THE IDENTIFICATION OF THE MISFIT CHILD

BY

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The Identification of the Misfit Child

There is entire agreement among educators as to the serious-
ness of the problems resulting from the presence of misfit chil-
dren in the schools. There is great disagreement as to the
best methods of identifying, locating, and enumerating such
children.

One set of authorities claims that the most satisfactory and
significant criterion is the age of the child in relation to his
grade. They erect an arbitrary age standard for each grade
and say that all children older than this are "above normal age"
or "retarded." The standard commonly agreed upon is one
which rates as "above normal age" all children in the first
grade who are eight years of age or older, those in the second
grade who are nine or older, and so on for each of the following
grades.

In the past few years this criterion has been applied to the
age-and-grade figures of several hundred cities, with the result
that from five to fifty per cent of the children are found to be
retarded and in the average city the proportion is something
more than one-third of the entire school membership.

Squarely opposed to those who use these age-and-grade
figures in the diagnosis of school conditions is another set of
students made up of those who argue that this method is unre-
liable and misleading, and that the only proper criterion for
judging retardation is not age in grade, but progress.

According to this second method, the retarded children are
those who take more than one year to complete the work of
the first grade, more than two years to finish that of the first
two grades, and so on. The advocates of this method claim
that the criterion which judges retardation on the age basis
exaggerates the extent of the evil and leads to unreliable con-

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clusions because, they say, the child who enters school late is not retarded at all, but will make such rapid progress as more than to catch up with his companions who entered earlier.

The question at issue is no mere quibble as to a detail of method, but a problem of real educational import. Every teacher has a keen appreciation of the gravity of the problems presented by the child who is an educational misfit, whether he be a misfit because he is a ten-year-old child in the first grade, or because he is a child of any age who requires two years to do the work of one. The superintendents, and principals too, acutely realize the importance of "the lagging half that clogs the educational machine."

These are the reasons why it is important to discover the best method for identifying, locating, and enumerating the misfit children.

In order to throw light on the problem, the Division of Education of the Russell Sage Foundation undertook, in May, 1911, a co-operative investigation in which the superintendents of schools of certain cities were invited to gather data concerning the school histories of all the pupils in the elementary schools of their cities. All the cities chosen had eight grades in their elementary schools, and in every case uniform blanks furnished by the Division were used, and uniform methods followed in gathering the data.

The form used for this purpose was termed an "Age and Progress Card," and the data gathered showed the ages of the children in each grade and the number of years each child had taken to complete the work up to that point.

These data furnish for the first time the necessary facts for comparing the age method and the progress method of computing retardation. Up to the present (November, 1911) complete returns have been tabulated of the school histories of 206,495 children in twenty-nine cities.

The method employed in tabulating the data divides the children of each city into young, normal, and over-age groups on the basis already explained, and, again, into rapid, normal, and slow groups on the basis of the number of years taken to complete the work of the grades. The ease with which this division into groups is made may be illustrated by reference to the data gathered for all the children of one grade in one city. At the end of the school year 1910-11, the age and prog-

ress records of all the children in the fifth grades of Elmira, N. Y., were as follows:—

I. AGES AND YEARS IN SCHOOL OF CHILDREN IN ALL FIFTH GRADES OF PUBLIC SCHOOLS, ELMIRA, N. Y., JUNE, 1911

YEARS IN SCHOOL	AGES									TOTAL
	9	10	11	12	13	14	15	16	17	
1	..	..	..	..	..	1	..	..	..	1
2	..	..	..	..	..	..	..	..		..
3	1	4	2	1	..	1	..	..	..	9
4	3	14	11	6	1	..	..	..	..	35
5	1	34	34	26	6	4	1	..	..	106
6	..	9	34	24	15	8	..	..	..	90
7	..	..	2	17	22	2	2	1	..	46
8	..	..	..	3	8	5	3	..	1	20
9	..	..	..	..	..	1	2	..	..	3
10	..	..	..	..	..	1	2	..	..	3
11	..	..	..	..	..	..	..	1	..	1
Total	5	61	83	77	52	23	10	2	1	314

