THE RELATIONSHIP BETWEEN AGE AT SCHOOL ENTRANCE AND LATER NEED FOR REMEDIAL SERVICES

by

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ABSTRACT

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Every year school districts struggle with how to meet the needs of their students, particularly those deemed weak in academic areas. Thousands of dollars are poured into remedial services, including the hiring of additional staff members and the purchasing of support materials. In many districts, it is not uncommon for up to one-third of kindergartners through second graders to qualify for assistance outside of the regular classroom. This study focuses on the age of K-2 students, based on their birth month, (which determines whether they are considered young or old for their grade) who receive remedial assistance outside of the regular classroom. The question of whether or not age, maturity and readiness levels are related to academic success is addressed.

In this research project, the school entry age of kindergarten, first and second grade students is examined to determine who is young or old for their grade level. Children identified as old for their grade have birth dates falling in September, October, November or December. Children who entered school with birth dates falling in May, June, July or August are considered young for their grade. (Children with birth dates in the middle

months of the school year are excluded from the study, as they are considered neither young nor old for their grade. Also excluded were students who were early or late entrants, as well as those formally enrolled in special education programs.) The lists of old and young students are cross-referenced with lists of students involved in remedial programs to determine if a relationship exists between the ages of K-2 students and the need for remedial services.

Utilizing the chi square format with a .05 confidence level, it was determined that a statistical link exists between the age of school entry for kindergarten students and the need for outside remedial assistance. However, this was not the case for first or second grade students. No statistical link was found when comparing age and the need for remedial programs. It would appear that the school entry age of students is not a significant factor in academic success or failure.

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CHAPTER I

INTRODUCTION

In 1995, the first National Education Goal stated, "By the year 2000, all children in America will start school ready to learn" (Meisels, 1995, p. 18). As we enter the new millennium, school districts are forced to ask themselves if this has been a realistic goal. They are faced with the challenges of meeting the ever-increasing diversity of student needs, incorporating new state standards to "raise the bar" of educational performance, dealing with severely tightened state and local budgets, which, in effect, often force cuts in valuable educational programs. At the same time, academic expectations and educational accountability have increased (Meisels, 1995). "Responding to the demands of the public, administrators and legislators, educators have provided a more rigorous academic program by shifting the curriculum downward." (Narahara, 1998, p. 6). The National Association for the Education of Young Children (NAEYC) believes that "expectations have become increasingly high and unrealistic as the curriculum from upper grades has been pushed down to lower levels, thus dooming large numbers of young children to inevitable failure" (Charlesworth, 1989, p. 5). Therefore, more remedial assistance than ever before has been required to facilitate academic success for youngsters. It is questionable whether or not students at the kindergarten level are able to effectively handle the increased educational demands. Are the current demands developmentally appropriate? What can parents and educators do to maximize a child's potential to be academically successful?

"School districts are in a quandary as they try to design curriculum to meet the developmental needs of children as well as fulfill the established academic goals of the curriculum" (Narahara, 1998 , p. 10). In the school district in which this study occurred, administrators and educators provide several elementary remedial programs to meet

these needs and goals. Annually, $7,717. 00 per year is spent for each enrolled student in the district. Out of a budget of $16,536,821.00, $408,107.00 is spent on remediation staffing and supplies. These remedial programs include Title I services for qualifying students in first through fourth grade, Early School Success programming for "at risk" kindergartners, Early Success programming for "at risk" first and second graders and Project Power for third and fourth graders who are deemed "at risk" in reading or math areas. The remediation budget does not include special education funding which serves students with emotional disturbances, cognitive disabilities-borderline, cognitive disabilities-severe, learning disabilities, physical or occupational therapy needs, speech and language services or early childhood education.

In regular, full-day kindergarten classes, it has been common to find over one-third of the students enrolled receiving remedial assistance sometime during the day. This high percentage has been consistent with the enrollment of remedial students in many other elementary classrooms in the participating district. It has also been noted that over the years many of the students requiring remedial assistance have had birthdays falling in the second half of the school year. This supports the contention of many teachers that maturity plays a significant role in academic performance and school success. One study reports that "...students who hold a younger age position in the classroom are not sufficiently ready for school and therefore are at risk for underachievement and school difficulties including social-emotional /classroom behaviors and visual-motor/handwriting skills." The study goes on to state that ..."even very bright children are at a disadvantage if they are relatively younger than their classmates" (Sweeney, 1995, p. 173). Ames (1983) as cited by Shank (1990, p. 581) stated:

> It is sad to think all too many children in this country whose parents...accept the diagnosis of learning disability without at least pursuing the possibility that their

child's poor school adjustment might be due simply to immaturity and unreadiness..."

