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IRREGULAR ATTENDANCE—A CAUSE OF RETARDATION.

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In the current discussion of backwardness or retardation among school children, it has been established that from one-quarter to one-half of all of the children in the schools are behind the proper grade for their age or have made less progress than they should in the time they have attended school. Whether classified by the criterion of age or by that of time in school, a large part of all of our school children are backward.

It has also been thoroughly established, as an immediate result of this condition, that many children, upon reaching the age of fourteen or fifteen years, find themselves in the fifth or sixth grade instead of in the eighth, and becoming discouraged, drop out. Thus it happens that a comparatively small proportion of the children entering our schools stay to complete the elementary school course. The result is that the amount of education received by the majority of young people is painfully small, and the educational aims of our school system are, in a large measure, defeated.

Up to the present time, studies of the phenomena of retardation and elimination have been chiefly confined to attempts at quantitative measurement. Most of the attempts that have been made to point out causes have been somewhat speculative in nature. Among the causes assigned, late starting, ignorance of the English language, innate dulness, and physical handicaps have been particularly emphasized. Less frequently, irregular attendance has been mentioned as a contributory factor. It is the purpose of the present article to present data showing that irregular attend-

ance is a large, if not the largest, factor in bringing about retardation.

The principles underlying the commonly used measurements for enumerating the children reached by a school system are comparatively simple. The common measures are three, namely: *total enrolment, average enrolment, and average attendance.*

Total enrolment as commonly interpreted is a statement of the total number of children who have been in school during the year for any length of time, long or short.

Average enrolment is often stated by months. It is an expression of the number of children on the roll on the supposition that all remained during the entire period. It is, of course, always smaller than the total enrolment.

Average attendance is computed substantially as is the average enrolment. It is an expression of the number present on the supposition that all were present during the entire time. It is, of course, always smaller than average enrolment.

These three measures of attendance have come into so nearly universal use that they are generally accepted without question. A school or a system that reports 90 or 95 per cent attendance is thought to have made a fine record and the figure naturally leads the school authorities to feel that substantially every child was present and receiving the benefits of instruction every day.

How far this is from being the case is shown by comparing the average attendance with the total enrolment in some of our cities. According to the latest available figures, the relation between them in five of our largest systems is as follows:

	Total enrolment	Average attendance
New York	1000	751
Philadelphia	1000	695
Chicago	1000	823
Baltimore	1000	662
St. Louis	1000	813
Kansas City	1000	733

It is plain that total enrolment, the figure almost always used in stating the magnitude of our public school systems, while appealing effectively to civic pride, does not in reality give any accurate idea of how many children are present and receiving instruction each day.

In nearly all systems provision is made for temporarily dropping from the roll the name of any pupil absent for more than a few days. In some places the period of absence allowed before dropping the name is three days, in others, five, and in still others, ten. Thus the enrolment is automatically kept just a little ahead of attendance and a high percentage of attendance is assured. The fluctuations of attendance below 100 per cent really indicate nothing more than that absences of a day or two have been more or less frequent as the case may be.

It is obvious that such a system does not answer any question as to persistence of attendance. It does not tell us how many children have been present the entire year, and how many only a fraction of the year. It tells nothing about the attendance of an individual; whether he has been present most of the time or not. And yet, if a child has been in attendance only half of the time it would obviously be vain to hope that he could be regularly promoted and go on with his classmates. The fluctuations from day to day in a given school are in reality little more than an indication of the clemency of the weather or the attractiveness of outside diversions. When the weather is stormy, or the circus is in town, the attendance falls; when the sun shines and the circus leaves, attendance rises. The figures tell us nothing at all as to which pupils and how many are always in school and the number of those frequently absent.

It is probable that few school men realize how many of the children in their schools are present only a small fraction of the year.

According to the last United States census thirteen million children (13,385,628) attended school during the year 1900. Of these only nine million (9,814,040) attended as much as six months. This indicates that the question of the duration of attendance is well worth consideration.

