



The usefulness of cumulative records in the elementary school
by Arthur Morgan Hulett

A thesis submitted to the Graduate Faculty in partial fulfillment of the requirements for the degree of
MASTER OF SCIENCE with concentration in Elementary Education
Montana State University
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Abstract:

The purpose of this study was to determine whether certain assumptions generally given to collect cumulative record data were accurate.

The population consisted of 273 students enrolled in grade one, grade two, grade three, and grade four in the Bozeman Public Schools during the years 1968-1971. Performance data from three areas of their cumulative records were used in this study. The three areas were grades received, activities participated in, and character traits as measured subjectively by teacher evaluation.

Performance data were evaluated according to: a. - whether a child lived with his parent or other than his parent, b. whether a child's mother worked or remained at home to care for him, and c. whether the child walked to school or rode the bus.

When the statistical analysis was applied to the study, significant differences in school performance resulted in each of the above categories. Trends of the results of the study are inconsistent. Further study is needed to clarify the accuracy of the assumptions for collecting cumulative record data.

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Arthur Hulet

Date

August 9, 1973

THE USEFULNESS OF CUMULATIVE RECORDS
IN THE ELEMENTARY SCHOOL

by

ARTHUR MORGAN HULETT

A thesis submitted to the Graduate Faculty in partial
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of

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VITA

Arthur Morgan Hulett was born at Kalispell, Montana on December 12, 1942, the second son of Edgar and Margaret Smith Hulett. At the age of three the family moved to Anchorage, Alaska where they lived until 1954 when they moved to Whitlash, Montana, remaining there until his father's death. In 1955 he moved with his mother and two brothers to Helena, Montana, where he finished his public schooling by graduating from Helena Senior High School in 1961.

Mr. Hulett entered Montana State College in 1961 and graduated with a Bachelor of Science degree in Accounting in 1965. He worked for a national public accounting firm and a local public accounting firm. Realizing that he preferred working more directly with people, Mr. Hulett decided upon entering elementary education. He received his elementary certification from Montana State University in 1967. A Fellowship was granted him and he spent two years on the Crow Indian Reservation in Montana working as Assistant Head Start Director. In 1970 he returned to Bozeman where he accepted the position of assistant principal and half-day fourth grade teacher at Hawthorne School.

Mr. Hulett completed the requirements for the degree of Master of Science at the end of Summer Quarter, 1973. He will return to Hawthorne School as principal for the school term of 1973-74.

Mr. Hulett married the former Sharon Marie Ziegler in 1964 in Helena, Montana. They have three children.

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ABSTRACT

The purpose of this study was to determine whether certain assumptions generally given to collect cumulative record data were accurate.

The population consisted of 273 students enrolled in grade one, grade two, grade three, and grade four in the Bozeman Public Schools during the years 1968-1971. Performance data from three areas of their cumulative records were used in this study. The three areas were grades received, activities participated in, and character traits as measured subjectively by teacher evaluation.

Performance data were evaluated according to:

- a. whether a child lived with his parent or other than his parent,
- b. whether a child's mother worked or remained at home to care for him, and
- c. whether the child walked to school or rode the bus.

When the statistical analysis was applied to the study, significant differences in school performance resulted in each of the above categories. Trends of the results of the study are inconsistent. Further study is needed to clarify the accuracy of the assumptions for collecting cumulative record data.

CHAPTER 1

INTRODUCTION

Fall marks the beginning of a new school term and teachers and students begin school for the nine month period. A February, 1971 School and Society article reported that sixty million students enter the American school system each year, some returning to continue their education while others are just beginning their school career. For each of these students certain information will be collected, recorded, and filed in some type of permanent record. Some of this information is on file for only one year and some of it is kept filed for the entire school career of the student and beyond (Titlebaum, 1971).

The early history of permanent records shows that initially they consisted largely of attendance and grade reporting. Titlebaum indicated also that record keeping is one means of recording changes that may be attributed, at least in part, to the teaching or learning experience. Examination of permanent records is one way teachers may find out what students know and do not know. Computerization of school records is becoming widely adopted by school systems all over the country. The computer's efficiency at recording, storing and retrieving large amounts of information has led to an explosion in the quantity of pupil permanent records. More and more information is being recorded about students (Titlebaum, 1971). The individual student dossier has the potential to become a complete record of a person's developing years, including

mistakes and achievements he may have made during that time. Today's school records contain batteries of aptitude and personality tests, counselors observations and reports from non-school agencies, i.e. psychiatric evaluations on the child, etc.

What safeguards do schools establish with regard to the access and use of student records? How do schools choose information to be maintained for cumulative records? These questions appear to be common to the concern of many investigators of cumulative records and permanent information data.

In practice, few controls over individual permanent records have been established. A 1969 conference, funded by the Russell Sage Foundation of New York, reported a general lack of clearly defined and systematically implemented policies regarding uses of information about students (Goslin, 1971). It was found that schools regularly open permanent records to employers, FBI agents, military investigators and educational researchers, often without students' knowledge or consent. This group recommended in its report that parents have full access to their child's records, including the right to verify the accuracy of the information. The conference report promoted the limitation that no persons other than school personnel should have access to pupil data without parental, or in some cases, pupil permission.

The first permanent records were simple in design and purpose. It was easy to compute days absent and days tardy. Modern information

systems using data processing make it very easy to record as much information as is desirable for each student. This information can be stored indefinitely and retrieved immediately. Because information is a process, not an end to itself, (Cook, 1971), the cumulative folder represents a quantity of raw data for an individual. To be useful, data from the folder must be analyzed and interpreted when it is retrieved (Hollis and Hollis, 1971). Much of the cumulative folder reports how the individual student has performed in the past and some data from the folder may lend itself to how the student may perform in the future. The collection and interpretation of the data is based on the assumption that information from the past will form a useful base from which to predict future actions.

Cumulative records were generally kept by hand and the process was laborious until the advent of the computer when data processing systems began to take over storage of pupil personnel records. The automated systems speeded up the process considerably and the amount of information recorded for each student was expanded. In most cases, no control or rationale was established to select the kind of information being recorded (Darby, Kosotkin, and Romashko, 1970).

The general concept for cumulative records has been to gather significant data on each child during his years of formal education. A teacher would use what the previous teacher had entered and, as a result, according to the concept, be more effective in his teaching

(Kowitz, 1971). With this emphasis, folders grow quickly in size particularly for the more active, spontaneous or less well behaved student and by the time the folder reaches secondary level the information may not be relevant for that work and often is discarded.