If a relationship between younger students and the need for remedial services could be determined, then parents, educators and school administrators could address the issue and possibly save thousands of dollars annually. As important as that may seem in a time of limited educational funding and revenue caps, a more valuable benefit could be reaped by the students. Children who have experienced repeated failures face the challenges of learned helplessness and the risk of being mislabeled as mildly handicapped. These children often learn to use failure to judge themselves as personally incompetent rather than using it as feedback to improve their performance (Shank, 1990). Experiencing a higher degree of independent academic success could boost a student's self-esteem and confidence level, encourage productivity and constructive risk-taking, foster a lifelong love of learning, and be very intrinsically and extrinsically motivational . One study reported if children were enrolled in school based on their developmental age instead of their chronological age, the amount of school success a child would experience would vastly increase and there would be a dramatic decrease in the number of school failures and the need for remedial work (Sweeney, 1995).

A review of the literature shows that "...all too many children do start school before they are ready. As a result, their entire school experience may be compromised" (Ames, 1986, p. 30). Studies have also shown that younger children have more academic and social difficulties and tend to remain behind their older peers. Therefore, the research hypothesis for this study is that children who are young for their grade will require more remedial services to meet academic expectations.

STATEMENT OF PROBLEM

The purpose of this study is to identify the link between the birth dates of K-2 students in remedial programs and the level of assistance they require from their teachers as measured by the enrollment in remedial programs.

NULL HYPOTHESIS

There is no statistically significant difference between the observed and expected frequencies regarding the amount of remedial assistance required in relationship to the age of the students.

DEFINITION OF TERMS

Cut-off date--The date at which a child must be a required age to enter school. In Wisconsin, a child must turn five by September 1.

Delayed entrance--The practice of holding back a child from entering kindergarten who is otherwise age-eligible.

Readiness--A nonstandardized word used to describe how prepared a child is to begin formal schooling.

Older student/Old for the grade--"A relative term used to describe the older-aged child in relation to the other members in his cohort or class" (Narahara, 1998, p. 3). A child who has a birthday in September, October, November or December.

Younger student/Young for the grade--"A relative term used to describe the younger-aged child in relation to other members of his cohort or class" (Narahara, 1998, p. 3). A child who

has a birthday in May, June, July or August.

CHAPTER II

REVIEW OF LITERATURE

Introduction

In this chapter, factors related to academic achievement will be explored. The chapter will focus on four areas of research, including school entrance age, age-grade placement and overplacement, birth dates and failure rates, and attitudes and opinions regarding students who are young for their grade.

School Entrance Age

The age at which children begin school varies from state to state. The parameters, in the form of cutoff dates by which children must have attained legal school age are arbitrarily set by each state (Sweeney, 1995). In some states, a child must be of legal age by January 1 to attend school, while in other states a cutoff date of September 1 might be utilized. Therefore, if a child is born in October, he may be considered old or young for his grade, depending upon the state in which he is enrolled. "School cutoff dates, therefore, directly affect a student's age position relative to other students in the classroom" (Sweeney, 1995, p. 172).

There are two schools of thought to be considered regarding the age at which children should begin formal schooling. The first is that age is arbitrary, and there will always be children who are younger and older in each class. Furthermore, since each child enters school with a wide range of prior experiences and levels of maturity, every child should be allowed to enter school by a predetermined eligibility date (Charlesworth, 1989). It is believed by many that this is the most fair and equitable solution. Furthermore, proponents of this train of thought believe that delaying the entry for

children who may not be "ready" for school will only "exclude them from rich learning experiences," which will, in effect, put them more behind (Charlesworth, 1989). Research conducted by Shepherd and Smith in 1986 suggests that the effects of age on overall achievement are small and disappear by third grade (Charlesworth, 1989). The National Association for the Education of Young Children (NAEYC) also believes that "...public schools should encourage the school entrance of all children of legal age and that public school systems should adjust to the individual developmental needs of children..." (Sweeney, 1985, p. 185). Therefore, the benefits of delaying school entrance of a child are believed to be minimal.