The table shows that there are 314 children in the fifth grades of Elmira, and that their ages range from nine to seventeen years, while their years of school attendance vary from one to eleven. Now, the age of eleven years is the normal age for children of the fifth grade, according to the commonly accepted standard; and thus, by drawing through the table the two heavy vertical lines, we divide the figures into three groups, leaving on the left all the children below normal age, between the lines those of normal age, and on the right those above normal age. When the figures in these three groups are added, we have the following results:—

Below normal age................................ 66
Normal age..................................... 83
Above normal age............................... 165

In a similar way, divisions into progress groups are readily made. Children in the fifth grade who have been five years in school have made normal progress, and these we separate from the rest by the two heavy horizontal lines. Those remaining above the lines have made rapid progress, while those below have made slow progress. Again adding the figures for the three groups we have the following:—

Rapid progress.................................... 45
Normal progress.................................. 106
Slow progress.................................... 163

The immediately striking feature of these two sets of results is that the groups of over-age and slow pupils are almost exactly equal, the former containing 165 pupils and the latter 163. This is not at first glance surprising, for we have become accustomed, in the discussions of retardation during the past few years, to use the terms "slow" and "over-age" almost interchangeably.

Reference to the table, however, immediately shows the error of this use of the two terms, for while the over-age children (represented by the figures on the right of the vertical lines) are almost equal in number to the slow ones (represented by the figures below the two horizontal lines), the two groups are far from being made up of the same individuals.

This principle holds true, not only for the fifth grades of Elmira, but for the entire school membership of every city studied. *The children who are over-age for their grades and the children who make slow progress through the schools are in large part different individuals.* This is the first important finding of the investigation.

THE COMPLEX COMPOSITION OF THE SCHOOL POPULATION

The discovery that many over-age pupils are not slow, and that many slow pupils are not over-age, leads to a further analysis of the figures. A glance at the table shows that it is divided into nine parts by the two sets of heavy vertical and horizontal lines. If we add the figures in each division, we have a new table, in which our 314 children are distributed by age and progress groups as follows:—

II. AGE AND PROGRESS GROUPS OF 314 FIFTH GRADE PUPILS IN ELMIRA, NEW YORK, JUNE, 1911

	YOUNG	NORMAL	OVER-AGE	TOTAL
Rapid...........	22	13	10	45
Normal.........	35	34	37	106
Slow...........	9	36	118	163
Total........ ·	66	83	165	314

The significant feature of this table is that it reflects in an impressive way the complexity of the factors with which we are dealing when we group school children together in grades for the

purpose of teaching them. Here are figures representing 314 children in the fifth grades of one city. We commonly think of such a group of children as having entered school at about the age of seven years, and since then, having progressed at the rate of one grade each year.

The data show how different the facts really are. Each age group is divided into three progress groups, and each progress group into three age groups, so that we find some children who are young but slow, some who are over-age but rapid, and every combination in between. The only children who are both of normal age and making normal progress are those in the little group of 34 represented by the figures in the center of the table.

When the figures for all the grades are combined and the data for all the cities tabulated, we have results showing how the school memberships are divided according to the age and progress groups. The following tabular statement presents the average of the results for the twenty-nine cities:—

Of every 100 children in the public schools

{
29 are below normal age for their grades — Of these 29 { 6 have made rapid progress, 21 " " normal ", 2 " " slow "

34 are of normal age for their grades — Of these 34 { 3 have made rapid progress, 21 " " normal ", 10 " " slow "

37 are above normal age for their grades — Of these 37 { 2 have made rapid progress, 10 " " normal ", 25 " " slow "
}

Expressed in tabular form, again on the basis of percentage figures representing the averages of the data for all the cities, this complexity of the school population becomes even more apparent:—

III. SCHOOL CHILDREN BY YOUNG, NORMAL, AND OLD, AND BY RAPID, NORMAL, AND SLOW GROUPS. PERCENTAGE FIGURES SHOWING AVERAGE CONDITIONS FOR 29 CITIES

	YOUNG	NORMAL	OLD	TOTAL
Rapid............	6	3	2	11
Normal..........	21	21	10	52
Slow............	2	10	25	37
Total..........	29	34	37	100

