INDIVIDUAL GUIDANCE IN A CCC CAMP

Its Effect Upon Participation and Quality of Work in a Voluntary Educational Program

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Resume of a study of guidance in Company 127, CCC, Pittsfield, Massachusetts, conducted by Camp Educational Adviser Kirkland Sloper, during the period November, 1937, to March, 1938.

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FOREWORD

GUIDANCE IS the foundation of the educational program in Civilian Conservation Corps camps. Without guidance these young men would not enroll in such large numbers in camp activities. The more effective the guidance program is the greater will be the participation of the men.

The reasons for guidance can best be understood if we first know something about the young men in the camps. The typical enrollee who joins the Corps is about 20 years of age, with approximately 8 years of schooling. His family is either on relief or eligible for it. He has had little or no work experience and has been bewildered and disheartened by his futile efforts to secure a job. He has had no vocational training nor has he received any vocational guidance. In most cases he is underweight and undernourished. Because of his unfortunate experience, he may have lost faith in himself and others, and as a consequence, he may be apathetic and listless, or perhaps embittered and antisocial in his attitudes. A large number of the men leaving their families for the first time are homesick and skeptical of the opportunities awaiting them.

When the young man enters a camp, he is subjected to a score of new influences. His education and development are not confined to a classroom. Work, play, study, the routine and discipline of camp life, association with his fellows and contacts with the supervisory personnel—all of these aid in his development. The whole of camp life, the 24 hours of the camp day are, in the best sense of the word, educational. He must be guided, however, if he is to secure the maximum benefits from his experience.

It was not strange, then, that those Civilian Conservation Corps officials who were accustomed to working with young men considered guidance to be one of their major functions. Gradually the acceptance of this responsibility spread until today it may be said that all Civilian Conservation Corps agencies and most of the supervisory personnel carry on guidance work with the enrollees.

This healthy growth and understanding has been fostered in a number of ways. Numerous publications, directives, and letters have issued from all agencies regarding guidance. All departments of the Government which share in the operations of the Civilian Conservation Corps have emphasized this phase of the program. In 1938, the Office of Education published a bulletin entitled "Civilian Conserva-

tion Corps Camp Education: Guidance and Recreational Phases", which was based on research work carried on by Boston, Columbia, Ohio State, and Washington State Universities. The War Department secures monthly reports on the educational program, a section of which concerns guidance. Similar trimonthly reports are secured from camp work superintendents by using the services of the Department of the Interior and of the Department of Agriculture (National Park Service, Forest Service, Soil Conservation Service, and others).

Likewise this subject has been the principal topic in the annual and other periodic educational conferences for camp advisers. These meetings have been attended by members of other Civilian Conservation Corps agencies as well as by advisers. Leading authorities in the field of guidance have delivered talks at these conferences and shared in the discussions.

It is now recognized that neither the Civilian Conservation Corps nor an individual camp can operate efficiently without an effective guidance program. Its results are directly reflected in the morale of the corps, the efficiency of its administration, and the amount and quality of the work accomplishments.

A number of different methods of guidance have been employed in the camps. Kirkland Sloper, adviser in Company 127, Pittsfield, Mass., has developed a technique that is worthy of passing on to all Civilian Conservation Corps officials. Moreover, he conceived the idea of measuring the results of his guidance methods in order to ascertain their relative values.

The equivalent group method of experimentation was used. The study covered two almost continuous periods that were relatively free from interruptions or change of enrollments, i. e., the first period, November 5, 1937–December 24, 1937; and the second period, January 6, 1938–March 25, 1938. The experiment was carried on with two groups of 72 enrollees each.

The results of the tests show clear evidence that with all other factors held equal, individual guidance increased the participation of one group in the educational program more than twofold and had an equally marked effect on the quality of the educational work performed.

Mr. Sloper has made a splendid contribution to the Civilian Conservation Corps educational program. I believe that a careful study of this publication by all Civilian Conservation Corps officials and an application of its principles will be of great value not only to themselves but also to the Civilian Conservation Corps.

HOWARD W. OXLEY,
Director of CCC Camp Education.

PREFACE

THE WRITER acknowledges with deep gratitude the guidance and aid which Harry S. Broudy has so generously extended during the months of this study. His counsel and advice have aided immeasurably in the planning, execution, and recording of this experiment. To other members of the faculty of State Teachers' College at North Adams, the writer also desires to express his appreciation for their assistance.