The other side of the school entrance age debate is that delaying the onset of formal education for children who are deemed "young for their grade" is beneficial. In a 1975 study conducted by Moore and Moore, as cited in the 1989 research of Charlesworth, it was suggested that "children are neither neurologically or physiologically ready for formal schooling until at least age 8." At the Gesell Institute of Human Development in New Haven, Connecticut, it is believed that "All too many children do start school before they are ready. As a result, their entire school experience may be compromised" (Ames, 1986, p. 30). Dr. Gesell stated in 1919 that it was "lack of school readiness and not lack of intelligence that was causing almost one out of every four first graders to fail" (Ames, 1986, p. 30). Sweeney (1995, p. 172) states that children who are young for their grade are "at risk for underachievement and school difficulties including social-emotional/classroom behaviors and visual-motor/handwriting skills." It is widely believed by many that "no matter how intelligent the children may be, entrance into school before they are developmentally ready could set them up for failure" (King, 1984, p. 2).

Proponents of delaying the school entry of "unready" children support preschool developmental screenings to determine a child's level of school readiness. There are any

number of assessment tools such as the Gesell Preschool Test, Printing Performance School Readiness Test, Draw A Person Test, the Lollipop Test and the Holbrook Screening Battery which boast of an 80-89% accuracy rate in identifying children at risk for school failure (Shank,1990). However, it is also noted that the most accurate picture of a child's readiness for school is determined by using more than one measurement and spreading the assessments out over different testing periods. Those deemed ready for school are subsequently enrolled in a traditional kindergarten program while those not ready are placed in a developmental or pre-kindergarten setting. The goal is to "move each child as far forward in his or her development as possible" (Shank, 1990, p. 583).

Age-Grade Placement

"Birthday age and the age at which any child is actually performing by no means always coincide. Indeed, in classrooms grouped according to chronological age, the range in developmental ages of the children can be as great as two and a half years" (Ames, 1986, p. 30). School-aged children whose chronological age exceeds their developmental age (sometimes referred to as "behavior age") are considered to be "overplaced." Overplaced children demonstrate patterns of behavior "typical of children who are six months to one-and-one-half years younger" (Shank, 1990, p. 579). They often exhibit erratic school achievement despite a high potential, social maladjustments, and physical immaturity. They may act out or display a great deal of apathy (Hammond, 1986). Hammond (1986) believes that this includes one-third of all children who are in the primary grades, many of whom are improperly placed in various special education and remedial programs. Children who are developmentally young for their grade may exhibit many characteristics of a child with a learning disability, such as attention-span difficulties, reading and behavior problems. However, placement in a special education setting would

neither be necessary nor appropriate if the child were placed in a classroom that met the needs of his or her developmental age rather than the chronological age. It has been estimated that failure rates could be cut down by 50 percent if behavior age were the criterion used to determine readiness for school and subsequent grade promotions (Ames, 1986).

As academic demands and expectations increase, many researchers advocate the placement of children in educational settings of continuous progress and multiage grouping. In this type of situation, traditional graded classrooms would be eliminated, and children would be allowed to progress through various blocks at their own rate. It would accommodate a child's biological clock rather than relying on a birthdate, and could provide all children the opportunity to be the oldest and most mature at some point during their educational experience (Charlesworth, 1989).

Birth Dates and Failure Rates

There is conflicting evidence as to whether or not a link exists between birth dates and academic failure rates. In a study conducted by Sammie Campbell (1985) with elementary- and middle school-aged children, it was found that "the proportion of younger entrants who received remedial instruction outside the regular classroom was significantly greater than the proportion of older entrants who received remedial instruction outside of the regular classroom (p. 3)." Furthermore, research indicates that "...children who are delayed in overall maturation can be predicted to fail academically." (King, 1984, p. 1). In a study conducted by Texas Technical University of 374 children with learning disabilities in grades one through twelve, approximately half of the students had birthdays which put them among the youngest third of their class--a statistically significant finding (Ames, 1986). De Lemos (1981) as cited by Grifflin and Harvey (1995, p. 28) states

"...children who are older are usually more mature. Therefore, they begin school having an initial advantage over younger children," thus decreasing their chances for failure.