A diligent study of school reports brings to light ten whose figures show the persistence of attendance of the pupils. These reports are from the following places: Columbus, Ohio (1907); Cleveland, Ohio (1906); Dayton, Ohio (1907); Kansas City, Mo. (1907); New Orleans, La. (1907); Porto Rico (1907); Springfield, Ohio (1907); St. Louis, Mo. (1907); Syracuse, N. Y. (1907).

The figures they give are not all computed on exactly the same basis. Cleveland and Porto Rico give figures showing the duration of enrolment, not attendance. It is impossible to dis-

cover from the report the basis on which the Columbus figures are computed. The seven other cities give figures showing the duration of attendance of all the children enrolled during the year. The figures showing the attendance in the white district schools of St. Louis are as follows:

200 days	3,367
180 to 200	32,672
160 to 180	11,935
140 to 160	5,776
120 to 140	3,681
100 to 120	3,188
80 to 100	3,321
60 to 80	2,656
40 to 60	3,009
20 to 40	3,282
Less than 20	2,844
Total	75,731

It is plain that the pupils who attended two hundred days were never absent, that those who fell within the one hundred and eighty to two hundred days group were in continual attendance with merely casual absences of a day or two, and that most, if not all, of the rest were absent for considerable periods, or else began late in the year or left early.

In order to compare conditions in the different localities some common basis must be established. The easiest way to do this is to reduce the data to relative figures on the basis of conditions among 1000 children. When the St. Louis figures are so reduced they appear as follows:

200 days	44	
180 to 200	431	
160 to 180	158	
140 to 160	76	
120 to 140	49	
100 to 120	42	
80 to 100	44	
60 to 80	35	
40 to 60	40	
20 to 40	43	
Less than 20	38	1000

Now, it will certainly be conceded that we can hardly hope that pupils will be promoted unless they have been in attendance during at least three-fourths of the school year. It is desirable then to arrange our figures so as to measure attendance by fourths of the year. With attendance stated by groups of twenty days in a school year of two hundred days this is impossible, but if we rearrange the table, dividing each group in two so as to state attendance by groups of ten days, instead of twenty, we can divide the table into four groups. When this is done and each group divided in two we have a new table giving the same information in new form as follows:

200 days	44		
190 to 200	216		
180 to 190	215		
170 to 180	79		
160 to 170	79		
150 to 160	38	671	67.1%
140 to 150	38		
130 to 140	25		
120 to 130	24		
110 to 120	21		
110 to 110	21	129	12.9%
90 to 100	22		
80 to 90	22		
70 to 80	18		
60 to 70	17		
50 to 60	20	99	9.9%
40 to 50	20		
30 to 40	22		
20 to 30	21		
10 to 20	19		
0 to 10	19	101	10.1%
Total	1000		

The dotted lines divide the year into fourths, leaving in the first division those who have attended more than three-fourths of the time, in the second those who have been present from one-half to three-fourths of the year and so on.

This explanation has been given to make clear the treatment to which the figures from all the localities have been subjected. The final results are presented in the following table:

PERSISTENCE OF ATTENDANCE OF PUPILS IN DIFFERENT CITIES AND IN PORTO RICO.

	ATTENDANCE BY FOURTHS OF THE YEAR.			
	Less than one-fourth	Less than one-half	Less than three-fourths	More than three-fourths
Porto Rico	2.0	9.2	21.6	78.4
Dayton, Ohio	4.7	12.1	23.6	76.4
Grand Rapids	6.7	14.8	27.5	72.5
Cleveland	8.6	18.3	28.0	72.0
Springfield, Ohio ...	6.5	13.7	28.2	71.8
Syracuse	6.2	16.0	29.7	70.3
St. Louis	10.1	20.0	32.9	67.1
Kansas City, Mo....	10.6	20.8	35.1	64.9
New Orleans	7.7	21.3	37.4	62.6
Columbus, Ohio	6.9	18.1	38.6	61.4
Average	7.0	16.4	30.3	69.7

The figures for Porto Rico and Cleveland are based on length of enrolment and each would occupy a lower position in the table if the figures gave attendance instead. The basis of the Columbus figures is uncertain. The figures for St. Louis and New Orleans are for white elementary schools only.