An example of the information collected each year can be found by examining an enrollment sheet of the Bozeman Public Schools in Bozeman, Montana. (See Figure 1 on the following page.) The Bozeman School System collects complete vita on each student. It includes specific questions about each parent such as occupation, marital status, employer, and education. It asks how the students will get to school and with whom the child resides. There is a place to record whether the student's parents live or work on federal property. Other personal information sought includes the name of the family physician and church preference. A listing of the student's siblings and their school and age is requested. A space for general information and suggestions pertaining to the child's health or welfare is provided. This is the information students entering the Bozeman system are requested to provide as each year begins and similar information is requested by most school systems (Warters, 1946; El Negoumy, 1966). This information will be part of an individual cumulative folder which is constructed for each student. This folder will contain data on achievement, test scores, teachers anecdotal comments, health information and immunizations, results of referrals to specialists such as speech therapists or psychologists, rating of character traits

BOZEMAN ELEMENTARY SCHOOLS

For School Use Only
NEW _____

Name _____ M _____ F _____
Last First Middle

Address _____ Phone _____

If rural route, describe specific area _____

Teacher _____ School _____ Grade _____

Bus No. _____ Car Pool: Yes _____ No _____
Year Month Day

Date entered _____ Place of Birth _____

Date of Birth _____ Previous school and address if other than
Bozeman _____

Has this child ever attended Bozeman Public Schools? _____

Father's full name _____ Mother's _____

With whom will student stay? _____

If other than parent, give name and relationship _____

Whom to call in case of accident or illness? _____ Phone _____
_____ Phone _____

If unable to contact above, do we have permission to call your physician? _____

_____ Name of Doctor _____ Church of Preference

If in the judgment of the teacher and the principal a physician should be called, will you bear the expense
of the call without protest? _____

Father's occupation _____ employer _____

Mother's occupation _____ employer _____

Is either parent a member of the Uniformed Services on active duty? _____

Does either parent work or live on Federal property now or will he during this current school year?

No _____ Yes _____ Location _____
Building Department

If your child comes to school on a bus, would you consent to his staying after school to get help with his
work, providing you were notified that he would miss his ride? Yes _____ No _____

Shortest distance home _____ blocks _____ miles.

Brother or Sister	School	Grade	Bus Route	Bus No.

Will you please jot down any other suggestions you have to give us pertaining particularly to your child's health, or any other pertinent information to his welfare.

Suggestions:

Parent's Signature

by teachers and complete attendance reporting in addition to the information from the enrollment sheet. The cumulative folder is an accumulative process. Each successive year's data in these areas is added to the student's folder.

Statement of the Problem

During the years of 1968-1971, a research grant was funded by Title III of NDEA in the Bozeman School System. The purpose of the grant was to identify and locate innovative teaching in the Bozeman Schools. To help in the analysis of students and their achievement, data was gathered from each student in grades K-4 in the Bozeman System and recorded on computer cards. A form which was used is shown in Appendix A, page 56. This data was gathered from the permanent folders of these elementary children and represents most of what these students had in their cumulative records.

The problem of this study was to test whether certain information in the cumulative folder has any positive relationship to the performance of children as measured by grades received, participation in activities, subjective teacher evaluation, and number of times promoted.

Purpose of the Study

Data should be collected for a specific purpose, and evaluation of that purpose should be a continuous process (Gronlund, 1965). Many reasons are given for gathering permanent information on students each

year. Two of the reasons with which this study is concerned are given below:

X One is the assumption that what was true in the past will continue to be true in the future (Denton, 1968). This assumption is known as historical determinism. Some uses of permanent data information assume a high degree of reliability between the past and the future.

→ This study will test that reliability for certain information. X Another assumption is the more information available on a person the better the education which can be provided for that individual (Kowitz, 1971). This assumption leads toward collecting more and more information without regard to its use. It also is a major concern of this study and

→ its accuracy will be tested. X These assumptions lead to judgments such as the following:

1. A teacher needs to know with whom a child resides in order to provide an appropriate program for him.
2. A teacher needs to know whether a child's mother works or remains at home to care for him to be the best possible teacher for him.
3. A teacher needs to know whether a child walks to school or rides the bus in order to be his most effective teacher.

In order to test these judgments, four different hypotheses were developed to evaluate the usefulness of collecting this data. They are:

- X 1. There is no significant difference among grades received:

a. between children who live with their parents and those who live with other than their parents.

b. between children whose mother works and those whose mother remains at home to care for them.

c. between children who ride the bus and children who walk to school.

2. There is no significant difference among participation in activities:

a. between children who live with their parents and those who live with other than their parents.

b. between children whose mother works and those whose mother remains at home to care for them.

c. between children who ride the bus and children who walk to school.

3. There is no significant difference among character traits as measured subjectively by teacher evaluation:

a. between children who live with their parents and those who live with other than their parents.

b. between children whose mother works and those whose mother remains at home to care for them.

c. between children who ride the bus and children who walk to school.

4. There is no significant difference among number of times

promoted:

- a. between children who live with their parents and those who live with other than their parents.
- b. between children whose mother works and those whose mother remains at home to care for them.
- c. between children who ride the bus and those who walk to school.

General Procedures

Investigation of the problem and testing of the hypotheses required the following procedures:

1. Literature was reviewed on cumulative records, working mothers, busing of school children and children who did not live with their parents.
2. The actual performance of students in the Bozeman System was compared with the assumptions given to collect the data.
3. The results of the study were reviewed with relation to the accuracy of the propositions outlined earlier.

Limitations

The data used in this study was limited to part of the information from permanent records collected and recorded during the years of the Title III grant, 1968-69, 1969-70 and 1970-71 for the elementary students in the Bozeman system. Data was recorded from each child's

permanent folder from all kindergarten through fourth year students at the Emerson, Hawthorne, Irving, Longfellow and Whittier schools. The Title III grant ran for three years and some children's data was recorded for three consecutive years.

Definition of Selected Terms

Cumulative folder - The words "cumulative folder" as used in this research mean a storage packet used to house cumulative records.

Cumulative Records - The words "cumulative records" as used in this research mean an individual record, usually permanent, that is kept continually up to date by the teacher or school and includes fairly complete information about pupils' school achievement, courses studied, attendance, health and other pertinent data. (In research encountered, the two terms, "cumulative records" and "permanent records" are used interchangeably.)

Students who ride the bus - The words "students who ride the bus" as used in this research means a student who lived on a normally established school bus route and depended on that bus for transportation to and from school most of the time. Students who lived within the statutory three mile limit were considered to be walking students even if they occasionally received rides to school.

x Students whose mother works - The words "students whose mother works" as used in this research mean a student whose mother is regularly employed outside the home at least 20 hours per week.

* Students who live with other than their parents - The words

"students who live with other than their parents" as used in this research mean students who are living with neither of their legal parents. Legal parents would not include guardians or other close relatives with whom the child lives.

Non-intellectual variables - The words "non-intellectual variables" as used in this research means traits not related to intelligence which occur in various magnitude in different cases. An example would be children who ride the bus to school as opposed to those who walk.

CHAPTER 2

REVIEW OF RELATED RESEARCH

The purpose of the review of the literature is to consider the general uses of cumulative record information and to examine recommendations by other investigators for improvements in the system of pupil information maintained by most schools today. Research findings from closely related problems is included to give direction and guidance to this study. This review of related research will be discussed in three main sections. The three sections are: (1) literature dealing with cumulative records; (2) literature dealing with a parent being gone from the home either because the child does not live with his parents or because the mother is employed outside the home; and (3) literature dealing with busing of school children.

Cumulative Records

A 1969 conference studied the problem of privacy in student cumulative records. The participants found that schools regularly make permanent files open to researchers who are studying various questions of school and social adjustment (McMahan, 1970). McMahan also found that material is seldom reviewed for accuracy or checked by anyone to be correct.

