 pp.
18. Shellhammer, Tom. "Automatic Promotion: Fact or Fantasy," California Education, 1:25-26, March, 1964.
19. Smith, Lehi J. "Everyone Gets Promoted," Educational Executives Overview, 4:44-5, January, 1963.
20. Wardeberg, Helen. "If You Must Fail a Child," Grade Teacher, 82:60-1, May, 1965.

## APPENDIX

## APPENDIX A

## NONPROMOTED BOYS

| subject | age<br>yrs.-mos. |    | Metropolitan<br>reading math |            | batt.<br>mdn. | I.Q. | growth  |
|---------|------------------|----|------------------------------|------------|---------------|------|---------|
| 1       | 7                | 0  | 2.6<br>2.8                   | 4.2<br>4.0 | 2.9<br>3.2    | 94   | 3 mo.   |
| 2       | 7                | 1  | 2.0<br>4.4                   | 3.3<br>3.5 | 2.3<br>4.0    | 111  | 17 mo.  |
| 3       | 7                | 3  | 2.1<br>3.1                   | 2.5<br>3.4 | 2.2<br>3.3    | 94   | 11 mo.  |
| 4       | 7                | 9  | 1.6<br>2.8                   | 2.6<br>3.9 | 1.8<br>3.3    | 91   | 15 mo.  |
| 5       | 8                | 1  | 1.6<br>2.7                   | 2.0<br>1.9 | 1.8<br>2.5    | 96   | 7 mo.   |
| 6       | 9                | 5  | 3.6<br>4.4                   | 4.4<br>6.2 | 4.4<br>5.8    | 93   | 14 mo.  |
| 7       | 9                | 10 | 3.6<br>5.5                   | 3.6<br>4.2 | 3.3<br>4.5    | 107  | 12 mo.  |
| 8       | 9                | 10 | 3.7<br>5.9                   | 5.6<br>6.3 | 5.2<br>5.9    | 109  | 7 mo.   |
| 9       | 10               | 0  | 5.7<br>4.8                   | 5.2<br>4.8 | 5.5<br>5.3    | 101  | - 2 mo. |
| 10      | 10               | 4  | 3.4<br>4.4                   | 4.4<br>5.5 | 4.4<br>5.8    | 93   | 14 mo.  |
| 11      | 10               | 9  | 4.9<br>3.6                   | 4.3<br>3.8 | 4.5<br>3.6    | 93   | 9 mo.   |

## NONPROMOTED GIRLS

| subject | age<br>yrs.-mos. |    | Metropolitan<br>reading | math       | batt.<br>mdn. | I.Q. | growth |
|---------|------------------|----|-------------------------|------------|---------------|------|--------|
| 1       | 7                | 11 | 2.5<br>2.7              | 2.7<br>2.7 | 2.6<br>2.7    | 103  | 1 mo.  |
| 2       | 9                | 9  | 3.9<br>4.3              | 5.4<br>4.3 | 3.6<br>4.1    | 95   | 5 mo.  |
| 3       | 9                | 11 | 3.2<br>2.3              | 3.6<br>4.2 | 3.0<br>3.5    | 98   | 5 mo.  |
| 4       | 10               | 1  | 5.7<br>6.3              | 4.3<br>5.2 | 4.6<br>5.7    | 96   | 11 mo. |
| 5       | 10               | 6  | 3.1<br>4.5              | 3.9<br>4.4 | 3.6<br>4.3    | 90   | 7 mo.  |
| 6       | 10               | 11 | 3.5<br>4.2              | 3.9<br>4.4 | 4.0<br>4.3    | 90   | 3 mo.  |