Not all research supports the contention that age plays a role in academic failure. Many studies--which include the Elizabethtown Studies in 1962 and 1985, the Miller and Norris Study in 1967, and investigations completed by Gott in 1968 as well as by Iilka in 1969--found that although the performance levels were lower for younger students than those of older students, both groups of children were making adequate progress in schools because their rate of achievement gain was essentially the same (Gredler, 1992). In more recent studies such as Carrington's study in 1982, findings were similar. It has been noted that "...younger-aged children do as well academically as do older children" (Gredler, 1992).

Attitudes and Opinions Regarding Young Students

The well-known researcher, Jean Piaget, conducted extensive research during the 1950's -1980's on the cognitive development of children. He identified four major periods of development that all children go through sequentially. These are the "sensorimotor" stage from birth to two years, the "preoperational" stage from two to seven years, the "concrete operations" stage from seven to eleven years and the "formal operations" stage from eleven years old and beyond (Shaffer, 1993). Piaget did acknowldedge, however, that there can be "tremendous individual differences in the ages that children enter or emerge from any particular stage" (Shaffer, 1993, p. 241). Furthermore, Piaget believed that cultural and environmental factors may either accelerate or retard a child's intellectual growth rate (Shaffer, 1993).

Most children begin formal schooling sometime during Piaget's preoperational stage of development. This stage is divided into two substages; the "preconceptual" period and

the "intuitive" period. The preconceptual substage typically occurs between the ages of two and four, and is marked by the ability of the child to make one thing (ie: word or object) represent something else. This is often referred to as the "semiotic function"--the most obvious form being the development of language (Shaffer, 1993).

The second substage or "intuitive period," usually occurs between the ages of four and seven. During this developmental stage children are able to extend their thought processes. They are much more proficient at classifying objects according to attributes and are more able to think about things outside themselves. They are not yet fully able to think logically or rationally, but are moving in that direction (Shaffer, 1993).

Piaget, himself, indicated a large degree of age variance when emerging into or exiting from cognitive stages. He believed that "...biological maturation plays an important role in determining how a child thinks" (Shaffer, 1993, p. 240). One can imagine the challenges of educating a group of young children; some of whom are functioning cognitively at a beginning level of the preoperational stage, while others may be exiting that phase and entering the stage of concrete operations. Perhaps evaluating a child's level of cognitive readiness before beginning formal schooling could decrease the chances for academic failure.

Although plenty of research exists that indicate children who are young for their grade are not academically disadvantaged when compared to older peers, that is not the viewpoint most commonly shared by educational professionals. "Many educators claim that a child's developmental maturity is the key predictor of success at school" (Griffin & Harvey, 1995, p. 27), which supports Piaget's beliefs. Characteristics of being developmentally ready for school were described by kindergarten teachers surveyed from 555 schools in North Carolina. The first trait mentioned was having an appropriate attention span (Zill, Loomis & West, 1997). As a child matures, his/her attention span

increases. The average attention span of a two-year-old is seven minutes. A typical four-year old has an attention span of 12 minutes; a six-year-old should be able to attend for 18 minutes while an 8-year old should be able to listen attentively for nearly a half an hour (Schaeffer & Millman, 1981). Educating a room full of young children who may be functioning anywhere within Piaget's preoperational stage with an attention span variance from seven to thirty minutes, can be challenging for the most experienced of professionals.

Other developmental factors also deemed important by teachers were having appropriate social skills, motor skills and being able to effectively communicate (Zill, Loomis & West, 1997). Furthermore, many academic difficulties can be attributed to the developmental unreadiness of children (Peel, 1997). Teachers report having to spend more time dealing with the behaviors of socially immature children and more time providing remedial instruction to those children who lag behind academically. It is believed that delaying the entrance of the developmentally unready child would therefore benefit the whole class. It would allow the teacher more time to spend with the entire class, rather than on just a few "needier" students (Zill, Loomis & West, 1997).