The striking condition disclosed is that, with the exception of Dayton, in no city do as many as three-fourths of the children attend as much as three-fourths of the school year. This is a radically different showing from that made by the figures published by some of these same cities giving percentages of attendance ranging from 90 to 85. The published percentages do not disclose significant conditions. The figures giving attendance by periods of time do.

Only three of the cities publish figures which enable us to compare the number of children promoted with the number present at least three-fourths of the time. The results are as follows:

	Per cent present at at least ¾ of the year.	Per cent promoted.
Springfield, O.	71.8	72.8
Syracuse	70.3	64.9
New Orleans	62.6	54.9

It is obvious that we have not greatly erred when we assumed that a low percentage of attendance was accompanied by a low percentage of promotions. The low percentages of promotion may surprise some, since we are accustomed to read in reports of from 80 to 90 per cent of the pupils being promoted. The reason for the low figures in our table is that they are the result of comparing the pupils promoted with the whole number enrolled, not with those enrolled on the last day of the year, which is the common basis.

We may now consider the relation which such low percentages of promotion bear to retardation and its correlated evil, elimination. It is apparent that if considerable numbers of the children entering school fail to be advanced regularly, the lower grades will become abnormally swollen by the damming of the stream of pupils passing through them. Experience teaches us, too, that in the upper grades the pupils who have advanced slowly and so are over-age will drop out before completing the course, thus making these grades abnormally small.

Certain general rules govern these phenomena. The first is that the number of children in the lower grades before the dropping out process begins will vary as the inverse of the rate of progress. That is, if we have four-fifths of the normal progress in these grades we shall have five-fourths of the normal number of children in each grade. To state it still again in terms of school administration: If we have a steady rate of promotion of 80 per cent we shall find twelve hundred and fifty pupils in the first grade for each thousand new pupils entering each year.

Another rule which is less exact and which varies in different localities, is that no matter what their progress we may expect about 10 per cent of the children to leave school upon reaching the age of thirteen, about 50 per cent of the remainder at fourteen years, and again about 50 per cent of these at fifteen years.

Where these conditions hold—and they exist as stated in many localities—if we assume a stationary population and no deaths, all the children entering school at the age of seven and a steady rate of promotion of 80 per cent, we shall have a grade distribution for every thousand children entering school as follows:

Grades	Pupils	Grades	Pupils
1	1,250	5	1,112
2	1,247	6	865
3	1,238	7	517
4	1,215	8	227

The notable characteristics of this grade distribution are that for each thousand children entering school we find twelve hundred and fifty in the first grade, and only 227 reaching the eighth. Similar conditions exist in many of our cities. Where they are better, it is usually because many children enter before the age of seven, or because fewer drop out at the ages of thirteen, fourteen and fifteen. More rarely it is because the percentage of promotion is higher.

To summarize then we may state our conclusion in four propositions:

1. Such figures as are available indicate that in our cities less than three-fourths of the children continue in attendance as much as three-fourths of the year.
2. Irregular attendance is accompanied by a low percentage of promotions.
3. Low percentage of promotions is a potent factor in bringing about retardation.
4. Retardation results in elimination.

In the foregoing, no attempt has been made to discuss the fact that a part of the short term attendance is due to the immigration and emigration of families into and from different cities. Undoubtedly many children begin the school year in one city and continue it in another, thus contributing to swell the figures of short term attendance in both places. It is undoubtedly true, too, that the process usually results in halting the child's progress for a time and often in causing him to lose a grade.

In a paper of this scope it is impossible to enter into a discussion of this factor or of other relevant factors, such as the frequency and effect of "double promotions", or the relative effect of short term attendance, on progress in systems promoting by whole grades only, and in those where the grades are divided into "A" and "B" sections. But such discussion of these minor factors is not necessary to an understanding of the importance of the lessons gained from a study of the attendance figures.