## APPENDIX B

## PROMOTED BOYS

| subject | age<br>yrs.-mos. |    | Metropolitan<br>reading | math       | batt.<br>mdn. | I.Q. | growth  |
|---------|------------------|----|-------------------------|------------|---------------|------|---------|
| 1       | 6                | 11 | 3.2<br>4.3              | 3.5<br>4.2 | 3.9<br>4.4    | 95   | 5 mo.   |
| 2       | 7                | 2  | 3.2<br>3.1              | 3.2<br>3.8 | 3.0<br>3.3    | 111  | 3 mo.   |
| 3       | 7                | 4  | 2.1<br>2.8              | 2.2<br>2.9 | 2.5<br>3.0    | 94   | 5 mo.   |
| 4       | 7                | 10 | 3.3<br>3.7              | 3.6<br>4.6 | 3.5<br>3.8    | 91   | 3 mo.   |
| 5       | 8                | 3  | 4.0<br>4.6              | 3.5<br>4.1 | 3.6<br>3.9    | 97   | 3 mo.   |
| 6       | 9                | 5  | 4.3<br>5.1              | 4.6<br>4.7 | 4.8<br>5.0    | 95   | 2 mo.   |
| 7       | 9                | 9  | 4.6<br>6.5              | 5.4<br>5.4 | 4.7<br>5.6    | 107  | 9 mo.   |
| 8       | 9                | 10 | 5.1<br>5.4              | 5.0<br>5.3 | 5.5<br>5.3    | 109  | - 2 mo. |
| 9       | 10               | 0  | 4.2<br>5.3              | 5.1<br>5.4 | 4.9<br>5.1    | 102  | 2 mo.   |
| 10      | 10               | 2  | 4.0<br>4.4              | 2.7<br>3.4 | 3.2<br>4.1    | 92   | 9 mo.   |
| 11      | 10               | 8  | 4.1<br>4.6              | 4.1<br>5.2 | 4.4<br>5.2    | 94   | 8 mo.   |



## PROMOTED GIRLS

| subject | age<br>yrs.-mos. |    | Metropolitan<br>reading      math |            | batt.<br>mdn. | I.Q. | growth  |
|---------|------------------|----|-----------------------------------|------------|---------------|------|---------|
| 1       | 7                | 10 | 2.4<br>4.0                        | 2.2<br>4.2 | 2.8<br>4.3    | 104  | 15 mo.  |
| 2       | 9                | 7  | 3.0<br>4.5                        | 3.8<br>3.8 | 3.8<br>4.5    | 95   | 7 mo.   |
| 3       | 9                | 10 | 3.2<br>4.7                        | 3.7<br>4.1 | 3.3<br>4.5    | 99   | 12 mo.  |
| 4       | 10               | 0  | 4.7<br>4.2                        | 3.9<br>5.6 | 4.3<br>5.1    | 97   | 8 mo.   |
| 5       | 10               | 7  | 4.0<br>4.2                        | 5.3<br>5.6 | 5.0<br>4.9    | 91   | - 1 mo. |
| 6       | 10               | 9  | 3.6<br>4.8                        | 4.7<br>3.6 | 4.2<br>4.7    | 91   | 5 mo.   |

## APPENDIX C

METROPOLITAN ACHIEVEMENT TEST  
BATTERY MEDIAN SCORES

| Growth made by nonpromoted<br>subjects |                       | Growth made by promoted<br>subjects |                       |
|--|-----------------------|-------------------------------------|-----------------------|
| subject                                | growth<br>(in months) | subject                             | growth<br>(in months) |
| 1                                      | 3                     | 1                                   | 5                     |
| 2                                      | 17                    | 2                                   | 3                     |
| 3                                      | 11                    | 3                                   | 5                     |
| 4                                      | 15                    | 4                                   | 3                     |
| 5                                      | 7                     | 5                                   | 3                     |
| 6                                      | 12                    | 6                                   | 9                     |
| 7                                      | 14                    | 7                                   | 2                     |
| 8                                      | 7                     | 8                                   | - 2                   |
| 9                                      | - 2                   | 9                                   | 2                     |
| 10                                     | 14                    | 10                                  | 9                     |
| 11                                     | 9                     | 11                                  | 8                     |
| 12                                     | 1                     | 12                                  | 15                    |
| 13                                     | 5                     | 13                                  | 7                     |
| 14                                     | 5                     | 14                                  | 12                    |
| 15                                     | 11                    | 15                                  | 8                     |
| 16                                     | 7                     | 16                                  | - 1                   |
| 17                                     | 3                     | 17                                  | 5                     |
| mean growth                            | 8.2                   |                                     | 5.5                   |