No experiment of this type can be conducted without the full cooperation of all those directing or working in the program being studied. The debt that the writer owes to the Washington office of Civilian Conservation Corps education, to the First Corps Area office of Civilian Conservation Corps education, to United States Army officials, to National Park Service officials, to Works Progress Administration instructors, to enrollees of the camp, and to university and public libraries, cannot be adequately expressed. Especially should be mentioned the cooperation and aid of Joel E. Nystrom, civilian adviser for Civilian Conservation Corps education in the First Corps Area; Lawrence F. Carlberg, captain, Field Artillery Reserve, commanding officer of the One Hundred and Twenty-seventh Company, Civilian Conservation Corps; and Henry Merritt, a member of that company.

CHAPTER I: THE PROBLEM

STATEMENT AND GENERAL PLAN.—The purpose of this study was to determine the effects of individual guidance upon participation and quality of work in a voluntary Civilian Conservation Corps educational program. The results, measured in quantitative terms, help to justify or lessen the emphasis now placed on individual counselling in the camp educational programs.

The equivalent group method of experimentation was used; 1 group of 50 enrollees was given individual guidance from January 5, 1938, to March 25, 1938, and the records of participation and quality of work were compared with an equated group of 50 enrollees which had the same opportunities for participation and quality but received no guidance of an individual nature.

In order to equate the groups, the period of November 5, 1937, to December 24, 1937, was used to obtain participation and quality of work figures for each individual in camp. A full educational program was conducted during that period, but no individual guidance was offered to any of the enrollees. Incentives supplied through group guidance were held constant throughout both periods. By equating the groups on the basis of previous participation, previous quality of work, age, previous schooling, and mental ability, the only factors which experimentation showed as having a correlation with participation, the effects of individual guidance upon participation and quality of work were isolated and measured. The details of the equating process are shown in chapter III.

The experiment was limited to the effects of individual guidance on participation and quality of work in one Civilian Conservation Corps camp with 2 equivalent groups of 50 men each. The conditions within this one camp were favorable for the experiment. No educational adviser had been assigned to the camp for several months previous to November 1, 1937; thus no carry-over of previous individual guidance activities could interfere with the operation of the program during the first period when the amount of participation of each individual without individual guidance was desired. As will be shown in chapter II, the camp, its program, and the enrollees were typical. Thus there is no reason to assume that the results should not have a wider import.

The definition of guidance and the differentiation between individual and group guidance are important because of the various meanings which are attributed to these terms. The term "guidance" will be

used to mean the process of assisting the individual to adjust himself to his immediate environment, "choose an occupation, prepare for it, enter upon, and progress in it."

The part that guidance takes in the entire picture of Civilian Conservation Corps education is largely one of motivation. It should aim to supply the motives for action on the part of the individual.

The term group guidance is used to denote the steps in guidance which are carried on by a member of the Camp personnel with all or several of the enrollees at the same time by means of lecture, demonstration, discussion, or direction.

Individual guidance consists of operating through interviews and counselling with enrollees separately.

TABLE 1.—*Group guidance*

A. Explanation of purposes of Civilian Conservation Corps program.
   1. Showing methods of camp adjustment.
   2. Urging self-analysis by lecture.
   3. Urging the choice of a goal by lecture.
   4. Showing steps that can be taken to reach possible goal.
   5. Presentation of immediate incentives through lecture and discussion.

B. Occupational information:
   1. Weekly meeting of occupational information course.
   2. Library service, including books, pamphlets, and posters on occupational information.
   3. Biweekly trips to local industries allied with occupational information course.
   4. Biweekly motion pictures on occupations allied with course.
   5. Use of camp jobs as try-outs.
   6. Occupational information through job and class instruction.
   7. Monthly lectures on occupations by community leaders.

C. Placement service:
   1. Lecture and drama on "How to get a Job."
   2. Conspicuous posting of data on industrial qualifications.
   3. Cooperation with Massachusetts State Employment Service.
   4. Direct contacts with local employers.
   5. Contacts with apprentice schools and educational institutions.

D. Guidance through the character education program:
   1. By example.
   2. By social pressure.
   3. By recreational and social activities.
   4. Indirectly by class instruction.
   5. By formal and direct character instruction.

E. Showing of relation of educational activities to guidance problems.

Table 1 outlines the activities of group guidance as they were practiced during the 5 months of the experiment. Individual guidance during the second period of the experiment is outlined in detail in chapter IV. For purposes of definition it is sufficient to state that all the activities listed under group guidance were also carried on through personal counseling, and that, in addition, an extensive personal survey, an analysis of this survey in regard to occupations, aid in making a choice of either an ultimate or immediate objective,

an analysis of personal weaknesses in terms of that objective, aid in outlining a program to overcome these weaknesses, and analyses of development were included in individual guidance.

