tenor and leave. Others will receive an inspiration and improve.

2. It will make definitely for an improvement in quality in the whole teaching corps The device itself centers attention upon the quality of results, and that is exactly what will be thrown into the consciousness of every worker with effects that can easily be imagined. Those who are doing meritorious work will be encouraged by having it recognized. Others will strive for such recog nition.

3. It will stimulate interest in new methods, educational research, and all scientific developments in education. Workers will seek the latest and best information as to how they can improve their product.

4. It will cause teachers to go in larger numbers to summer schools and to seek similar means of formal professional improvement.

5. It will necessitate the recognition of merit by differentiated compensation. In this way it may be thought of as one means of increasing the salaries of the most competent.

6. It will not only help to keep in, but it will also attract to your system, better teachers.

R. A. KENT

II

A STUDY IN GRADE DISTRIBUTION

This study was made for the purpose of discovering some of the characteristics of grade distribution in a certain school. As far as seems necessary, data upon which opinions and conclusions are based will be quoted.

The limits of the study are definite. All grades and all pupils accounted for are from the same school. All fall in the sixth, seventh and eighth grades. English, History, Geography and Arithmetic are the only subjects in which the study is concerned. In these subjects the teaching is departmentalized. The number of different pupils and consequently the number of different grades accounted for remain numerically the same with but few exceptions which amount in no instance to more than two or three in a hundred. The pupils whose grades are given in Arithmetic are the same pupils whose grades are given in the other subjects. Only those who completed the three grades in the school are included in the study. Finally, all grades tabulated are annual averages upon which promotion or failure in the different subjects depend.

All grades were determined solely on the basis of the teachers' judgments. During the period covered by the study in the school, the teachers did not attempt to discover a common standard for grade determination or for grade distribution.

The grade-groups upon which the distribution in this study is based are the following: 0-75%; 75-80%; 80-90%; 90-95%; and 95-100%.

ANNUAL DISTRIBUTIONS COMPARED

It does not appear from the study that the grade distribution within the school, year by year, varies greatly. The degree of uniformity prevailing in annual distribution is apparent in the table below.—All terms are in percentages and will continue to be so in all succeeding tables unless otherwise designated.

Year	0-75	75-80	80-90	90-95	95-100
1915-1916	6.1	22.5	55.7	13.9	2.5
1916-1917	6.8	26.7	56.6	8.1	1.7
1917-1918	3.5	20.9	55.0	16.9	3.5
1918-1919	3.7	22.1	56.6	15.4	2.1

GRADE DISTRIBUTION COMPARED

In considering the grade distribution of a series of sixth-grades with that of a series of seventh- and a series of eighth-grades, the degree of uniformity found to prevail is perhaps more pronounced than that found to prevail in the comparison of annual distributions for the school. No attempt is here made to explain why or how uniformity of an approximate degree is present. In the table to follow, by way of explanation, six sixth-grades are accounted for, six seventh- and six eighth-grades. The number of pupils and of grades remain the same for the three series.

Grade	0-75	75-80	80-90	90-95	95-100
Sixth	7.4	16.5	59.3	13.2	3.4
Seventh	7.8	23.5	52.4	13.8	2.3
Eighth	2.9	22.2	56.0	16.5	2.3

The numerical reduction in failures in the eighth grade is partly due to the fact that the cumpulsory attendance laws do not apply beyond the seventh grade age pupils.

DISTRIBUTION BY SUBJECTS

In comparing the distribution within the school by subjects, certain dissimilarities, or variations, are immediately apparent. It is apparent, for example, that failures occurred from three to five times as frequently in Arithmetic as in any one of the three additional subjects. At the same time there seems to be a more pronounced range of ability, or of class room achievements, in Arithmetic, for more pupils earn grades in value equal to or greater than 95 per cent in Arithmetic than in English, or History, or Geography despite the fact that in Arithmetic failures are so far in excess of those in the other subjects. Again, failures occur with less frequency in English (used synonomously with Language, and Grammar) than in any one of the other subjects; in English the central tendency is most pronounced, as is shown by the large per cent of pupils falling in the 80-90 per cent group; likewise, it appears that in English it is more difficult for pupils to earn grades equal in value to or greater than 95 per cent than in the other subjects listed. As a general rule, it is suggested by the table that pupils whose ability, or class room achievements, rates them low in the class find increasing difficulty in the four common branches in this order: English, History, Geography, and Arithmetic.