A still clearer idea of the relation of the size of each of these groups to that of each of the others may be gained from the same data presented in graphic form.
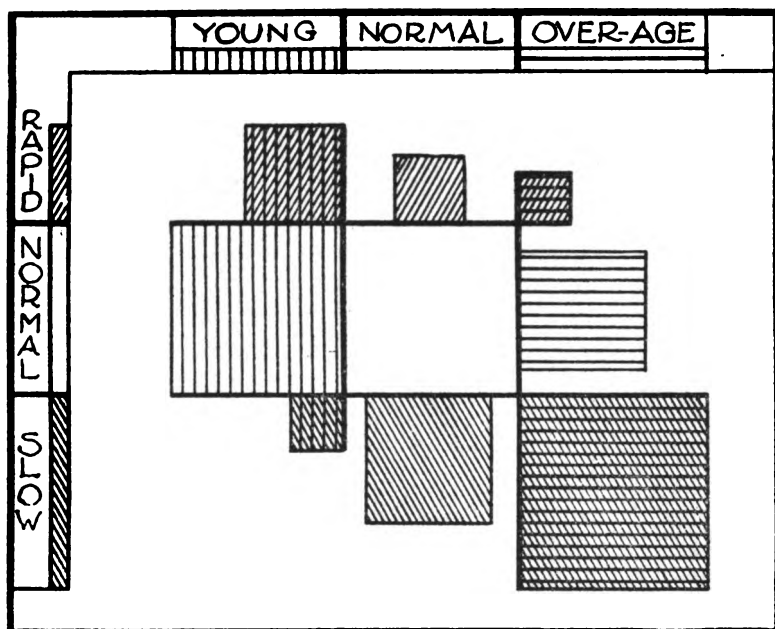
Relative size of the nine age and progress groups. Based on data of Table III, showing average conditions in 29 cities.

COMPARISONS BETWEEN CITIES

Many former studies of retardation based on age-and-grade figures have presented comparisons between different city school systems. These inter-city comparisons have been open to question and challenge on two counts.

In the first place, the data have not always been gathered on the same basis or at the same date, and as a result have not been truly comparable. Indeed, it has been demonstrated that slight differences in the date of gathering the figures result in marked discrepancies in the results. In the second place, the validity of these comparisons has been challenged because it is doubtful whether the per cent of over-age pupils in a city school system is necessarily a trustworthy indicator of the efficiency of that system.

The present data offer better material for the comparative

study of conditions in different cities, because they are all gathered on the same basis and at the same date, and because they present at least six criteria for comparative purposes instead of one only.

Where former studies have shown only the per cent of overage pupils, these results show the proportions of young, normalage, and over-age pupils, as well as the proportional size of the groups making rapid, normal, and slow progress. The figures showing the membership of the elementary grades, together with the divisions on the age-and-progress basis, are presented in the following table:—

IV. NUMBER OF PUPILS AND PERCENTAGE CLASSIFICATION IN AGE AND PROGRESS GROUPS FOR 29 CITIES, JUNE, 1911

CITY	NUM-BER OF PUPILS	AGE CLASSIFICATION			PROGRESS CLASSIFICATION		
		Per cent Young	Per cent Normal	Per cent Old	Per cent Rapid	Per cent Normal	Per cent Slow
1. Amsterdam, N. Y.	2371	49	23	28	30	49	21
2. Bayonne, N. J.	7033	27	31	42	18	47	35
3. Canton, Ohio	5567	28	38	34	2	55	43
4. Danbury, Conn.	1967	38	31	31	12	57	31
5. Danville, Ill.	2260	28	34	38	7	55	38
6. E. St. Louis, Ill.	5380	22	34	44	15	48	37
7. Elizabeth, N. J.	7058	23	31	46	12	48	40
8. Elmira, N. Y.	2487	38	28	34	10	53	37
9. Hazleton, Penn.	2655	22	36	42	3	53	44
10. Indianapolis, Ind.	23874	34	37	29	19	56	25
11. Kenosha, Wis.	2223	16	36	48	7	46	47
12. Milwaukee, Wis.	32251	28	41	31	17	61	22
13. Montclair, N. J.	2568	18	34	48	8	47	45
14. Muskegon, Mich.	3163	25	40	35	14	55	31
15. New Orleans, La. (White)	23664	20	31	49	13	51	36
16. New Rochelle, N. Y.	3641	36	30	34	19	51	30
17. Niagara Falls, N. Y.	3244	31	33	36	6	60	34
18. Passaic, N. J.	5541	17	32	51	14	48	38
19. Perth Amboy, N. J.	3947	27	32	41	13	38	49
20. Plainfield, N. J.	2312	30	30	40	6	56	38
21. Quincy, Mass.	4540	50	31	19	4	52	44
22. Racine, Wis.	4075	30	42	28	3	69	28
23. Reading, Penn.	10585	25	35	40	6	47	47
24. Rockford, Ill.	5649	28	40	32	15	56	29
25. Schenectady, N. Y.	7846	26	30	44	9	52	39
26. Syracuse, N. Y.	13610	42	29	29	7	54	39
27. Topeka, Kansas	4894	26	38	36	11	58	31
28. Trenton, N. J.	8787	31	31	38	7	49	44
29. Watertown, N. Y.	3303	25	32	43	10	49	41