Participation was measured in terms of the number of hours of attendance in voluntary educational activities. Careful and exact records were kept to insure an accurate representation of participation. Variable factors such as sickness and leave were recorded, and each individual's participation was computed by obtaining a ratio between the number of actual hours of participation and the number of hours available for that individual.

Quality of work was limited in measurement to marks given by instructors. Because in some cases volunteer instructors were used, who had had only limited teacher training, exact numerical marks were impossible. In addition, the varied educational backgrounds and differences in abilities of the students participating in a course would not, in most cases, allow standard tests to be given. Furthermore, the philosophy of the entire Civilian Conservation Corps educational program is one incompatible with standard methods of marking. On the other hand, one of the major results of individual guidance should be reflected in more efficient and a higher quality of work. Thus a system of grading was used, based upon the student's progress and achievement considering his original background and ability. Experience has shown that a system using only three standards is the most practical; thus, marks were "Above average," "Average," or "Below average."

For the success of the experiment it was necessary to emphasize to the enrollees of the camp that all phases of the program were entirely voluntary. No moral persuasion to attend classes just for the sake of participation was used by anyone in the camp. No penalties were made for nonattendance or inducements for attendance other than the following:

1. Promise of consideration of work in the educational program when considering candidates for leaders' positions.

2. Promise of consideration of work in the educational program when making placements for special camp jobs.

This was done for training purposes and for efficiency in the work program.

3. The promise of consideration of work accomplished in the educational program when placements were being made in private industry by camp officials.

4. An interbarrack competition for prizes based on 5 months attendance in the educational program was conducted.

These four incentives were constant for all members of the camp during the periods of experimentation, but no enrollee was cognizant of the experiment.

CHAPTER II: THE PROGRAM WITHOUT INDIVIDUAL GUIDANCE

TO OBTAIN a basis upon which to equate two groups for the experiment, it was necessary to operate the camp educational program for a period of 6 weeks, November 6 to the first week in January, without the presence of individual guidance. The participation and quality of work ratings thus obtained could be used in equating the groups. The determination of the correlations between other individual variables and participation would also indicate any other bases upon which the groups would have to be equated.

Survey of program offered.—The educational program offered in this camp was not an exceptional one, or especially outstanding. The greatest value from the study could be obtained, it was felt, by conducting a program typical of Civilian Conservation Corps Camps, rather than one with unusual features.

The activities that were offered in the educational program were determined by the following factors:

1. Needs of the enrollees as learned through study of previous enrollee groups in relation to the objectives of Civilian Conservation Corps education.
2. Interests of the enrollees as learned through study of previous enrollee groups.
3. Physical facilities available.
4. Teaching personnel available.

Only one class, a first-aid group, was in operation previous to November 1 and was carried over into the new program. Thus, entirely new activities were presented in which the enrollees might participate.

Formal registration sheets were prepared for the opening of the educational activities. These were distributed by the adviser to the entire company at a group meeting. In a talk to the group, the incentives for an enrollee participating were introduced and explained. The content and purpose of each educational activity was similarly clarified for the group. After sufficient time for deliberation, the enrollees made their choices and returned the forms to the educational adviser. The voluntary aspects of the program were emphasized, and no attempt was made to obtain registration forms from those who did not voluntarily return them.

The organization of these selected activities into a weekly program resulted in a permanent schedule as shown in table 2.

TABLE 2.—*Educational schedule, November and December 1937*

Monday:
- 4:30. Surveying.
- 6:30. Radio.
  First-aid.
  Leathercraft.
  Typewriting.
  Algebra.
  Building construction.
- 7:30. Leaders' Club
  Photography.
  Forestry.

Tuesday:
- 6:00. Recreation trip to Pittsfield.
- 6:30. Leathercraft.
  Testing.

Wednesday:
- 5:30. Auto mechanics.
  Journalism.
  Forestry.
  Metalcraft.

Wednesday—Continued:
- 5:30. Typewriting.
  Radio.
- 6:30. Map making.
  Test preparation.
  Woodworking.
  Radio.
- 7:30. Teacher training.

Thursday:
- 5:15. Safety council.
- 5:30. Arithmetic.
  Music and dramatics.
- 6:00. Basketball.
- 7:00. Recreational program.

Friday:
- 5:30. Photography.
  Typewriting.
  Radio.
  Woodworking.