Even substantial numbers of parents believe that an academic advantage will be gained by delaying the school entrance of children who are young for their grade (Crosser, 1998). "Some parents have chosen to delay their children's enrollment in kindergarten by a year because of individual differences in the pace and pattern of children's development" (Zill, Loomis & West, 1997, p. 1). Maturity was the most common reason given by parents, as they believed their child would be more capable of handling the demands of kindergarten and possibly gain an "edge" over his or her peers (Zill, Loomis & West, 1997). Zill, Loomis and West also stated that "All young children are 'ready to learn,' but not all children are prepared to concentrate on a task for extended periods of time, hold a pencil properly, identify most of the letters of the alphabet, or take turns and share things with

other children" (1997, p. 1). In many instances, the practice of delaying the entrance of children deemed unready proved beneficial for the child. The school performance in first and second grade of the delayed child was found to be better than that of peers who entered kindergarten at the prescribed age (Zill, Loomis & West, 1997).

With higher standards fixed by state and local agencies, larger class sizes and an increasing amount of administrative paperwork, teachers are finding it difficult to treat a broad range of children individually. Unfortunate as it may be, it has become somewhat unrealistic to match the curriculum to the students. It is much more common to fit the children into the curriculum (Charlesworth, 1989). It is believed by many education professionals that an older, more mature student will be able to adjust better and experience more success in school. In a survey of thirty-two principals and 112 teachers from public and private schools, 81 percent of principals and 79 percent of teachers believe that younger children have more problems coping academically and experience more social problems than their older peers. Furthermore, over half of the principals and teachers believe the younger students never catch up to the older students in their grade (Griffin & Harvey, 1995). In a study conducted by DeMeis and Stearns (1992), it was noted that early academic and social difficulties due to immaturity can eventually lead to long-term problems (p. 20). Interestingly, their research also suggested a higher suicide rate among younger students. It is believed that there is a great deal of stress associated with being young for the grade and being unable to compete with older classmates. (DeMeis & Stearns, 1992). It would appear that educational professionals do regard age as it relates to maturity as a very important factor in academic success and failure.

CHAPTER III

METHODOLOGY

Introduction

This is a descriptive study to identify the possible link between the birth date of rural, elementary students in grades K-2 in remedial programs and the level of assistance they require from their teachers. It is measured by the enrollment in remedial programs. This chapter contains a description of the subjects, the instrument, the procedures and the data analysis used.

Subjects

The school district in which this study occurred consisted of a large, rural, caucasian population. This study focused on the children in grades K-2 who received remedial services and who were young or old for their grade as determined by their month of birth. Since the cutoff date for kindergarten entry in the state of Wisconsin is September 1, children with birthdays in the months of September, October, November and December were categorized as "old for their grade." Students with birthdays in May, June, July and August were considered "young for their grade." (Any children with birthdays from January through April were excluded from the study so as not to contaminate the findings. Those children who repeated a grade, were early or delayed school entrants, or who were formally identified as having learning or cognitive disablities were also excluded.) The study included 63 full-day, every day kindergarten students, 76 first-grade students and 60 second graders.

Instrumentation

The researcher cross-referenced K-2 class lists which included birth dates with a list of students involved in Early School Success, Early Success and Title I programs.

Procedure

On November 4, 1999, the researcher received verbal and written permission from the principal of the participating school district to obtain and confidentially utilize remedial program enrollment and birth date information pertinent to the study. Upon examination of the information, kindergarten students who were young or old for their grade were grouped into four categories. The first category included children who were old for their grade who received a regular amount of teacher assistance and no remedial services. The second category included children who were old for their grade who did require remedial services. The third category included children who were young for their grade that did not receive remedial assistance outside of the regular classroom, and the final category was for the young children in their grade who were involved in a remedial program. This process was then repeated for first and second grade subjects to determine the numbers of students in each category for all three grade levels.

Data Analysis

The observed frequency of older and younger students who received a regular amount of teacher attention with no remedial services, and older and younger students who did receive remedial instruction was counted for each grade level. This was compared to the expected frequency of older and younger students who received a regular amount of instruction and those who receive remedial assistance in respective grade levels. Chi-square was utilized to statistically analyze the data, and an F Table was used to determine the significance at the .05 confidence level.

CHAPTER IV

RESULTS AND DISCUSSION

Introduction

In this chapter, results from the research regarding the age and need for remedial assistance outside of the regular classroom will be reviewed. The chapter focuses on Tables 1-3 in which kindergarten, first and second grade students are divided into groups. These groups focus on whether or not the students receive remedial assistance, and if they are young or old for their grade based on their birth month. An examination of the significance level and discussion of the results will follow.