The question now arises as to which is the best criterion for

ranking the cities in the order of excellence of their showings. Does that city make the best showing which has

> the greatest proportion of children below normal age;
> or, the greatest proportion of children of normal age;
> or, the smallest proportion of children above normal age;
> or, the greatest proportion of children making rapid progress;
> or, the greatest proportion of children making normal progress;
> or, the smallest proportion of children making slow progress?

Plausible arguments might be advanced in support of any one of these six criteria, but in the opinion of the writer, no one alone is of sufficiently greater significance than the rest to warrant its exclusive use. All of them should be taken into account in an inter-city comparison of school conditions. The ranking of the twenty-nine cities on each of the foregoing six bases is as follows:—

V. RANKING OF 29 CITIES ACCORDING TO THE COMPARATIVE SIZE OF THE AGE AND PROGRESS GROUPS, JUNE, 1911

CITY	AGE CLASSIFICATION BASED ON			PROGRESS CLASSIFICATION BASED ON		
	Per cent Young	Per cent Normal	Per cent Old	Per cent Rapid	Per cent Normal	Per cent Slow
1. Amsterdam	2	29	2	1	19	1
2. Bayonne	16	18	20	4	25	11
3. Canton	12	5	9	29	9	22
4. Danbury	4	19	6	12	5	7
5. Danville	13	11	15	19	10	15
6. East St. Louis	24	12	23	6	22	13
7. Elizabeth	23	20	25	13	23	20
8. Elmira	5	28	10	15	13	14
9. Hazleton	25	8	21	27	14	23
10. Indianapolis	7	7	4	2	6	3
11. Kenosha	29	9	26	20	28	27
12. Milwaukee	14	2	7	5	2	2
13. Montclair	27	13	27	18	26	26
14. Muskegon	21	3	12	8	11	8
15. New Orleans (White)	26	21	28	10	17	12
16. New Rochelle	6	24	11	3	18	6
17. Niagara Falls	8	14	13	23	3	10
18. Passaic	28	15	29	9	24	16
19. Perth Amboy	17	16	19	11	29	29
20. Plainfield	10	25	17	24	7	17
21. Quincy	1	22	1	26	15	24
22. Racine	11	1	3	28	1	4
23. Reading	20	10	18	25	27	28
24. Rockford	15	4	8	7	8	5
25. Schenectady	18	26	24	17	16	18
26. Syracuse	3	27	5	21	12	19
27. Topeka	19	6	14	14	4	9
28. Trenton	9	23	16	22	20	25
29. Watertown	22	17	22	16	21	21

Here is material for complacency or concern, or both, for the school authorities of almost every city. There is hardly one of the twenty-nine localities that does not make a fairly good showing in at least one of the ratings, and, on the other hand, nearly all take low rank in one or more of the six columns. Some cities however like Indianapolis and Milwaukee have uniformly high ratings among the twenty-nine cities, while others like Montclair and Kenosha* are almost consistently near the end of the list in each of the six sets of rankings.