Physical facilities.—A school building 75 feet by 25 feet was available for educational work. This building contained a library, radio workshop, woodworking and handicraft shop, camp newspaper office, adviser's office, photographic dark room, and one other classroom. The radio workshop was equipped with an amateur short-wave transmitter and the handicraft shop with power equipment.

Other buildings, including the auto mechanics shop with its tools and equipment and the drafting room, were used to house educational activities in addition to the school building.

Teaching personnel.—Fifteen instructors offered 27 courses as follows:

Title	*Number*	*Number of courses*
Educational adviser	1	6
Assistant educational adviser	1	1
Army officers	2	2
Contract physician	1	1
Technical staff	2	4
Foremen	3	6
Enrollees	4	4
W. P. A. instructors	1	3

With the exception of the adviser none of these instructors were trained for educational work; however, each was qualified to perform the activity which he was teaching. A weekly teacher-training program conducted by the adviser was participated in by the instructors to obtain the elements of educational methodology.

Operation of program.—In the operation of this educational program no individual guidance was given to enrollees during the first 6 weeks. If the adviser or another member of the personnel was forced into giving such counselling by the request of the individual, a record was

made. Such enrollees were then disregarded when keeping records of participation and quality of work for the purpose of the study. All of the steps of group guidance as shown in table 1 were practiced during this period. Records of participation were kept for each enrollee. Participation was recorded by hours of regular class instruction.

During the last week of the period, with the aid of the First Corps Area testing specialist, mental ability tests were administered to all enrollees from whom the experimental or control groups were to be chosen. Those enrollees who planned to leave during the next 3 months were not tested, and those who had had any form of individual guidance during this first period were likewise omitted.

The Terman group test of mental ability for grades 7–12 was issued since this had been the standard test for the Civilian Conservation Corps camps of New England. However, it was recognized that for the group lacking a seventh-grade achievement and for those of a bilingual background the results might be misleading. Thus, for the former the Otis self-administering test for grades 4–8 was also given, and the Beta revised examination was administered to those who came from bilingual backgrounds. The results in table 3 show that with very few exceptions the intelligence quotient derived from the Terman test was not misleading. The cases listed are only those whose background would not appear to be applicable to the Terman-test results.

A summary of the activities held during this period is shown in table 4 as compiled from the camp monthly educational reports. The column headed "Attendance" records the average attendance of each meeting of the class. "Man-hours of instruction" was obtained by multiplying the average attendance by the number of meetings and by the average length of the meetings expressed in hours.

TABLE 3.—*Comparison of intelligence quotients derived from Terman group test with other tests for enrollees with poor English backgrounds*

Case	Years of schooling	English spoken in home	Terman I. Q.	Otis I. Q.	Beta I. Q.
1	2	3	4	5	6
A	9	Some	83	------	76
B	9	do	83	81	------
C	8	None	94	------	99
D	10	Some	96	91	------
E	7	do	86	89	------
F	8	None	50	------	52
G	8	do	72	------	76
H	10	do	83	------	91
I	7	do	88	------	83
J	7	Some	72	------	71
K	9	do	82	------	89
L	10	do	85	87	------
M	8	do	85	73	------
N	8	do	86	77	------
O	7	do	69	59	------
P	8	None	84	------	79
Q	6	Some	65	------	67
R	7	do	81	------	71
S	8	do	88	74	------
T	9	Yes	65	60	------
U	8	None	94	------	91

TABLE 4.—*Educational activities during November and December*

ACADEMIC CLASSES

Subject	Average enrollee attendance	Number of meetings	Man-hours of instruction
1	2	3	4
Arithmetic	8.5	2	17
English, elementary	2.5	14	68
Algebra	7.5	3	11
Current events	8.0	4	48
English, high school	7.5	7	78
Total		30	222
VOCATIONAL CLASSES			
Occupations	30.0	4	120
Auto mechanics	17.5	6	210
Carpentry	9.5	10	176
Journalism	5.5	13	134
Map making	6.0	7	82
Radio	5.0	20	188
Surveying	8.5	3	35
Typewriting	6.5	10	116
Total		73	1,061
INFORMAL ACTIVITIES			
Leathercraft	8.0	8	120
Metalcraft	8.0	4	64
Photography	11.0	9	168
Woodturning	6.5	8	104
Music club	13.0	4	104
Dramatic club	12.5	4	100
Total		37	660
OTHER ACTIVITIES INCLUDED IN STUDY			
First-aid	16.5	6	99
Teacher training	7.5	3	23
Leader training	17.0	6	104
Total		15	226
Grand total		155	2,169
ACTIVITIES NOT INCLUDED IN STUDY			
Job instruction and correlated study			1,133
Safety			300
Health			87
Total			1,520

CHAPTER III: EQUATING OF GROUPS

SINCE THE purpose of this study was to determine the effect of individual guidance upon participation and quality of work, it was necessary to equate the two groups in regard to any variable which might affect these two factors.