Inaccurate information can be damaging to an individual's performance. Many researchers have found that information given to teachers

suggesting particular traits has tended to bear out the suggestions (Brameld, 1972; Brophy and Good, 1972). Information from cumulative records which label a trait for a child can have the effect of producing that trait when people who work with him are informed of the label. No one has studied how long a bad or unfavorable comment on a permanent record will affect a student but the duration could be considerable. Noland, (1971) found that unfavorable anecdotal comments could result in a rejection of college admittance from three to sixty-three per cent of the cases. At other times respondents to his survey indicated they would omit a character reference, thus perhaps covertly denying a student a chance to go to a particular school.

Barone, (1971) in a study of 160 Pennsylvania school districts determined that only 29 percent had any written policy defining the maintenance or release of student information. In many states, student permanent records are kept 50 years beyond graduation (Astin and Boruch, 1970). No research was encountered which determined the influence of permanent records which included unfavorable or possibly harmful statements, a considerable time, ten years or more, from high school or college graduation.

One reason schools continue to collect records on school children reported by Kowitz (1971) is the theory that a complete file on an individual holds answers to questions about his future academic performance. These answers have not been consistently discovered from permanent

record information. Morris (1971) reported on the search for the important non-intellectual variables which play a significant role in academic performance. He concluded that the lack of success in finding these relationships stems from the fact that the psychological instruments used to measure these traits are not adequate.

The Russell Sage conference on cumulative records made these recommendations as guidelines for student records:

1. No information should be collected without the informed consent of parents. It is to be clear to all, parents, counselors, and teachers, what information is being collected and why it is being collected. In some cases the parents direct consent was required and in other representational consent, (for instance from the Board of Education) would suffice.

2. The total set of individual student data on file in a school at any given time ranges from tentative uncorroborated reports on alleged student behavior to highly stable information. Schools should establish procedures to verify the accuracy of all data maintained in their pupil records. Only highly stable, verified data should appear on a permanent record card. Other information should be kept separate and periodically reviewed. Data should be kept only as long as it is of value.

3. Parents should have full access to, and the right to challenge the accuracy of data on their children. Older students should

have access to their own records.

4. No agency or persons other than the parent or school personnel who deal directly with the child concerned should have access to pupil records without parental permission. The recommendations also included suggestions for the release of information according to the different categories of data involved (Goslin, 1971).

These recommendations were received well by counselors, teachers and other school personnel. They pointed out the need for clear, accurate reporting from permanent records. Sloppy analysis has occurred although the conference participants felt it was in a minimum of cases. Noland (1971) cites the following example to point out the need for careful supervision and control of permanent record information. A 1968 ruling by the Superior Court of Maine determined that Bates College had to reveal to the parents of a Connecticut applicant who was rejected by Bates the confidential contents of his application for admission.

Working Mothers - Children Not Living With Parents

This section of the review of related research will deal with the effect of working mothers on school children or the effect when a child does not live with his parents. In his testimony before Congress in 1969, Jencks declared that only 20 per cent of the achievement gap can be attributed to factors within the school. This and other similar claims (Crawford and Eason, 1970) indicates that the influence of the home and environment on motivation and achievement is considerable.

As early as 1946, Bowlby claimed that "prolonged separation of a child from his mother during the first five years of his life stands foremost among the causes of delinquent character development." The World Health Organization stated in a 1951 report that day nurseries inevitably caused permanent damage to the emotional health of a future generation. Noted sociologist Margaret Mead (1954) suggested in response that the campaign on the evils of mother-child separation is just another attempt by men to shackle women to the home.

Additional research has taken some of the impact from these sweeping statements. Moore (1963) found no evidence that children suffer from having several mother figures as long as stable relationships and good care can be provided by each. Gardener, Hawkes, and Burchinal (1961) sought to study non-continuous mothering in infancy and development in later childhood. They hypothesized that maternal deprivation in infancy should reveal itself in discriminable variations later in childhood. Their research showed that none of the variables could be attributed individually to the factor of discontinuity of mothering in early childhood.

Schools have been indicted as aiding in the confusion about improving the learning of children. Dr. Samuel Ashcroft, of the President's Committee on Mental Retardation, wrote in 1970, "Educators have in the past found it easy to inappropriately label children by giving tests and dealing with the children so that they behave according to that label."

In an interesting article entitled "School and Home: Not Either-Or," Scott and Sattell (1971) state "at present no available test readily provides a valid profile of cognitive abilities."

It has been generally recognized in the recent past that the status of a working mother indicated a lower socio-economic level. Improving the quality of life for people in the lower socio-economic classes has been the purpose of many Office of Economic Opportunity and Health, Education and Welfare grants. Head Start, Day Care and Follow Through programs have not been definitely conclusive, in line with Wilhelm's (1970) finding, that studies on socio-economic status, particularly as they relate to college achievement, are inconclusive.

The number of working mothers is a rising portion of our labor force. Department of Labor Statistics from the Women's Bureau show that in 1940, there were 1.5 million mothers working outside the home. In 1950, the total was 4.6 million. In 1969, 29.9 million women were in the United States labor force. Nearly twelve million had children 18 years or under. One third of these women had children under five years old. A rising percentage of women with small children are choosing to find regular employment outside the home (U.S. Department of Labor, 1970).

In a paper entitled "Cribs or Careers," Garlund and Poloma (1971) reported their study of fifty-three professional women who combined careers and motherhood. All fifty-three women thought being a good mother was more important than their career roles. Many had

made adjustments in their career objectives because of their children. None seemed to regret those adjustments. Several had made family adjustments because of their careers. They reported that they were generally unhappy that they had. This group was not deemed characteristic of the total population because of the professional nature of their careers.

Spencer and Allingham (1968) report that the presence or absence of a young child remains the single most important factor influencing the wife's participation in the labor force up to age forty-four. Women who were interviewed cited the family as their biggest concern when starting to work. Michael Rutter (1971) in a detailed study investigated the psychological effects on children of parent-child separation. He studied the conditions of bereavement and a working mother. He concluded that a child's separation from his family constitutes a potential cause of short-term distress, but separation itself is of little direct importance as a cause of long-term disorder. He identified discord preceding and accompanying the separation as stimulating antisocial and abnormal behavior.

Krugman (1971) as well as Rutter claimed that separation experiences in childhood contain a potential for disruption of normal growth but she pointed out in her study, Working With Separation, that being removed from a parent completely or only part time, as with a working mother, is not necessarily the greatest risk a child may face.

Cheyne and Jahoda (1971) studied the emotional sensitivity and intelligence of children from orphanages and normal homes. There was a presumption of more negative emotional experiences with children from orphanages. The results of the study showed no clearcut deficiency in emotional sensitivity in the orphanage children as compared with normal children. Williamson (1970) studied the effects of parent absence on the scholastic performance of children. She concluded that the attitude in the home was highly influential to school achievement but the presence or absence of a mother as a single variable was unrelated to achievement. Children patterned their adjustment styles after those models of their parent or guardian. A happy, adjusted home environment prompted children to respond positively to challenges. Roy (1961) even concluded that the employment of the mother may contribute to more democracy and cooperation in the family because of the greater sharing of work and decisions. He also found no significant relation to achievement from parent absence.

