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ABSTRACT

Children are generally identified as learning disabled as a result of their achievement and perceptual skills below an expectancy level which is based on mental age, grade level and/or chronological age. Despite its usefulness, Maturity is infrequently considered. The ages at entrance to school of a group of 67 learning disabled (LD) students (7-12 years old) and a group of 67 systematically selected students from the same school district (Oil City Area, Pennsylvania) were examined and compared. The LD group showed a moderate tendency to be younger than their peers when starting school. This seemed to indicate that immature, developmentally young children were at risk of being identified as learning disabled. Retention or staying home for an extra year before entering school is presented as a viable alternative to being identified as handicapped. The importance of individual assessment to determine school entrance is stressed. (Author/CL)

CHRONOLOGICAL AGE
AND THE IDENTIFICATION OF
LEARNING DISABILITIES

R. Joel Erion

ABSTRACT

Children are generally identified as learning disabled as a result of their achievement and perceptual skills below an expectancy level which is based on mental age, grade level and/or chronological age. Despite its usefulness, maturity is infrequently considered. The ages at entrance to school of a group of learning disabled students and a group of systematically selected students from the same school district were examined and compared. The learning disabled group showed a moderate tendency to be younger than their peers when starting school. This seemed to indicate that immature developmental young children were at a risk of being identified as learning disabled. Retention or staying at home for an extra year before entering school are presented as viable alternatives to being identified as handicapped.

It has long been thought by some (Ames, 1967; Ames, Gillespie, Streff, 1972) that many children experience failure in school simply because of overplacement. Although they may be of the appropriate chronological age for their grade, these children have skills and behaviors which are more typical of younger children. For example, an eight-year-old third grader whose social, cognitive, perceptual, and motor development are typical of the average six or seven-year-old is overplaced. First grade or second grade respectively may be more appropriate. These children will frequently have levels of academic achievement that are commensurate with their overall development but not their grade placement (Ilg, Ames, 1950). The child is then seen as being in need of special help even though he may be doing the best he can.

Most schools have several programs to help children who are having difficulty learning, i.e., remedial reading, remedial math, and learning disability classes. Each of these is designed to meet specific needs. To be included the child must be working below expectancy. This level of expectancy is often based on chronological age, grade level, mental age, or a combination of all three. The first two do not directly take the child's skills into account and are determined solely by birth certificates and school entrance policies. Although mental age is important and does deal with the child's actual functioning, its scope is narrow. An often overlooked factor which also should be taken into account when determining expectancy is maturity or behavior age. This is defined by Ilg and Ames (1964) as the average age at which a child behaves as a total organism. It would include, but not be limited to, perceptual, visual-motor, motor, social, emotional, and cognitive functioning.

Since most children have behavior ages that are roughly commensurate with their chronological ages, many learning disabled children may be selected primarily from those whose maturity is below their grade level, chronological age, or mental age.

POPULATION

The sixty-seven children examined in first through sixth grade were the students in the Oil City Area School District Learning Disabilities program. The forty-eight boys and nineteen girls ranged in age from seven to twelve.

All the children in the program met two criteria. First, they had to be experiencing a significant abount of underachievement as determined by the use of the learning quotient method (Myklebust, 1968). Second, they had a low score on a test of visual or auditory perception. Three tests were used; Developmental Test of Visual Motor Integration, Bender Visual Motor Gestalt Test, and Goldman-Fristoe-Woodcock Test of Auditory Discrimination. Scores from the former two tests were substituted for the mental age in the learning quotient method. Results below eighty-nine indicated the presence of visual perception problems. The latter test had a recommended cutoff point which was adhered to in placing these children.

A comparison group of students systematically selected from the entire district population of first through sixth graders was also examined. It consisted of thirty-seven boys and thirty girls.

METHOD

Of the information available when these students entered school, the only indicator of maturity was chronological age. The various facets of a child's behavior and skills will mature through time, though not always at a similar pace for all children (Ames, Gillespie, Streff, 1973; Moore, 1979).

Next to be determined was how old each child was upon entering school in relation to his peers. Depending on this, he was placed in one of twelve categories. To do this, the child's month of birth was compared to the cut-off date. That is the date by which a child must be five to enter kindergarten that year. For example, a child whose birthday is in September and the cutoff date is October 1, would be placed in category twelve. Another child whose birthday is in October would be placed in category one. This procedure was used because over a period of three years the cutoff date was changed from February 1 to November 1 and then to October 1.