First, the groups had to be equated in regard to the amount of participation which the individuals would have had without the presence of individual guidance. The individuals could not be compared on a basis of exact hours of participation since not all had had the same opportunities due to the variable factors of sickness, leaves, and work duties.

Thus, 10 hours per week was chosen as an arbitrary figure to show the maximum hours available for any individual in 1 week. During the second period it was found that a few individuals exceeded this figure, but, because of its arbitrary nature, the fact that no consistent error could result from it, and its use only as a comparative instrument, this result should not invalidate the choice.

Since the program during the first period was in operation 6 weeks (November 6 to December 24), this made a total of 60 hours theoretically available for each individual. From this total was subtracted the number of hours of variables which would interfere with participation. These variables amounted to an average of 2.1 hours for each individual during the entire period. Thus was obtained a figure for each individual which represented the total number of actual hours available for him. A ratio was then set up for each individual of his actual hours of participation in relation to his available hours. This ratio was multiplied by 100 for ease in compilation.

These participation ratios for the first period ranged from 0 to 100, with the mean at 22.2, and a standard deviation of 23.63. This meant that the average participation in the voluntary aspects of the educational program was about 2.2 hours per week per individual during the 6-week period.

The marks of quality of work were averaged for each individual. Numerical equivalents were given to the marks, 3 for "above average," 2 for "average," and 1 for "below average." The quality rating for an individual was obtained by adding the numerical equivalents of his marks and dividing by the number of courses which he had taken. The mean of the marks themselves was 2.05 with a standard deviation of 0.718 or slightly above average.

The intelligence quotients obtained through the mental ability tests were recorded for each individual. The results of the Terman test were used exclusively in this equating of the groups. It has been shown by table 3 that very little difference existed between the mean of this test and the Otis fourth to ninth grade and Beta even for the individuals for which the latter tests seemed more practical. Since the Otis and Beta tests were not given to all enrollees it seemed more consistent to use the Terman exclusively. The range of intelligence quotients was from 55 to 130 with a mean of 90.6 and a standard deviation of 14.3.

Age and years of schooling were considered as other possible factors in determining the degree of participation. Ages were figured to the nearest full year, and years of schooling were measured in units of grade achievement. An enrollee leaving in the middle of the junior year of high school was credited with 10 years of previous schooling. The range of ages was between 17 and 24, with the mean at 18.9 years, and a standard deviation of 1.55. The range of previous schooling was from 5 to 12 years, with the mean at 9.1 years, and a standard deviation of 1.53.

In order to discover whether these three factors, intelligence, schooling, and age, might have an effect upon participation, correlations were determined. In computing this and all other correlations Pearson's product-moment formula was used. It was found that a positive correlation of 0.40 existed between the intelligence quotients and participation, a positive correlation of 0.25 between previous schooling and participation, and a positive correlation of 0.24 between age and participation.

The existence of these positive correlations indicated that the equation of the groups had to be made on these bases as well as on previous participation and quality of work.

Two methods were open for the equating of groups on the five factors of participation, quality, age, schooling, and intelligence. It was desired to avoid the method of a composite rating because of the arbitrariness with which the various factors must be balanced. Thus, the more complicated system of balancing each factor singly but in one selection process was chosen and done in the following manner.

The individuals were arranged in order of their participation ratios with the highest first and the lowest last. These were then broken into five groups. Within these groups the individuals were arranged according to intelligence quotients. The groups were then broken into three subdivisions from this new order. Within the subdivisions the names were arranged according to quality ratings. The two groups, experimental and control, were then chosen by selecting alter-

nate names for each. However, the factors of years of schooling and age were introduced by balancing the two groups in each subdivision in these respects as nearly as possible. This meant in a few cases leaving the alternate plan by one or two places to effect the balance.

The group to which individual guidance was to be given was called the experimental group and is labeled as such in comparisons made. The group which was to receive no individual guidance was called the control group.