TABLE I

Actual Distribution of Kindergarten Students by Age and Need for Remedial Assistance

	With Assistance	Without Assistance	Total
Young for Grade (Birthdays May-Aug.)	11 (6.8)	7 (11.2)	18
Old for Grade (Birthdays Sept.-Dec.)	6 (10.2)	21 (16.8)	27
Total	17	28	45

x^2 (1, N = 45) = 6.93, p >.05

Setting the confidence level at .05 with one degree of freedom, (df), a chi square significance level of 3.84 must be reached in order for a statistically significant relationship to be assumed. Comparison of the two groups yielded a chi square of 6.93, which is statistically significant, thus indicating that there is a relationship between the age at school entry and the need for additional assistance at the kindergarten level.

TABLE 2

Actual Distribution of First Grade Students by Age and Need for Remedial Assistance

	With Assistance	Without Assistance	Total
Young for Grade (Birthdays May-Aug.)	12 (13.27)	15 (13.73)	27
Old for Grade (Birthdays Sept.-Dec.)	17 (15.73)	15 (16.27)	32
Total	29	30	59

x^2 (1, N = 59) = .473, p<.05

When examining first graders who are both young and old for their grade, and their need for remedial services, it was found that age played no significant role. Again, the statistical analysis format used was chi square with a .05 confidence level and one degree of freedom. The chi square of .473 fell short of the necessary 3.84 level, thus indicating no significant relationship between the age of school entry and the need for remedial assistance in first grade.

TABLE 3

Actual Distribution of Second Grade Students by Age and Need for Remedial Assistance

	With Assistance	Without Assistance	Total
Young for Grade (Birthdays May-Aug.)	5 (4.76)	12 (12.24)	17
Old for Grade (Birthdays Sept.-Dec.)	9 (9.24)	24 (23.76)	33
Total	14	36	50

x^2 (1, N = 50) = .025, p <.05

Statistically analyzing the findings for second graders based on age and the need for remedial assistance came up with no significant findings. Again, the chi square format at the .05 confidence level with one degree of freedom was utilized. Comparison of the two groups yielded a chi square of .025. This was below the necessary level of 3.84 to be considered significant. Apparently, age, as it relates to academic success or failure, is not a prominent factor to be considered for second grade students.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

This final chapter contains a review of the study of the need for remedial services among K-2 students and how it relates to their age-grade placement. This chapter summarizes the purpose of the study, methods and procedures followed, and the data analysis used. Results of the study are reviewed, and conclusions are stated. Educational implications, research limitations, and recommendations for further study conclude the chapter.

Summary of the Study

The purpose of this study was to investigate a possible link between the ages of kindergarten, first and second grade children, as determined by their month of birth, and the enrollment in remedial programs. The question has been raised as to whether or not children who are young for their grade require more assistance outside of the regular classroom than older children do to keep up in core academic areas. The birth months of kindergarten, first and second graders in a small, rural Wisconsin school district were examined and cross-referenced with enrollment lists of K-2 remedial programs. Children with birth dates in the middle four months of the school year or those who were early or late entrants were excluded from the study, as were students formally involved in special education programs.

Children included in the study were grouped according to their age and placement in a remedial program. The expected distribution of students in each category was determined and compared to the actual distribution of students in each category. Chi

square was utilized to statistically analyze the data at the .05 confidence level.

Results and Conclusions:

Upon examination of the kindergarten table, it was determined that the school entrance age of kindergartners, and the need for remedial assistance are statistically and significantly linked. Enrollment in the remedial programs is largely determined by formal assessments given at the beginning of the year. Older children tend to fare better on these assessments. Therefore, support can be generated for the theory that age, as it relates to maturity, does play a role in the academic success of kindergartners.

It is important to note that at the kindergarten level, students come to school with a variety of background experiences and may need additional time to adjust to a school routine. Because of these reasons, a majority of academic activities, particularly at the beginning of the year, are completed with a large amount of teacher assistance. When a teacher suspects a student as having learning or performance deficit, the kindergarten student is often referred for an outside remedial program to provide as much early intervention as possible. This, in effect, raises the enrollment of children involved in remedial programs.