Caplan and Douglas (1969) found that parental loss could lead to depression in later childhood. When more than one foster home was involved, the incidence of a depressed mood was significantly higher. Greer (1969) has studied adult depressive patients and found a high rate of parental loss in childhood. Bowlby (1946) described an "affectionless character" that developed when separation from parents occurred so early or so frequently that a child never had an opportunity to learn how to

form relationships with others. He pointed out that these children tended toward delinquent and antisocial behavior.

Busing

The final section of the review of related research will consider the effects of busing on school children. The purposes for busing were outlined by Crenson in 1965. He pointed out school district consolidation and urban sprawl as prime factors in the decisions to bus students. The historic 1954 Supreme Court decision on school desegregation has also affected pupil transportation systems. Busing students has become a tool for school desegregation, especially in large systems. Faunce (1960) identified the class structure occurring from busing. When a large portion of students are bused, the student body is separated into a resident group and a transported group. The resident group tends to control extra-curricular activities because of easier accessibility. Hoffman (1968) also found that the bus ride discouraged bus students from participation in activities which occurred outside of normal school hours. He noted students could spend the equivalent of from three to seven additional days each month when school bus riding time was added to the regular school day.

Much of the literature dealing with busing is concerned with the rural situation where busing is necessary for children to attend school. Some of the studies point out an education differential between urban and rural people. The educational achievement for school completed of

rural people is slightly lower than urban people according to Nam and Powers (1963). They identified the median years of school completed as 11.1 for urban adults and 9.5 for rural adults.

Schreiber (1963) studied rural youth and concluded there was no evidence that pupils attending these smaller schools average any less in intelligence or achievement than do students from larger urban schools. Cope (1963) studied rural-urban intelligence differences and found that rural children have lower average I.Q.'s. He interpreted the difference to the assumption of urban experience the test contained.

In none of these cases did the investigators identify busing as a factor or contributory to the results. Zetler (1970) studied bus riding time as a factor in school achievement. He found no evidence of interaction between bus riding and achievement. His research was based on the rural nature of Montana's school transportation system.

SUMMARY

The previous research indicates a general agreement that cumulative records need to have more stringent controls and a firm rationale to guide the selection and use of cumulative record information. Abuse of the information is not considered widespread by counselors and sociologists. Concern seems to center on the potential for abuse from misinterpretation of cumulative record information.

There seems to be general agreement that simply the presence

or absence, temporarily or permanently, of a parent is not an adequate basis to judge the kind of behavior which can be expected from a child. Many other factors are present which affect each child's performance. These include stability, warmth, and adjustment.

Riding the bus also is not a variable which alone produces a reliable conclusion about performance of school children. Although some measures have identified rural children as having lower abilities, no work points to busing as a cause.

Over interpretation of information that a child's mother works, that he does not live with his parents or that he rides the bus to school would seem to be perilous. Closer examination of the particular student, the particular situation, and the particular information are necessary in every case.

CHAPTER 3

PROCEDURES

This study evolved as a result of the Title III Research Grant funded in the Bozeman Public Schools during the years of 1968-1971. Complete cumulative record information for elementary students was transcribed to computer tape. This datum is useful in studying questions of achievement since complete information for three consecutive years and partial information for a fourth year was listed on each child. This chapter will discuss the procedures used to analyze the data.

Population

The total population included all grade one, grade two, grade three, and grade four students in the Bozeman School System during the years 1968-69, 1969-70, and 1970-71. The sample population was restricted to 273 students for whom complete data was available. In some cases, the sample size was smaller than 273 because complete data was not available for transfers or late enrollments. No analysis has been attempted for some of the categories dealing with the grade four data because not all information was recorded at the grade four level for some students, resulting in very small samples. Inconsistencies in grading at grade one level have eliminated that grade level from the sample in the hypothesis concerning grade achievement.

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Specific Procedures

Data from three areas of the cumulative record folder were used in this study. The three areas were grades received, activities participated in, and character traits as measured subjectively by teacher evaluation.

Grades received were coded by number. Letter grades for A, B, C, D, and F were represented for the subjects of Arithmetic, Language, Reading, Writing, Spelling, Science, and Social Studies. The numerical equivalents used for the conversion are shown in Appendix B, page 59. An S grade (satisfactory) or a U grade (unsatisfactory) were given for participation in Physical Education, Art, and Music activities. (See Appendix B, page 59, for numerical equivalents). Character traits were rated by the teacher according to a high, average, or low classification. The specific traits of cooperation, independence, leadership, self reliance, emotional stability, originality, social awareness, and punctuality were rated. (See Appendix B, page 59, for numerical conversion.)

The number of times promoted was tested by comparing percentages of students who had been retained with percentages of students who had not been retained in each group.

Analysis of Data

The analysis of this datum was based on the nature of the sample. The population sampling and the interval scale of measurement for school

performance indicated the t-test of significance between means would be considered the most appropriate tool to test the hypotheses.

Grade point averages were computed for the seven academic subjects. The mean and standard deviation was calculated for each group. A t-test was applied to determine the level of significance between means. The data is reported by grade and year because any of the variables could change without notice.

An arithmetic mean was computed for participation in activities. The mean and standard deviation was calculated for each group by grade level. A t-test was applied to determine the level of significance between means. This datum is also reported in Chapter Four by grade and year.

An arithmetic mean was computed for the eight character traits rated by the teacher. The mean and standard deviation was calculated for each group. A t-test was applied to determine the level of significance. The results are reported in Chapter Four by grade and year.

This study is exploratory in nature and the results of these tests are computed to the .05 level of significance to test the hypotheses.

Summary

This chapter has outlined the procedures for examining and evaluating the data of this study. The t-test was chosen for its

usefulness in analyzing data of this type. Chapter Four will report the results of the study.

CHAPTER 4

RESULTS OF THE STUDY

Chapter Four is organized into three sections. The first section contains the presentation and interpretation of the findings. The second section contains a discussion of the results. The final section is a summary of the chapter.

Presentation and Interpretation of Findings

Four null hypotheses have been formulated for this study. They are:

1. There is no significant difference among grades received:
 - a. between children who live with their parents and those who live with other than their parents.
 - b. between children whose mother works and those whose mother remains at home to care for them.
 - c. between children who ride the bus and children who walk to school.
2. There is no significant difference among participation in activities:
 - a. between children who live with their parents and those who live with other than their parents.
 - b. between children whose mother works and those whose mother remains at home to care for them.

- c. between children who ride the bus and children who walk to school.

3. There is no significant difference among character traits as measured subjectively by teacher evaluation:

- a. between children who live with their parents and those who live with other than their parents.
- b. between children whose mother works and those whose mother remains at home to care for them.
- c. between children who ride the bus and children who walk to school.

4. There is no significant difference among number of times promoted:

- a. between children who live with their parents and those who live with other than their parents.
- b. between children whose mother works and those whose mother remains at home to care for them.
- c. between children who ride the bus and those who walk to school.

Each of these hypotheses has been statistically evaluated and will be presented in tabular form.

HYPOTHESES 1a, 2a, and 3a

Hypothesis 1a stated: There is no significant difference among grades received between children who live with their parents and those who live with other than their parents.