There were three students who entered school one year later than they could have and two others who transferred from districts having later cut-off dates for entrance into kindergarten. This made the latter two significantly younger than their new classmates. The statistical data here are presented including and not including these five students. The two who entered school early were placed in category twelve while those who entered late were placed in category one for the purpose of the additional calculations only.

RESULTS

The correlation between the children's ages in comparison to their peers upon entrance into school and the incidence of learning disabilities was moderate ($r = .53$). When the two students who entered school early were included the correlation was somewhat higher ($r = .64$). Figure 1 shows the distribution of those students. This was significant at the .0005 level in a one tailed test for both correlations. In the group of systematically selected elementary students the correlation between age and numbers of students was negligible ($r = .03$). Figure 1 shows the distribution of these students. When the three children who entered school late were included the correlation was lower ($r = -.30$).

DISCUSSION

It can be seen from Figure 1 and the statistical data that there is a strong relationship between chronological age and the incidence of learning disabilities in this population. The intervening variable causing this relationship may well have been maturity, especially since the variable of mental age was controlled by the Myklebust Formula.

The much higher ratio of boys to girls in the learning disabled sample compared to the systematically selected sample may also be related to maturity. Boys in a number of ways develop at a slower rate than girls (Ilg and Ames, 1964).

An aspect of the data which should be examined in Figure 1 is the steady rise followed by two small troughs. This may be the result of those parents who, on their own, held a child out of school for one year because they felt he or she was not ready. A birthday wihin a few months of the cutoff date could have been the signal that made parents question their child's readiness for school. This was found in the systematically selected group. There were three children in that sample who had birthdays close to the cutoff date and were held out of school for at least one year by their parents. Inclusion of these children in the sample increased the average age at entry into school for the whole group. In the learning disabled group there were no late admissions, but two early ones. If there had been fewer parents holding their children out of school for a year, and more sending them early, perhaps the incidence of learning disabilities may have been higher.

In addition to underachievement, all the children in the learning disabled group had a low score on a perceptual test. One reason for this could be that the child's perceptual development accompanied his overall maturity. That is, if a child's overall level of maturity is one or two years below his chronological age, so too may be his visual or auditory perceptual development. Work

done by Moore and Moore (1980) indicates that the various sensory perceptions may not be reasonably developed until the ages of eight to ten in some children.

A second possible reason may be that perceptual problems were created as a result of the overplacement. Moore and Moore (1980) have also reviewed literature which indicates that teaching children reading skills before they are ready may actually lead to the development of perceptual problems.

Over a two-year period since this data was initially collected, 58% of the learning disabled students were mainstreamed successfully into regular classes. Almost all of those had repeated at least one grade. A study done by Koppitz (1971) on the effectiveness of programs developed for children with learning disabilities found only 17% of children so identified returned successfully to their regular classes. Almost all were reported as having "lost" a year also. In the present study, the few students of the 58% who did not repeat a grade returned to regular classes at around the age of ten. As mentioned earlier, the Moore's research indicates that this is the time when the perceptual processes are fully developed in some slow maturing children. Koppitz also reported that most children tend to show a marked spurt in learning and achievement when they are eight years old. In groups of learning disabled students with at least low average mental ability, this may not occur until nine to ten and one-half, or even eleven.

Upon finding a similar relationship among learning disabled students in Hawaii, Diamond (1983) concluded that since the problem was not grossly moderated by twelve years of growth and remediation, immaturity was an unlikely cause. However, this did not take into account that perceptual-motor training (Kavale and Mattson, 1983) specifically, and learning disability programs (Koppitz, 1975) generally, are ineffective in helping children "catch up". It also did not recognize that the earlier children begin school, generally the

more negative their attitude toward school (Rohwer, 1971). Thus a child may have become so turned off to school that no amount of remediation would have been effective.

Success in avoiding the continued need of special education programs for the learning disabled by simply having them repeat a grade is encouraging. This is particularly true in light of the very limited effectiveness that various learning disabilities programs have in making children "catch up" to their chronological peers. One and sometimes two retentions is usually preferrable to lasting identification as learning disabled and the continued special programs needed.

RECOMMENDATIONS

The extra time that a child needs in order to mature before being identified as learning disabled or some other educational handicap can be obtained in a number of ways. The best is to make certain that a child is developmentally ready to start school. Quick, reliable examination procedures can be found in several places (Ilg and Ames, 1964; Koppitz, 1975). Although changes in the district cutoff date may be beneficial, the individual assessment of each child is a much more accurate method.

