

A STUDY OF THE FACTORS IN THE EFFICIENCY OF BOYS' AND GIRLS' CLUBS.

BY W. W. CHARTERS AND JAMES H. GREENE,

Pittsburgh, Pa.

During the club seasons of 1917 and 1918 statistical studies of boys' and girls' clubs in Illinois were made for the purpose of seeing what effect certain factors had upon the actual efficiency of the clubs.

Club efficiency was determined by the percentage of the net enrollment reported by club leaders, as completing the projects undertaken. By net enrollment is meant the gross enrollment reported, minus those dropping the work because of removal, sickness, and other "unavoidable" causes. (This word in quotations was indefinite but constituted only a very small fraction of the returns with an enrollment of 1,952.)

Returns were received from 108 clubs in 1917 and from 102 clubs in 1918, with a total enrollment of 1,631. That these were a random sampling of the clubs of the state was ascertained in 1917 from data obtained from county superintendents and farm advisors concerning clubs which did not report. These data were to the effect that of the clubs not reporting 9 clubs enrolling 181 had organized but had not met, 18 with an enrollment of 931 had continued for a time and stopped and 19 with an enrollment of 1,117 had been carried to successful completion. It was, therefore, thought unnecessary to check the sampling of 1918.

In both 1917 and in 1918 the clubs were arranged in the order of efficiency from 100 per cent down. For purposes of study they were divided into four groups, approximating the four-fourths of the lists with modifications necessary to avoid separating clubs of equal efficiency into different groups. Table I displays the grouping.

TABLE I.

		I	II	III	IV
1917	Per cent of Efficiency.....	100	99-89	88-65	64-0
	Clubs and ranks.....	1-41	42-56	57-81	82-108
1918	Per cent of Efficiency.....	100	95-76	75-54	50-0
	Clubs and ranks.....	1-25	26-50	51-76	77-102

This table reads so as to show that in 1917 clubs 1-41 included in Group I had an efficiency of 100 per cent, clubs 42-56 had a range of efficiency from 99-89 per cent and so on. It is interesting to note the relatively higher efficiency of the clubs in 1918.

These groups having been thus determined, several studies were made to determine the influence, if any, of some twelve factors supposed to be of value in club work. These will be presented in serial order.

The Local Leader.—In 1917 a study was made of the occupations of the local leaders. Reports of occupation were received from 82 of the 108 clubs and it was found that 58 were teachers, 6 were farmers, 3 were ministers, 6 were housewives, and 11 were of miscellaneous occupations. The members of all except the teachers were too small for the drawing of any conclusions. In the case of the teachers, it was discovered that while 71 per cent of the leaders reporting were teachers, 79 per cent of the leaders in Group I were teachers, 75 in Group II, 73 in Group IV and 55 in Group III. This may be interpreted as showing that the fact that the leader is a teacher is no indication of the particular group in which the club will be found. They were highest in Group I and lowest in Group III but almost as high in Group IV as in Group I. The cause of this neutrality of effect is probably due to the fact that superior leadership is counter-balanced by absence during the summer. The six farmers were distributed 50, 17, 17, 17 in the four groups, and the 6 housewives 33, 17, 17, 33; but six cases were too few to be of value.

Advisory Committee.—In 1917, the clubs of Illinois were directed to have advisory committees of adult farmers. From 67 clubs reporting in that year it was found that of the 100 per cent clubs (Group I), 68 per cent had no advisers, 21 per cent had good advisers and 11 per cent had unsuccessful advisers. This means that 89 per cent of the best clubs had either no advisers, or advisers who did not advise. For groups II, III, and IV, corresponding totals were 50, 50, and 73. It would seem that so far as these clubs were concerned an advisory committee was not essential to success.

Club Officers.—In 1917, it was found that of the 81 per cent of clubs reporting the percentage of clubs having officers and a formal organization in each group from I to IV was 100, 86, 84, and 73. This shows an interesting fall, the less efficient the club, the less likely to have officers.

Meetings.—In 1917, in 51 per cent reporting it was found that the average number of formal meetings per club ranged in Groups I to IV as follows: 7.6, 14.4, 8.6, and 4.9. In 1918, in 85 per cent reporting the range is as follows: 10.2, 8.6, 7.8, and 7. There would, therefore, appear to be some correlation

between efficiency and the number of meetings in 1918, this is reinforced in part in 1917 where the poorest group has the smallest number of meetings.

Paid Club Leaders.—In 1917, four clubs had paid club leaders. Of these one was found to be in Group II and 3 in Group IV. This number was not large enough to warrant drawing the superficial conclusion that paid leaders were not as successful as volunteers. Particularly was this the case because of the fact that the paid leaders were placed in charge of propositions which were considered to be too difficult for volunteers. All of the clubs had over 40 members and therefore were not so likely to bring as large a percentage through to completion of their projects.