Hypothesis 2a stated: There is no significant difference among participation in activities between children who live with their parents and those who live with other than their parents.

Hypothesis 3a stated: There is no significant difference among character traits as measured subjectively by teacher evaluation between children who live with their parents and those who live with other than their parents.

Table 1, page 31, presents the means and standard deviations for grades received, participation in activities, and character traits for students who live with their parents and students who do not live with their parents.

Grades Received

Grade Two. The mean for grade two children who live with their parents is greater than the mean for grade two children who live with other than their parents.

The computed value of t is 16.49121. The value of Table t for this sample is 1.96. Since the computed value of t is greater than the critical value of t for this sample at the .05 level, the null hypothesis, "There is no significant difference among grades received between children who live with their parents and those who live with other than their parents," is rejected.

Table 1

Means, Standard Deviations and t Test Results for Grades Received, Participation in Activities and Character Traits for Students Who Lived With Their Parents and Students Who Did Not Live With Their Parents

	Living with Parents			Not Living with Parents			t-Test
	N	Mean	Standard Deviation	N	Mean	Standard Deviation	
Grades Received:							
Grade Two	243	3.98	1.04	4	3.13	1.07	^{1,62} 16.49121*
Grade Three	266	2.46	.78	4	2.59	.80	2.73364*
Grade Four	8	4.97	.19	0	0	.0	.00000
Participation in Activities:							
Grade One	266	6.31	1.17	4	6.25	.54	1.14929
Grade Two	266	6.19	.75	4	6.44	.65	5.45112*
Grade Three	266	5.41	.67	4	5.99	1.20	13.99406*
Grade Four	251	2.00	.20	4	1.99	.22	.84529
Subjective Character Traits as Measured by Teachers:							
Grade One	172	2.29	.42	3	2.20	.18	2.37268*
Grade Two	206	2.28	.42	3	2.16	.14	3.18490*
Grade Three	259	2.26	.46	4	2.09	.41	4.83741*
Grade Four	9	3.01	1.30	0	0	.00	.00000

* Significant beyond the .05 level

Grade three. The mean for grade three children who live with their parents is less than the mean for grade three children who live with other than their parents.

The computed value of t is 2.73364. The value of Table t for this sample is 1.96. Since the computed value of t is greater than the critical value of t for this sample at the .05 level, the null hypothesis, "There is no significant difference among grades received between children who live with their parents and those who live with other than their parents," is rejected.

Grade four. No evaluation was possible for grade four because of incomplete data.

Participation in Activities

Grade one. The mean for grade one children who live with their parents is greater than the mean for grade one children who live with other than their parents.

The computed value of t is 1.14929. The value of Table t for this sample is 1.96. Since the computed value of t is less than the critical value of t for this sample at the .05 level, the null hypothesis, "There is no significant difference among participation in activities between children who live with their parents and those who live with other than their parents," is not rejected.

Grade two. The mean for grade two children who live with their parents is less than the mean for grade two children who live with other than their parents.

The computed value of \underline{t} is 5.45112. The value of Table t for this sample is 1.96. Since the computed value of \underline{t} is greater than the critical value of \underline{t} for this sample at the .05 level, the null hypothesis, "There is no significant difference among participation in activities between children who live with their parents and those who live with other than their parents," is rejected.

Grade three. The mean for grade three children who live with their parents is less than the mean for grade three children who live with other than their parents.

The computed value of \underline{t} is 13.99406. The value of Table t for this sample is 1.96. Since the computed value of \underline{t} is greater than the critical value of \underline{t} for this sample at the .05 level, the null hypothesis, "There is no significant difference among participation in activities between children who live with their parents and those who live with other than their parents," is rejected.

Grade four. The mean for grade four children who live with their parents is greater than the mean for grade four children who live with other than their parents.

The computed value of \underline{t} is .84529. The value of Table t for

this sample is 1.96. Since the computed value of \underline{t} is less than the critical value of \underline{t} for this sample at the .05 level, the null hypothesis, "There is no significant difference among participation in activities between children who live with their parents and those who live with other than their parents," is not rejected.

Character Traits

Grade one. The mean for grade one children who live with their parents is greater than the mean for grade one children who live with other than their parents.

The computed value of \underline{t} is 2.37268. The value of Table t for this sample is 1.96. Since the computed value of \underline{t} is greater than the critical value of \underline{t} for this sample at the .05 level, the null hypothesis, "There is no significant difference among character traits as measured subjectively by teacher evaluation between children who live with their parents and those who live with other than their parents," is rejected.

Grade two. The mean for grade two children who live with their parents is greater than the mean for grade two children who live with other than their parents.

The computed value of \underline{t} is 2.37268. The value of Table t for this sample is 1.96. Since the computed value of \underline{t} is greater than the critical value of \underline{t} for this sample at the .05 level, the null

hypothesis, "There is no significant difference among character traits as measured subjectively by teacher evaluation between children who live with their parents and those who live with other than their parents," is rejected.

Grade three. The mean for grade three children who live with their parents is greater than the mean for grade three children who live with other than their parents.

The computed value of t is 4.83741. The value of Table t for this sample is 1.96. Since the computed value of t is greater than the critical value of t for this sample at the .05 level, the null hypothesis, "There is no significant difference among character traits as measured subjectively by teacher evaluation between children who live with their parents and those who live with other than their parents," is rejected.

Grade four. No evaluation was possible for grade four because of incomplete data.

The most important item Table 1 identifies is the number of students living with someone other than their parents. The sample group contained only four students in this category. This small n makes this category unreliable to test the school performance of students. Table 1 seems to indicate no particular trend in the performance of children. All but two t -tests are significant.

HYPOTHESIS 1b, 2b, and 3b

Hypothesis 1b stated: There is no significant difference among grades received between children whose mother works and those whose mother remains at home to care for them.

Hypothesis 2b stated: There is no significant difference among participation in activities between children whose mother works and those whose mother remains at home to care for them.

Hypothesis 3b stated: There is no significant difference among character traits as measured subjectively by teacher evaluation between children whose mother works and those whose mother remains at home to care for them.

Table 2, page 37, presents the mean and standard deviation for grades received, participation in activities, and character traits for children whose mother works and children whose mother remains at home to care for them.

Grades Received

Grade two. The mean for grade two children whose mother works is less than the mean for grade two children whose mother does not work.

The computed value of t is 14.50112. The value of Table t for this sample is 1.96. Since the computed value of t is greater than the critical value of t for this sample at the .05 level, the null hypothesis, "There is no significant difference among grades received between

Table 2

Means, Standard Deviations and t Test Results for Grades Received, Participation in Activities and Character Traits of Children Whose Mother Works and Children Whose Mother Remains at Home to Care for Them

	Mother Works			Mother Does Not Work			t-Test
	N	Mean	Standard Deviation	N	Mean	Standard Deviation	
Grades Received:							
Grade Two	50	3.80	1.08	191	4.03	1.03	14.50112*
Grade Three	54	2.39	.93	210	2.48	.74	6.56277*
Grade Four	2	4.90	.14	6	4.99	.21	2.59134*
Participation in Activities:							
Grade One	54	6.28	1.08	210	6.31	1.20	1.41467
Grade Two	54	6.16	1.01	210	6.21	.67	3.83709*
Grade Three	54	5.39	.93	210	5.41	.58	1.90252
Grade Four	53	2.06	.20	197	1.99	.20	9.23207*
Subjective Character Traits as Measured by Teachers:							
Grade One	42	2.32	.38	128	2.28	.43	3.49500*
Grade Two	46	2.23	.39	158	2.32	.42	6.68808*
Grade Three	52	2.20	.47	205	2.27	.46	6.81560*
Grade Four	2	2.22	.04	7	3.24	1.41	11.55719*

* Significant beyond the .05 level

children whose mother works and those whose mother remains at home to care for them," is rejected.