When the equating was first done, 145 individuals were divided into the two groups. When an enrollee was discharged who was within one group, an individual who came the nearest to matching him in the other group was dropped. Fifteen members of the experimental group and 7 members of the control group were discharged or transferred. Since a member of the other group was dropped in each case in addition to the enrollee leaving, the groups ended with 50 men each. The participation accomplishments of those men who left the camp were not included in the final figures. All comparisons shown in tables 5, 6, 7, 8, and 9 are made on the basis of the 50 individuals in the final results of the experiment.

When the process of equating the groups was completed the distribution, means, and deviations of the five factors were as shown in tables 5, 6, 7, 8, and 9. A summary of the means was as follows:

Group	Number of men	Mean of—				
		Participation ratio	IQ	School	Ages	Marks
1	2	3	4	5	6	7
Experimental	50	22.2	90.5	9.2	18.7	2.02
Control	50	22.1	90.8	9.1	18.9	2.09

TABLE 5.—*Distribution of participation ratios of experimental and control groups*

Participation ratio	Number of individuals		
	Experimental	Control	Total
81–100	2	1	3
61–80	2	2	4
41–60	8	6	14
21–40	5	9	14
11–20	12	12	24
0–10	21	20	41

The mean of participation ratio of the experimental group was 22.20; the standard deviation was 24.44; and the probable error, 2.33.

The mean participation of control group was 22.11; the standard deviation was 22.92; and the probable error, 2.19.

TABLE 6.—*Distribution of intelligence quotients of experimental and control groups*

Intelligence quotient	Number of individuals		
	Experimental	Control	Total
Over 110	5	5	10
101-110	7	6	13
91-100	12	18	30
81-90	15	11	26
Below 81	11	10	21

The mean intelligence quotient of the experimental group was 90.5; the standard deviation was 13.39; and the probable error, 1.27.

The mean intelligence quotient of the control group was 90.8; the standard deviation was 15.21; and the probable error, 1.46.

TABLE 7.—*Distribution of marks of individuals in experimental and control groups*

Mark	Number of individuals		
	Experimental	Control	Total
Above average	25	27	52
Average	44	41	85
Below average	23	19	42

The mean of marks of the experimental group was 2.02 and the standard deviation was 0.719.

The mean of marks of the comparative group was 2.09 and the standard deviation was 0.717.

TABLE 8.—*Distribution of ages of individuals in experimental and control groups*

Age group in years	Number of individuals		
	Experimental	Control	Total
24	1	1	2
23	1	0	1
22	1	2	3
21	4	6	10
20	3	6	9
19	9	11	20
18	23	16	39
17	8	8	16

The mean of ages of the experimental group was 18.7 and the standard deviation was 1.56.

The mean of ages of the control group was 18.9 and the standard deviation was 1.55.

TABLE 9.—*Distribution of grades of school completed by individuals in experimental and control groups*

School grade completed	Number of individuals		
	Experimental	Control	Total
Twelfth	6	5	11
Eleventh	4	4	8
Tenth	8	10	18
Ninth	14	13	27
Eighth	12	10	22
Seventh	5	6	11
Sixth	1	2	3

The mean of school grades completed in the experimental group was 9.2 and the standard deviation was 1.48.

The mean of school grades completed in control group was 9.1 and the standard deviation was 1.57.

CHAPTER IV: THE GUIDANCE PERIOD

THE SECOND period, during which individual guidance was given to one of the equated groups, extended from January 6, 1938, to March 25, 1938. As had been previously stated, the continuance beyond the end of March would have greatly diminished the number within the groups because of anticipated discharges.

An effort was made to continue the same educational activities that had been in operation during November and December. However, a few changes in teaching personnel necessitated a slight revision in the program, and during January and February the schedule shown in table 10 was in operation. During the month of March four classes were opened in a nearby trade school for the enrollees of the Camp. These classes in machine work, in printing, in sheetmetal, and in woodworking were held twice a week. The first of these groups met for an hour and one-half each session, and the latter three for 3 hours each meeting. The addition of these classes did not invalidate the experiment in any way. They were open equally to enrollees from both groups. The fact that a greater number of the experimental group registered for the courses may be attributed to the awakening of vocational interests through individual guidance. This tends to validate rather than invalidate the final results of the experiment. Furthermore, the compilations, upon which the conclusions of the study are based, are not reached from a comparison of first period with second period records, but rather from a comparison of participation within the second period alone.