In 1918, there were no paid local leaders with the exception of teachers in the Rockford city schools who were paid a small salary for summer work. A large per cent of the local leaders of the clubs included in the 1918 report were teachers and hence for the period of the school term might be considered in a sense as paid local leaders. Inasmuch as the clubs with teachers as leaders are distributed quite uniformly, they are not singled out for discussion. Of the *five* Rockford clubs reporting, however, *two* are in the first group of 100 per cent clubs, and *three* are in the second group. The data is too meager from which to draw conclusions but it would seem, other things being equal, that the payment of leaders to secure all-the-year round service is undoubtedly profitable. Observation leads to the conclusion, however, that payment in and of itself does not necessarily secure the type of service desired.

The size of the most efficient club.—The determination of the maximum and minimum size for best work is naturally of great practical interest.

In 1917, the clubs ranged from two clubs of one member (net enrollment) to one of 160. The following table indicates some of the salient facts concerning the range of clubs in each group:

TABLE II.

Summary of Measures of Relations Between Size of Club and Efficiency.

Measure—size of clubs.....	I	II	III	IV	To't
No. of clubs in group.....	41	15	25	27	108
Upper extreme.....	1	10	4	1	1
Lower extreme.....	48	109	46	160	160
Range.....	1-48	10-109	4-46	1-160	1-160
Twenty-five percentile (approx.).....	5	13	7	8	7
Median.....	8	17	14	13	11
Seventy-five percentile (approx.).....	13	24	18	25	10
Middle fifty per cent (approx.).....	5-12	12-24	7-18	8-25	7-19

This table should be read as follows: The upper extreme or smallest club in Group I contained one club member and the lower extreme or largest club in the same group contained 48. The range in size, therefore, was from 1 to 48. The twenty-five percentile, or club which was one-fourth of the number of clubs proceeding from smallest to largest contained 5 members. The median or middlemost club of the series of clubs contained 8 members. The seventy-five percentile or club three-fourths of the way down the series contained 13 members. The middle 50 per cent of the clubs ranged from 5 to 13 in membership. The data in the succeeding columns are read in the same way.

In 1918, the distribution of the same facts were as shown in Table III which should be had as Table II.

TABLE III.
Summary of Relations Between Size of Clubs and Efficiency in 1918.

Groups.....	I	II	III	IV
Upper extreme.....	3	6	5	4
Lower extreme.....	36	48	68	87
Range.....	3-36	6-48	5-68	4-87
25 Percentile.....	5	10	7	8
Median.....	10	13	11	11
75 Percentile.....	15	18	20	14
Middle 50 per cent.....	5-15	10-18	7-20	8-14

A further study shows that in 1917, 31 of the 41 clubs making 100 per cent had a membership of less than 12, and in 1918, of the 25 clubs having the maximum possible efficiency, 19 were less than 14. On the other hand in 1917, clubs with memberships of 103, 109, 120, and 160 had efficiencies of 99, 95, 64, and 57 respectively, and in 1918, clubs of over 30 members, viz., 32, 36, 39, 42, 43, 47, 48, 68, and 87, had efficiencies of 47, 100, 21, 50, 70, 81, 85, 72, and 44, respectively.

While these figures prove nothing conclusively, they indicate that so far as mortality is concerned, the small club ranging from 7-15 is preferable and that very large clubs are not so satisfactory. But it is a question whether so far as the good done to a community is concerned, a club with a membership of 100 which has an efficiency of 50 per cent and brings 50 members through to the completion of the project, is not better than one of 10 with an efficiency of 100 per cent but which brings only 10 through. This, however, can be obviated, in part, by breaking a large club into several small ones and thus obtain a lower mortality.

Making Reports.—In Illinois it is "required" that members shall make written reports to the central office at Urbana. It

is, therefore, possible to see if making of reports has any bearing upon efficiency.

In 1917, in returns from all but five of the clubs it was found that 76 per cent of the members in Group I (100 per cent clubs) 59 per cent in Group II, 61 per cent in Group III, and 38 per cent in Group IV sent in reports of their projects. In 1918, so many clubs failed to report this item that no trustworthy figures could be obtained. It is significant that in 1917 the efficiency of the clubs and the percentage of those reporting had a very high correlation.

Making Exhibits.—A similar study was made of the relation between efficiency and the making of exhibits which was persistently recommended in the club literature. In 1917, it was found that from 100 clubs reporting, out of a total of 108, the percentage of members exhibiting ranged from Group I to Group IV as follows: 37, 32, 32, and 21. In 1918, the range from Groups I to IV were 59, 52, 39, and 33. In both cases it appears quite evident that the stimulus that comes from the expectation of making exhibits and in many cases of winning substantial prizes at the shows is quite substantial.