For students already in school who are seen by their teachers as having learning difficulties and are referred to a guidance counselor or psychologist for an examination, developmental testing should be considered along with intelligence and achievement testing. This would also hold true for students already in special programs.

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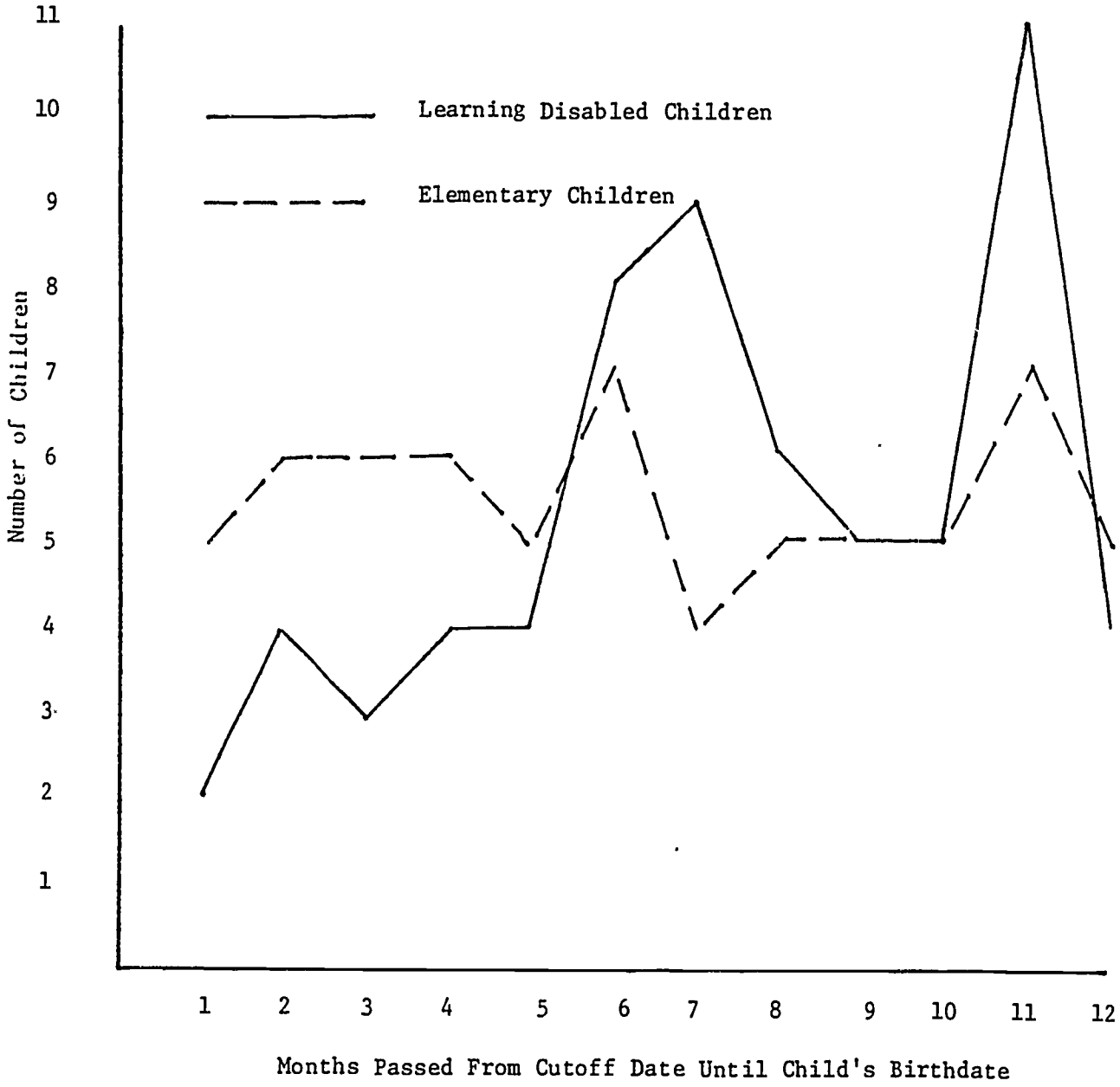

Figure 1. Number of learning disabled children and elementary children with birthdays in each of the months following the district cutoff date.