Now, as good ranks are represented by the lowest numbers, and poorer ranks by the highest ones, we can secure a single ranking of all the cities by adding the six ratings for each and making our final arrangement on the basis of the order of the resulting numbers. Thus, reference to the preceding table shows that adding the six ranks of Indianapolis gives the following:—

Rank on basis of per cent young..................... 7
Rank on basis of per cent normal age................. 7
Rank on basis of per cent over-age................... 4
Rank on basis of per cent rapid..................... 2
Rank on basis of per cent normal.................... 6
Rank on basis of per cent slow...................... 3
                                                     ──
                                                     29

In the same way adding the six ranks for any other city gives a total greater than twenty-nine and this runs as high, in case of Kenosha for example, as a total of one hundred thirty-nine. This means that in each of the six comparisons Indianapolis is so near the head of the list that the total of her six ranks is less than the total for any other city, while Kenosha is so uniformly near the foot of the list that the total of her six ranks is larger than that for any other city. The final ratings for the twenty-nine cities on this basis are as follows:—

VI. TWENTY-NINE CITIES RANKED ACCORDING TO THE SUM OF THEIR RATINGS IN SIX AGE AND PROGRESS CLASSIFICATIONS

CITY	SUM OF RATINGS
1. Indianapolis..................................	29
2. Milwaukee....................................	32
3. Rockford.....................................	47
4. Racine.......................................	48
5. Danbury......................................	53
6. Amsterdam....................................	54
7. Muskegon.....................................	63

* In the case of Kenosha, this may be partly explained by the fact that the sub-primary grade in this city is a connecting link between the kindergarten and the first grade.

VI. Twenty-nine Cities Ranked According to the Sum of Their Ratings in Six Age and Progress Classifications.—(*Continued.*)

City	Sum of Ratings
8. Topeka	66
9. New Rochelle	68
10. Niagara Falls	71
11. Danville	83
12. Elmira	85
13. Canton	86
14. Syracuse	87
15. Quincy	89
16. Bayonne	94
17. East St. Louis	100
18. Plainfield	100
19. New Orleans (White)	114
20. Trenton	115
21. Hazleton	118
22. Schenectady	119
23. Watertown	119
24. Passaic	121
25. Perth Amboy	121
26. Elizabeth	124
27. Reading	128
28. Montclair	137
29. Kenosha	139

To summarize: The more important results of the portion of this investigation reviewed in this article are the following:—

1. Neither the age standard nor the progress standard of measuring retardation exaggerates the extent of the evil. On the average, results for a considerable number of cities are equal by both methods.

2. Average results show that slow children are as numerous as over-age ones, but that the two groups are in large part made up of different individuals.

3. The composition of school populations is most complex judged by age and progress classifications. In every city, and in the separate grades of each city, each of the three progress groups is made up of three age groups, and each of the three age groups of three progress groups.

4. There is great variability among cities with respect to the age and progress compositions of their school populations. The range under each of the six headings in terms of percentages is as follows:—

Age	Per cent *Young*	from 16 in Kenosha	to 50 in Quincy
	Per cent *Normal*	from 23 in Amsterdam	to 42 in Racine
	Per cent *Old*	from 19 in Quincy	to 51 in Passaic
Progress	Per cent *Rapid*	from 2 in Canton	to 30 in Amsterdam
	Per cent *Normal*	from 38 in Perth Amboy	to 69 in Racine
	Per cent *Slow*	from 21 in Amsterdam	to 49 in Perth Amboy

5. Judgments as to the relative efficiency of different school systems can not safely be based on any one measure, such as the proportion of over-age children in the system or the proportion making slow progress. Age and progress conditions are so relatively independent of each other that both sets of measures must be taken into consideration.

LIMITATIONS OF AGE-AND-PROGRESS INQUIRY

The foregoing statement of the methods of the present study and some of its results would be incomplete without an emphatic word of warning as to its interpretation. Students of education must steadfastly bear in mind that an age-and-progress study is purely quantitative and is restricted to phases of school conditions and results which are measured in terms of time. The figures showing the ratings of the school systems do not show which city has the "best" schools or the "most efficient" schools or the "most economical" schools. They do give valuable information but they do not constitute a universal educational yardstick by which the effectiveness of school processes and results can be measured.

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