Age Distribution of Clubs.—Membership in clubs is limited to those between the ages of 10 and 18, although some a year or two older or younger sometimes were admitted. There is much discussion among club leaders as to the range of ages of club members who do the best work. This table is an attempt to answer this question. The age given is the age at the last birthday. For this reason all calculations are made for years only. Ten years for example include 10 years and all months up to and including 10 years and 11 months. A range in years from 10 to 14 inclusive is considered as 5 years.

There is little or no relation between the ages of club members and the efficiency of the club in the several groups in either 1917 or 1918. In 1917 the medians of the median ages of clubs were 13 in Group I and 12 in each of the others. In 1918 they were 12 in each of the four groups. The extremes of the club medians were 10 years and 16 years in 1917 and 10 years and 14 years in 1918.

Range of Ages.—The opinion has been frequently expressed that the more nearly the members are of the same age the greater efficiency. This is not borne out by the data of 1917 or 1918. In 1917, the medians range, counting a club with children ranging from 12 to 15 years as a range of 4 years, were 5, 6, 6, and 6

years respectively for Groups I to IV. In 1918, the median ranges for each group from I to IV were 3, 4, 5, and 5. The extremes of range for the four groups were from 2 to 8, 1 to 7, 1 to 10, and 3-11. In 1917 there seemed to be no perceptible advantage in having a narrower range of age in the clubs, but in 1918 there seems to be a tendency for the clubs with membership closer together to achieve higher efficiency although the extremes between the smallest and lowest ranges in individual clubs is about the same in each group.

Efficiency by Individual Ages.—It was found in 1917 that there was no great difference in the probability of children of any age achieving greater efficiency where enough cases were available to work out any conclusion. This is shown in Table IV which shows, for instance, that of the two pupils 7 years of age enrolled, none completed a project and 2 did not. It will be observed that there is no steady rise or fall of any pronounced sort either toward the lower or the upper ends of the table.

TABLE IV.

Numbers and per cents of Members of Each Age Completing and Not Completing Project.

Age	Total	Completed	Per Cent	Did Not Complete	Per Cent
7	2	0	0	2	100
8	5	3	60	2	40
9	16	9	56	7	44
10	154	128	83	26	17
11	207	170	82	37	18
12	288	234	81	54	19
13	246	190	77	56	23
14	214	167	78	47	22
15	128	105	82	23	18
16	81	66	81	15	19
17	43	37	86	6	14
18	18	16	89	2	11
19	2	2	100	0	0
20	2	2	100	0	0

It was found in 1917 that the mixed clubs, those in which the members worked on different lines of projects, were not so likely

TABLE V.

Comparative Efficiency of Four Leading Projects and Normal.

	Normal	Garden	Corn	Canning	Mixed
	%	% Plus or Minus	% Plus or Minus	% Plus or Minus	% Plus or Minus
I	38	41 Plus	50 Plus	40 Plus	30 Minus
II	14	22 Plus	18 Plus	6 Minus	13 Minus
III	23	15 Minus	18 Minus	33 Plus	33 Plus
IV	25	22 Minus	12 Minus	22 Minus	23 Minus

to be efficient as were those in which the club members all worked on projects of one sort as garden, canning or corn. The same result is found in the 1918 reports. The degree of correlation is shown for 1917 in Table V.

Conclusion.—The foregoing observations are chiefly suggestive and may lead to some modification of practice. The personality of the leader probably is of more importance than any other single item and that has not been measured in this investigation. Meagre as are the results of the study it is of importance as an example of the type of investigation which must be made to verify or refute the wisdom of many of the rules and principles followed by club organizers.

HELP THE STUDENT SELECT.

BY J. E. RUNNING,

High School, Dickinson, N. D.

How do high school students decide what electives to choose? To what extent are they guided by the advice of others? How many select a particular subject because they are particularly interested in the subject matter that they expect it to treat of? How many select subjects because they expect them to be easy?

I tried to get an answer to these questions from the students in my own classes in the following manner: The first day of school I handed to each student in my classes a card on one side of which I asked them to write their names and on the other side the reason for taking that subject. Our courses of study are so flexible that every one of my subjects—physics, chemistry, and general science—can be looked upon as an elective. General science is given in the ninth grade, chemistry in the eleventh, and physics in the twelfth. Following are the tabulated results:

	General Science	Chem- istry	Physics	Total
Advised by parents.....	11	4	0	15
Advised by brother or sister.....	2	3	0	5
Advised by other student.....	8	2	2	12
Advised by teacher.....	3	1	0	4
Advised by doctor.....	1	1	0	2
Interested in science.....	8	9	8	25
Interested in laboratory work.....	0	7	6	13
Considered valuable.....	2	3	6	11
To prepare for college.....	0	3	0	3
To earn a credit.....	0	2	0	2
Told subject was easy.....	0	1	0	1