TABLE 10.—*Educational schedule, January–March 1938*

Monday:	**Tuesday:**
4:30. Surveying.	6:00. Recreational trip to Pittsfield.
6:30. Radio, elementary.	6:30. Leathercraft.
First-aid.	Radio.
Typewriting.	**Wednesday:**
Leathercraft.	4:00. Correlated job instruction classes.
Arithmetic.	5:30. Auto mechanics.
7:30. Radio, advanced.	Journalism.
Leaders' club.	Forestry.
Photography.	Typewriting.
Woodworking.	Radio, advanced.

TABLE 10.—*Educational schedule, January–March 1938*—Continued

Wednesday—Continued.	Thursday—Continued.
6:30. Map making.	6:00. Occupations.
Test preparation.	7:00. Recreational program.
Woodworking.	Music and dramatics.
7:30. Teacher training.	Basketball.
Thursday:	Friday:
5:15. Safety council.	6:00. Photography.
5:30. Carpentry.	Algebra.
Metalcraft.	7:00. Radio.
Radio.	Woodworking.

The program was opened during the first week in January in exactly the same manner as the previous class registration had been conducted. All of the activities of group guidance as shown in table 1 were practiced throughout this second period with all of the enrollees of the camp. As far as the outward appearances of the program were concerned and as far as the knowledge of any of the enrollees was concerned, the same conditions existed as in November and December.

But the 50 enrollees of the experimental group were given individual guidance. In order to clarify the factor which affected this experimental group, it is necessary to describe the process of individual guidance which was employed.

First, an effort was made to confine the activities of individual guidance to a basis which would be practical in any Civilian Conservation Corps camp. It is recognized that the process followed was far from complete. However, to compile and use complete case histories with a full psychological testing program would be impractical for the average camp. To make the results of the experiment applicable to the Corps as a whole, it was necessary to limit the activities of the individuals guided.

The first tool of personal guidance is to have a picture of the individual's background. "For the purposes of guidance and placement, the individual should be studied by the triple approach of what he is now, what he has done or has had done to him in the past, and what can be predicted for him in the future."[1] The study of the past was obtained through existing records and through personal interview. The accuracy of data obtained through personal questioning of enrollees has been often questioned. There is a basis for this doubt if the enrollee is merely asked questions to complete a record. However, the accuracy is increased when the enrollee is merely discussing his past and answering apparently random questions. The background information for this study was not obtained by having the enrollee reply to the questions of any form, but the material was gradually assembled by infor-

[1] White House Conference on Child Health and Protection, Subcommittee on Vocational Guidance: Vocational Guidance.

mal means. The exception to this method was the information on the cumulative records which had been obtained previous to November first. However, even this elementary data was checked throughout by this method. Errors were discovered in the information recorded on the cumulative record due to the enrollee's effort to hide important facts which he thought might be harmful to him. A common exaggeration is in the amount of schooling which the individual has had. As a sample test of the final information obtained through the informal style, letters were sent to 10 schools requesting scholastic records. In every case the replies only verified information already obtained from the enrollees. Ter Keurst[1] in his study of Michigan enrollees also found few errors in information supplied by enrollees. Table 11 lists the general categories of the information that was obtained for all enrollees in the experimental group.

TABLE 11.—*Personal survey*

Information obtained concerning each member of the group receiving individual guidance:

1. General and background:
   - Name.
   - Age.
   - Length of time in camp.
   - Home address.
   - Birthplace.
   - Race.
   - Father's name.
   - Father's birthplace.
   - Father's naturalization.
   - Father's education.
   - Father's occupation.
   - Mother's name.
   - Mother's birthplace.
   - Mother's naturalization.
   - Mother's education.
   - Mother's occupation.
   - Step father or mother.
   - Guardians.
   - Number in family.
   - General economic circumstances.
   - Religion.
   - Height.
   - Weight.
   - Physical condition.
   - Reasons for entering the Civilian Conservation Corps.
2. Previous education:
   - Grammar school.
   - High school.
   - Trade school.
   - Last grade completed.
   - Courses followed.
   - Marks obtained in school.
   - Reasons for leaving school.
   - Other education.
3. Work experience:
   - Employers' names.
   - Employers' occupations.
   - Work done by individual.
   - Length of time employed.
   - Reaction to work.
   - What he has done with his unemployed time.
   - Previous Civilian Conservation Corps experience.
4. Interests:
   - Hobbies.
   - Vocational choice.
   - Clubs and organizations belonged to.
   - Subjects liked best in school.
   - Subjects liked least in school.
   - Work liked.

[1] Ter Keurst, Arthur J. The Problems of the School as Revealed by a Study of the Interests and Abilities of Enrollees in the CCC, Ph. D. thesis. Northwestern University. 329 p. ms.