Subject	0-75	75-80	80-90	90-95	95-100
English	2.9	20.4	61.0	13.1	2.3
History	3.6	22.5	56.1	14.0	2.2
Geography	4.7	18.0	58.2	16.8	2.1
Arithmetic	13.0	22.1	46.7	14.1	3.9

DISTRIBUTION BY CLASSES

As pronounced as the variation in achievements by subjects, as noted in the preceding table, may be, it is not more pronounced than the variation in achievements of different classes which have completed the three grades. The table below illustrates the point. The table itself contains the records of six different classes. The membership of these classes are, beginning with Class I, in consecutive order of appearance, 43, 46, 46, 41, 33 and 29. In analyzing the records of the classes as given it is at once apparent that Class II is the 'superior' class in the group, not alone because it contained fewest failing grades by comparison, or because it rates high in the two upper grade groups, 90-95 and 95-100, but also because it contained a very high percentage of boys and girls who were consistently average in achievements. For obvious reasons it is equally clear that Class I, as a unit group, rates lowest in the list.

Class	0-75	75-80	80-90	90-95	95-100
I	12.2	17.4	51.9	15.5	2.9
II	2.1	17.5	61.8	15.0	3.4
III	4.7	25.0	55.0	12.6	2.5
IV	4.5	25.2	52.9	14.6	2.0
V	5.0	19.2	56.8	15.9	3.0
VI	8.9	17.8	58.0	13.5	1.7

A closer analysis of the achievement records of different classes, or of the same class, brings out interesting facts. For example, a class whose record, based on grand totals in a number of different subjects, is superior to that of any other of a number of different classes, may earn its superior rating because of better than average ability as a pupil group in two or three subjects while in a fourth subject it may rate considerably below average. It is conspicuous in the record of Class I that the very large per cent of failures was due to poor results in Arithmetic in which occurred more failures than in the remaining three subjects combined. Teachers of advanced subjects and grades will find knowledge of this kind to be useful.

VARIATIONS IN PUPILS' ANNUAL AVERAGES

It appears from the study that there is not a marked probability of a pupil's annual average grade remaining approximately the same in the same subject through the three upper grades. Between different subjects the probability of a pupil's earning approximately equal rating is more remote. In an effort to bring into relief whatever probability there is, the records of 235 different boys and girls were examined. To state the case again: the aim was to discover with what frequency boys and girls earned constant grade values

through three consecutive years, the subject remaining the same. In the sense here used, constant grade value is said to obtain in the case of a pupil whose grade through three consecutive years, in the same subject, falls in the same grade group. It will be recalled that the five grade groups are: 0-75, 75-80, etc. The figures below show the actual number of pupils, by subjects, whose annual average grades fell in the same grade group, or in two of the five grade groups, or in three of the five. From a consideration of the table it is apparent that the probability of a pupil's earning a constant grade value in Arithmetic is less than in History, less in History than in Geography, and less in Geography than in English.

Subject	Constant	2 Groups	3 Groups
Arithmetic	41	151	43
History	71	136	28
Geography	88	128	19
English	113	116	6

The varying degree of constancy in grades earned from year to year, as described above, is perhaps made clearer by the following data. Of 215 pupils accounted for, 93, or 43.2 per cent, showed a maximum variation of 10 to 33 points in annual average grades earned in Arithmetic; in History, 36 of 214 pupils, or 16.8 per cent, showed a maximum variation of 10 to 27 points; in Geography, 31 of 214 pupils, 14.4 per cent, of 10 to 30 points; and in English, 13 of 214 pupils, 6.0 per cent, of 10 to 17 points.

The average median deviation, by subjects, for six different classes are as follows:

Subject	Av. Med. Dev.
Arithmetic	10.5
Geography	5.8
History	5.7
English	3.6

The writer of this does not believe he has made any original contributions to the collection of facts already discovered in connection with the study of grade determination and distribution. The description of the study is not more than an organization of material in hand which in one way or another is closely related to some of the most vital problems which today are not satisfactorily solved.

Until an objective standard of measurement is found, widely used, the present method of determining grades through the teacher's judgment will certainly be retained. And that, too, despite the uncertainties, the variations which characterize the method and defy logical explanation. While it may be true that the reliability of grades given the pupil by the teacher is not pronounced, it is equally true that we have not yet reached the point where standard tests have proved their undisputed superiority. They are as yet but supplementary aids. However, this is a digression from the purpose of our paper and is a proper subject for the scientific student of educational method.

R. B. MARSTON

III

OUTSTANDING FEATURES OF THE RECENT SESSION OF THE DEPARTMENT OF SUPERINTENDENCE OF THE N. E. A.

It was the opinion of some that this and future sessions of the Department of Superintendence would lack in general interest and value because of the plan adopted last year restricting membership in that body and restricting also the number of other associations meeting with it. Those in attendance were therefore surprised at the richness of this year's conference and found that such associations as did not secure a place on the official program staged their usual meetings in convenient hotels and printed their own programs. There was no evident falling off of attendance although, in contrast with her adjoining neighbors, Virginia had a very small representation, particularly of superintendents and other administrative officials. It is not likely that this indicates a lask of professional interest but rather a lower salary standard.

In the main the problems to which the convention gave attention were very much like those of the last few years. The stress, however, was changed. In the case of the exhibits which were held in the Leiter Building, one was impressed with recent developments in map-making and still more with the