Grade three. The mean for grade three children whose mother works is less than the mean for grade three children whose mother remains at home.

The computed value of t is 6.56277. The value of Table t for this sample is 1.96. Since the computed value of t is greater than the critical value of t for this sample at the .05 level, the null hypothesis, "There is no significant difference among grades received between children whose mother works and those whose mother remains at home to care for them," is rejected.

Grade four. No analysis of grade four data is attempted because of the small sample size.

Participation in Activities

Grade one. The mean for grade one children whose mother works is less than the mean for grade one children whose mother remains at home to care for them.

The computed value of t is 1.41467. The value of Table t for this sample is 1.96. Since the computed value of t is less than the critical value of t for this sample at the .05 level, the null hypothesis, "There is no significant difference among participation in

activities between children whose mother works and those whose mother remains at home to care for them," is not rejected.

Grade two. The mean for grade two children whose mother works is less than the mean for grade two children whose mother remains at home to care for them.

The computed value of t is 3.83709. The value of Table t for this sample is 1.96. Since the computed value of t is greater than the critical value of t for this sample at the .05 level, the null hypothesis, "There is no significant difference among participation in activities between children whose mother works and those whose mother remains at home to care for them," is rejected.

Grade three. The mean for grade three children whose mother works is less than the mean for grade three children whose mother remains at home to care for them.

The computed value of t is 6.8808. The value of Table t for this sample is 1.96. Since the computed value of t is greater than the critical value of t for this sample at the .05 level, the null hypothesis, "There is no significant difference among participation in activities between children whose mother works and those whose mother remains at home to care for them," is rejected.

Grade four. The mean for grade four children whose mother works is less than the mean for grade four children whose mother remains at

home to care for them.

The computed value of \underline{t} is 11.55719. The value of Table t for this sample is 1.96. Since the computed value of \underline{t} is greater than the critical value of \underline{t} for this sample at the .05 level, the null hypothesis, "There is no significant difference among participation in activities between children whose mother works and those whose mother remains at home to care for them," is rejected.

Character Traits

Grade one. The mean for grade one children whose mother works is greater than the mean for grade one children whose mother remains at home.

The computed value of \underline{t} is 3.49500. The value of Table t for this sample is 1.96. Since the computed value of \underline{t} is greater than the critical value of \underline{t} for this sample at the .05 level, the null hypothesis, "There is no significant difference among character traits as measured subjectively by teacher evaluation between children whose mother works and those whose mother remains at home to care for them," is rejected.

Grade two. The mean for grade two children whose mother works is less than the mean for grade two children whose mother remains at home.

The computed value of \underline{t} is 6.68808. The value of Table t for

this sample is 1.96. Since the computed value of \underline{t} is greater than the critical value of \underline{t} for this sample at the .05 level, the null hypothesis, "There is no significant difference among character traits as measured subjectively by teacher evaluation between children whose mother works and those whose mother remains at home to care for them," is rejected.

Grade three. The mean for grade three children whose mother works is less than the mean for grade three children whose mother remains at home.

The computed value of \underline{t} is 6.81560. The value of Table t for this sample is 1.96. Since the computed value of \underline{t} is greater than the critical value of \underline{t} for this sample at the .05 level, the null hypothesis, "There is no significant difference among character traits as measured subjectively by teacher evaluation between children whose mother works and those whose mother remains at home to care for them," is rejected.

Grade four. The mean for grade four children whose mother works is less than the mean for grade four children whose mother remains at home.

The computed value of \underline{t} is 11.55719. The value of Table t for this sample is 1.96. Since the computed value of \underline{t} is greater than the critical value of \underline{t} for this sample at the .05 level, the null hypothesis, "There is no significant difference among character traits

as measured subjectively by teacher evaluation between children whose mother works and those whose mother remains at home to care for them," is rejected.

Table 2 shows consistently higher means for grades received at all grade levels for children whose mother remains at home to care for them.

HYPOTHESES 1c, 2c, and 3c

Hypothesis 1c stated: There is no significant difference among grades received between children who ride the bus and children who walk to school.

Hypothesis 2c stated: There is no significant difference among participation in activities between children who ride the bus and children who walk to school.

Hypothesis 3c states: There is no significant difference among character traits as measured subjectively by teacher evaluation between children who ride the bus and children who walk to school.

Table 3, page 43, presents the mean and standard deviation for grades received, participation in activities, and character traits for children who ride the bus and children who walk to school.

Grades Received

Grade two. The mean for grade two children who ride the bus is

Table 3

Means, Standard Deviations, and t Test Results for Grades Received, Participation in Activities and Character Traits of Children Who Ride the Bus and Children Who Walk to School

	Walk to School			Ride the Bus			t-Test
	N	Mean	Standard Deviation	N	Mean	Standard Deviation	
Grades Received:							
Grade Two	143	4.64	1.44	75	4.52	1.52	4.05627*
Grade Three	166	3.96	1.04	84	3.98	1.04	.86115
Grade Four	186	2.48	.79	87	2.40	.75	6.99710*
Participation in Activities:							
Grade One	5	4.99	.19	3	4.93	.22	1.99551*
Grade Two	186	6.34	1.09	87	6.21	1.32	9.09546*
Grade Three	186	6.15	.74	87	6.32	.75	15.52119*
Grade Four	186	5.39	.67	87	5.47	.68	7.80232*
Subjective Character Traits as Measured by Teachers:							
Grade One	176	2.01	.20	82	2.00	.21	2.39834*
Grade Two	113	2.31	.43	63	2.23	.41	7.63472*
Grade Three	138	2.31	.40	73	2.20	.43	11.82910*
Grade Four	183	2.26	.47	83	2.24	.41	2.15195*

* Significant beyond the .05 level

less than the mean for grade two children who walk to school.

The computed value of \underline{t} is 4.05627. The value of Table t for this sample is 1.96. Since the computed value of \underline{t} is greater than the critical value of \underline{t} for this sample at the .05 level, the null hypothesis, "There is no significant difference among grades received between children who ride the bus and children who walk to school," is rejected.

Grade three. The mean for grade three children who ride the bus is greater than the mean for grade three children who walk to school.

The computed value of \underline{t} is .86115. The value of Table t for this sample is 1.96. Since the computed value of \underline{t} is less than the critical value of \underline{t} for this sample at the .05 level, the null hypothesis, "There is no significant difference among grades received between children who ride the bus and children who walk to school," is not rejected.

Grade four. The mean for grade four children who ride the bus is less than the mean for grade three children who walk to school.