It was surprising to discover the chi square did not reach significance on the first grade table (see p. 17). Perhaps this is due to the very strong first grade curriculum and an unusually dedicated staff that employ many remedial techniques within their daily lessons to address the needs of all students. Furthermore, classroom teachers offer additional assistance to individuals or small groups of students who may need additional practice on a particular skill or concept. This occurs several times weekly and may or may not include children who are involved in outside remedial programs. In addition to the classroom support which may eliminate the need for remedial assistance for some first

grade students, it is also possible that kindergarten and remedial staff who previously worked with some of the "at risk" children were able to bring them to a level where additional assistance was no longer needed.

Although not a significant number, according to the first grade table (see p. 17), there were more students who were old for their grade receiving remedial help than not receiving remedial help. This could be due to over placement in remedial programs or the academic nature of this particular first grade class. The overwhelming philosophy in first grade seems to be "When in doubt, help them out," a result of the belief that every child deserves a strong foundation on which to build future knowledge. If this is truly the case, there is the distinct possibility that more older children received remedial assistance at the first grade level than may actually require it, therefore distorting the findings.

At the second grade level no areas of significance were determined when comparing age and the need for remedial assistance. Perhaps this is because the expectations of what second graders should be able to do independently have increased, creating a clearer picture of those students who can and cannot keep up academically. Additionally, information from two previous years of schooling can be evaluated, and a more precise group of children who are "at risk" for academic difficulties can be focused on. According to the second grade table (see p. 17), it would appear that age is not a factor in the need for remedial assistance.

The results of this study were mixed. It would appear that age may play a role in the educational success of kindergartners. However, when comparing age as it relates to the need for remedial services of first and second grade students, no significant statistical link could be determined. Therefore, the original null hypothesis which states, "There is no statistically significant difference between the observed and expected frequencies regarding the amount of remedial assistance required in relationship to the age of the

students," must be accepted.

Educational Implications:

Although there may be some school readiness issues and possible academic concerns associated with the entrance age of kindergarten students, this study suggests that there is no statistical link between the age of school entrance and the later need for remedial services at the first and second grade levels. Therefore, the results suggest that educational policy makers should allow children of school-age to enroll in a formal school setting at the prescribed time.

Limitations of the Study:

As in any research study, there are limiting factors to be considered when evaluating the information presented. This study is no exception. The first factor to consider is the size of this study. This was a small study conducted in a rural school district over the span of one year. In the education profession, it is not uncommon to have a class of students with higher or lower abilities one year than another. It is quite possible that the results of this study would be different if it were to be repeated in the same school in another year.

Another limitation of this study is the fact that enrollment in remedial programs is somewhat subjective. Although it is true that beginning of the year testing largely determines who qualifies for additional help, parent and teacher input is also considered. If a teacher from the previous year believes a child would benefit from remedial programming, he or she can recommend placement in a program, regardless of test scores. Likewise, a parent can also request that his or her child receive additional assistance, or at any time, request that his or her child be removed from the program. The latter does not occur often, but has occurred in a few instances.

On rare occasions, a child may not receive remedial assistance if the remedial groups are deemed too large. It is believed that more intensive assistance can be given if the groups are small. Adjustments are occasionally made to accommodate the children most in need of remediation services by removing a child that is functioning at a higher level. Although every attempt is made to service all children in some capacity, the remedial staff does believe that smaller numbers is a key to the success of the program. This obviously alters the make-up of the remedial group to some degree. Because there is no set test score to automatically qualify a child for the program, some years the remedial program services higher functioning students than other years.

Recommendations for Further Study:

The results of the study were based on a small, rural, school district. The population for the study was also small. It is recommended that the study be conducted in several other districts before generalizations are made.

It is also recommended that the study be expanded throughout more grade levels. According to this study, age only correlates with the need for remedial services at the kindergarten level. It would be interesting to examine the progress of students throughout the elementary grades to see if age correlates with academic achievement as the curriculum difficulty, teacher expectations, level of independent work and social pressures increase. Perhaps tracking the progress of individual kindergarten students who do or do not receive remedial assistance throughout their elementary years may produce the most beneficial information of all.

A final thought for further study would be to explore the role gender plays in the academic success or failure of students. Researchers have ascertained that girls mature faster than boys. Furthermore, male and female brains develop and process information

differently. It would seem reasonable to take this information into account when looking at school readiness issues. Perhaps taking a closer look at the school entrance age of boys versus girls who do or do not require remedial assistance may give us a clearer idea of how we can better encourage the academic success for all of our children.

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