The computed value of \underline{t} is 6.99710. The value of Table t for this sample is 1.96. Since the computed value of \underline{t} is greater than the critical value of \underline{t} for this sample at the .05 level, the null hypothesis, "There is no significant difference among grades received between children who ride the bus and children who walk to school," is rejected.

Participation in Activities

Grade one. The mean for grade one children who ride the bus is less than the mean for grade one children who walk to school.

The computed value of t is 1.99551. The value of Table t for this sample is 1.96. Since the computed value of t is greater than the critical value of t for this sample at the .05 level, the null hypothesis, "There is no significant difference among participation in activities between children who ride the bus and children who walk to school," is rejected.

Grade two. The mean for grade two children who ride the bus is less than the mean for grade two children who walk to school.

The computed value of t is 9.09546. The value of Table t for this sample is 1.96. Since the computed value of t is greater than the critical value of t for this sample at the .05 level, the null hypothesis, "There is no significant difference among participation in activities between children who ride the bus and children who walk to school," is rejected.

Grade three. The mean for grade three children who ride the bus is greater than the mean for grade three children who walk to school.

The computed value of t is 15.52119. The value of Table t for this sample is 1.96. Since the computed value of t is greater than the critical value of t for this sample at the .05 level, the null

hypothesis, "There is no significant difference among participation in activities between children who ride the bus and children who walk to school," is rejected.

Grade four. The mean for grade four children who ride the bus is greater than the mean for grade four children who walk to school.

The computed value of t is 7.80232. The value of Table t for this sample is 1.96. Since the computed value of t is greater than the critical value of t for this sample at the .05 level, the null hypothesis, "There is no significant difference among participation in activities between children who ride the bus and children who walk to school," is rejected.

Character Traits

Grade one. The mean for grade one children who ride the bus is less than the mean for grade one children who walk to school.

The computed value of t is 2.39834. The value of Table t for this sample is 1.96. Since the computed value of t is greater than the critical value of t for this sample at the .05 level, the null hypothesis, "There is no significant difference among character traits as measured subjectively by teacher evaluation between children who ride the bus and children who walk to school," is rejected.

Grade two. The mean for grade two children who ride the bus is less than the mean for grade two children who walk to school.

The computed value of t is 7.63472. The value of Table t for this sample is 1.96. Since the computed value of t is greater than the critical value of t for this sample at the .05 level, the null hypothesis, "There is no significant difference among character traits as measured subjectively by teacher evaluation between children who ride the bus and children who walk to school," is rejected.

Grade three. The mean for grade three children who ride the bus is less than the mean for grade three children who walk to school.

The computed value of t is 11.82910. The value of Table t for this sample is 1.96. Since the computed value of t is greater than the critical value of t for this sample at the .05 level, the null hypothesis, "There is no significant difference among character traits as measured subjectively by teacher evaluation between children who ride the bus and children who walk to school," is rejected.

Grade four. The mean for grade four children who ride the bus is less than the mean for grade four children who walk to school.

The computed value of t is 2.15195. The value of Table t for this sample is 1.96. Since the computed value of t is greater than the critical value of t for this sample at the .05 level, the null hypothesis, "There is no significant difference among character traits

as measured subjectively by teacher evaluation between children who ride the bus and children who walk to school," is rejected.

The means of Table 3 show a very comparable distribution. All results but one are significant.

HYPOTHESIS 4

Hypothesis 4 stated: There is no significant difference among number of times promoted between:

- a. children who live with their parents and children who live with other than their parents.
- b. children whose mother works and those whose mother remains at home to care for them.
- c. children who walk to school and those who ride the bus.

Data for this question comes from tabulation of students using more than one promotion to complete one grade of school. Table 4, page 49, presents the number and percentage of students who have used more than one promotion to complete one grade of school.

According to Table 4, retentions are evenly distributed among the categories of the hypothesis. No significant difference is noted. It seems to make little difference as far as retentions are concerned whether a child's mother works or stays at home or whether he walks to school or rides the bus.

Table 4

Number and Percentage of Students Who Used More Than One Promotion to Complete One Year of School

	Total	Students with Extra Promotions	Percentage
Living with Parents	266	--	--
Not Living with Parents	---	---	---
Mother Works	54	6	11.1
Mother Does Not Work	210	24	11.4
Walk to School	186	21	11.3
Ride the bus	87	9	10.3

DISCUSSION

Significant differences were found in all categories of school performance between:

a. children who lived with their parents and children who lived with other than their parents.

b. children whose mother worked and children whose mother stayed at home to care for them.

c. children who walked to school and children who rode the bus.

It is beyond the scope of this study to determine reasons for the differences but some discussion is warranted. Small sample groups in some cases could have affected the results when testing performance of individual grade levels. Unusual ability or special handicap

children in the group could affect the results of school performance.

Two categories did show a consistent trend of results. The character traits portion of Table 3, page 43, shows a higher mean for children who walk to school at all four grade levels. All results are significant as a comparison of computed values of t in the table with the critical value of t for this sample at the .05 level will show. The grades received portion of Table 2, page 37, grade two, grade three, and grade four children whose mothers do not work shows a higher mean than those children whose mothers work. All three of these differences are significant at the .05 level for this sample.

SUMMARY

This study sought to identify the relationship between certain cumulative record information and performance in school as measured by grades received, participation in activities, and character traits evaluated subjectively by teachers. Means and standard deviations were calculated from performance data. A t test was applied to the difference between means. Significant differences were noted in the results from all three categories. Data analyzed indicated that differences existed in the performance of students. No consistent trend was noted in these differences.

This chapter presented the findings and a discussion of the results. Chapter Five contains a summary of the study with conclusions and recommendations.

CHAPTER 5.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Chapter Five includes a summary of the study, conclusions drawn from the analysis of the data, and recommendations based on the findings of the study.

SUMMARY

This study was an evaluation of the validity of certain assumptions drawn from cumulative records in the elementary school.

Literature related to the research was reviewed and reported under three categories: (1) growth and use of cumulative records; (2) effect of parent absence, temporarily or permanently, upon children; and (3) effect of busing children.

The population for this study consisted of grade one, grade two, grade three, and grade four children in the Bozeman Public School system whose cumulative records had been recorded on computer tape. The students were in the Bozeman School System during 1968-1971.

Performance in grades received, performance in participation in school activities, and performance in character traits as measured subjectively by teacher evaluation were examined according to the comparison of whether these students:

- a. lived with their parents or someone other than their parents,
- b. had working mothers or mothers that remained at home to care for them, or

c. walked to school or rode the bus.

Statistical analysis of the data included computations of the mean, standard deviation, t-test of difference between means, and an analysis of variance. Each relationship pertinent to this study was analyzed and subjected to tests of significance according to a stated level of acceptance and was presented in tabular form.

CONCLUSIONS

When the statistical analysis was applied to the study, significant differences resulted in each category. Therefore, the four null hypotheses were rejected. Although the significant differences did not occur consistently at particular grade levels, more complete testing is necessary to determine the relationship between the school performance and cumulative record information.

→ The results of this study indicate some interaction between school performance as measured by grades received, participation in activities, and character traits measured subjectively by teacher evaluation and:

- a. whether a child lives with his parents or someone other than his parents,
 - b. whether his mother works or remains at home to care for him,
- and,
- c. whether he walks to school or rides the bus.

RECOMMENDATIONS

Identifying and predicting performance of school children is one of the goals of a cumulative record system. This study was an evaluation of certain information from the cumulative records of elementary students as a predictor of school performance. *Recommendation: The Bozeman School System should not expect a standard of performance based on the conditions:

- a. Does a student live with his parents or someone other than his parents?
- b. Does the child's mother work or remain at home to care for him?
- c. Does the child walk to school or ride the bus?

This study was confined to elementary school children who may not show full effects of changes in their home situation. *Recommendation: This study should be replicated using older students as a population.

The population of this study was limited to grades one through four of the Bozeman Public School System. *Recommendation: The grade levels in this study should be expanded to include kindergarten through grade twelve.

This study considered only achievement areas of school from the teacher viewpoint. *Recommendation: Other criteria such as adjustment and acceptance by peers should be considered and measured from student ratings and the parent viewpoint.

The statistical results of this study showed unexpected results in the analysis of school performance for these children. In most cases, the null hypothesis was rejected. Recommendation: This study → should be repeated in another city with characteristics similar to Bozeman.

APPENDICES

APPENDIX A

Form Used to Transcribe

Data From Student Cumulative Records

Student Yr. Ent Name
Number Gr. 1

 Birth Date With Whom Resides Mother's Occupation Rides No. Bus Sib- lings Year Entered Boz.Sys. Card No.

 Card No. 1

Test Scores:
 Student Yr. Ent Test Raw Test Raw Test Raw Test Raw
 No. Gr. 1 No. Score No. Score No. Score No. Score

 T.N. R.S. T.N. R.S. T.N. R.S. T.N. R.S. T.N. R.S.

 T.N. R.S. T.N. R.S. T.N. R.S. T.N. R.S. T.N. R.S.

 Card No. 2

Test Scores:
 Student Yr. Ent Test Raw Test Raw Test Raw Test Raw
 No. Gr. 1 No. Score No. Score No. Score No. Score

 T.N. R.S. T.N. R.S. T.N. R.S. T.N. R.S. T.N. R.S.

 T.N. R.S. T.N. R.S. T.N. R.S. T.N. R.S. T.N. R.S.

 Card No. 3

Test Scores:
 Student Yr. Ent Test Raw Test Raw Test Raw Test Raw
 No. Gr. 1 No. Score No. Score No. Score No. Score

 T.N. R.S. T.N. R.S. T.N. R.S. T.N. R.S. T.N. R.S.

 T.N. R.S. T.N. R.S. T.N. R.S. T.N. R.S. T.N. R.S.

 Card No. 4

Test Scores:
 Student Yr. Ent Test Raw Test Raw Test Raw Test Raw
 No. Gr. 1 No. Score No. Score No. Score No. Score

 T.N. R.S. T.N. R.S. T.N. R.S. T.N. R.S. T.N. R.S.

 T.N. R.S. T.N. R.S. T.N. R.S. T.N. R.S. T.N. R.S.

 Card No. 5

Test Scores:

Student Number	Yr. Ent Gr. 1	Test No.	Raw Score	Test No.	Raw Score	Test No.	Raw Score	Test No.	Raw Score
----------------	---------------	----------	-----------	----------	-----------	----------	-----------	----------	-----------

T.N.	R.S.	T.N.	R.S.	T.N.	R.S.	T.N.	R.S.	T.N.	R.S.
------	------	------	------	------	------	------	------	------	------

T.N.	R.S.	T.N.	R.S.	T.N.	R.S.	T.N.	R.S.	T.N.	R.S.
------	------	------	------	------	------	------	------	------	------

Card No.

Card No. 6

Academic Progress:

KINDERGARTEN: Subject Grades

Student No.	Yr. Ent Gr. 1	No. Times Promoted	No. Times Retained	Arit	Lang	Read	Writ	Spel	Heal	Scie	Soci	P.E.	Art St
-------------	---------------	--------------------	--------------------	------	------	------	------	------	------	------	------	------	--------

Character Traits:

Mus	Band	Orch	Phon	Coop	Ind	Lead	Sel	Emp	Orig	Soc	Punc	No. Days Missed	Tch Eval
-----	------	------	------	------	-----	------	-----	-----	------	-----	------	-----------------	----------

FIRST GRADE: Subject Grades

Arit	Lang	Read	Writ	Spel	Heal	Scie	Soci	P.E.	Art	Mus	Band	Orch	Phon	Coop	Ind	Lead
------	------	------	------	------	------	------	------	------	-----	-----	------	------	------	------	-----	------

Character Traits:

Sel	Emp	Orig	Soc	Punc	No. Days Missed	Tch Eval	Card No.
-----	-----	------	-----	------	-----------------	----------	----------

Card No. 7

Academic Progress:

SECOND GRADE: Subject Grades

Student No.	Yr. Ent Gr. 1	No. Times Promoted	No. Times Retained	Arit	Lang	Read	Writ	Spel	Heal	Scie	Soci	P.E.	Art St
-------------	---------------	--------------------	--------------------	------	------	------	------	------	------	------	------	------	--------

Character Traits:

Mus	Band	Orch	Phon	Coop	Ind	Lead	Sel	Emp	Orig	Soc	Punc	No. Days Missed	Tch Eval
-----	------	------	------	------	-----	------	-----	-----	------	-----	------	-----------------	----------

THIRD GRADE: Subject Grades

Arit	Lang	Read	Writ	Spel	Heal	Scie	Soci	P.E.	Art	Mus	Band	Orch	Phon	Coop	Ind	Lead
------	------	------	------	------	------	------	------	------	-----	-----	------	------	------	------	-----	------

Character Traits:

Sel	Emp	Orig	Soc	Punc	No. Days Missed	Tch Eval	Card No.
-----	-----	------	-----	------	-----------------	----------	----------

Card No. 8

Academic Progress:

Student No.	Yr. Ent Gr. 1	No. Times Promoted	No. Times Retained	Arit	Lang	Read	Writ	Spel	Heal	Scie	Soci	P.E.	Art St
-------------	---------------	--------------------	--------------------	------	------	------	------	------	------	------	------	------	--------

Character Traits:

Mus	Band	Orch	Phon	Coop	Ind	Lead	Sel	Emp	Orig	Soc	Punc	No. Days Missed	Tch Eval	Card No.
-----	------	------	------	------	-----	------	-----	-----	------	-----	------	-----------------	----------	----------

Card No. 9

APPENDIX B
Numerical Equivalents
of Grades Used in Cumulative Records

Number Equivalents for Academic Subjects of Arithmetic, Language, Reading, Writing, Spelling, Science and Social Studies.

<u>Grade</u>	<u>Numerical Equivalent</u>
A	4
B	3
C	2
D	1
F	0

Number Equivalents for Participation in School Activities of Physical Education, Art and Music.

<u>Grade</u>	<u>Numerical Equivalent</u>
S	7
U	8

Number Equivalents for Teacher Evaluation of Character Traits of Cooperation, Independence, Leadership, Self Reliance, Emotional Stability, Originality, Social Awareness and Punctuality.

<u>Grade</u>	<u>Numerical Equivalent</u>
High	1
Average	2
Low	3

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