TABLE 11.—*Personal survey*—Continued

4. Interests—Continued.
   - Work disliked.
   - Type of reading.
   - Amusements liked.
   - Amusements disliked.
   - Activities liked.
   - Activities disliked.
   - Strong vocational interest blank results.
5. Abilities:
   - Mental age tests.
   - Ratings by foremen, instructors, adviser.
   - Personal rating.
6. Aptitudes:
   - Clerical aptitude test.
   - Mechanical aptitude test.
   - Manual dexterity test.
   - Ratings by foremen, instructors, adviser.
   - Personal rating.
7. Personality and character:
   - Company commander, superintendent, adviser rating.
   - Personal rating.
8. Work in camp:
   - Type of work.
   - Amount of instruction.
   - Comments of foreman.
9. Education in camp:
   - Vocational, academic, avocational, professional.
   - Miscellaneous classes.
   - Attendance records.
   - Ratings of instructors.
10. Other camp activities:
   - Athletics.
   - Indoor games.
   - Reading habits.
   - Muscial activities.
   - Social activities.

The second step in the preparation for individual guidance consisted of learning the individual differences of the enrollees within the group. As shown earlier, group mental ability tests had been administered to all enrollees. The mean I. Q. of these tests was 90.7 or definitely near the lower level of the "average" group. That this mean was typical of the Civilian Conservation Corps in general is shown by a comparison to a mean of 88 obtained in the Douglas Allen Study [3] of more than 2,000 unselected enrollees. The use of a different test in this latter study prevents any exact comparisons. Although this mean is below that usually found in secondary schools, "with respect to the average I. Q. of the general population of high-school age it is doubtful that on our present verbal tests the general population would have an average I. Q. of 100." [4]

The Minnesota Paper Form Board test for measuring mechanical aptitude was also given to members of the guidance group. Since many of the enrollees were found to believe that since they had not been successful in academic subjects they must necessarily have had mechanical inclinations and since "mechanical tests are at least as effective in their field as the mental tests are for the academic field," [5] this test is a necessary preparation for camp guidance. Series B with

[3] Griffing, John B. Résumé of the Douglas Allen Claremont Survey of the Civilian Conservation Corps educational program, Hdqtrs. Ninth Corps Area, San Francisco, Calif.

[4] Kefauver, Noll, and Drake. The Secondary School Population. National Survey of Secondary Education. United States Department of the Interior, Office of Education, Bulletin 1932, No. 17, monograph No. 4, pp. 23-24.

[5] Koos and Kefauver. Op. cit., p. 315.

a reported reliability of 0.90 [6] was used. Scores used for guidance purposes were in the form of percentile ranks obtained from the charts for the age of 19 of unselected youth submitted by Patterson. The mean of percentile ranks thus obtained was 30. The interpretation of individual mechanical aptitude results followed Patterson's statement that, "One can only say that if he passes the test in a satisfactory manner, he possesses one of the qualifications for success in the work in question, and that, in the main, individuals who show proficiency in the tests are more likely to succeed than those who do not." [7]

The Minnesota vocational test for clerical workers was also given to members of the individual guidance group. Here the norms for unselected 19-year-old males were also used to determine percentile ranks. The relations of the results of these clerical-aptitude tests to intelligence quotients is shown by the following figure:

I.Q.	Number of individuals by clerical aptitude percentile rank			
	20–39	40–59	60–79	80–100
Below 80	4	3	0	0
80–89	2	4	5	2
90–99	2	3	2	1
100–109	0	3	3	3
110 or over	0	1	2	2

In addition to these tests of ability and aptitude the Strong vocational interest blank was scored in at least two occupations for each individual. The two occupations were chosen by the enrollee in the light of his obvious interests. Because few of the scoring keys available for this test are applicable to individuals with the educational background and the economic limitations of the Civilian Conservation Corps enrollees, the blanks were not always of value in their entirety. However, individual items and general trends of interests obtained by studying the reactions of the individuals to the questions were valuable aids as guidance tools.

Personality, character, and adjustment inventories were not used because of the general lack of an appropriate instrument for the camp situation. Thus, although admitting their subjective nature, ratings of character and personality were obtained from all personnel in the camp. For the purposes of guidance these did not follow a definite pattern. Foremen, Army officers, and instructors were consulted frequently and requested to comment informally upon the abilities, aptitudes, character, habits, and accomplishments of the members

[6] Patterson, Donald G. Minnesota Mechanical Ability Tests. University of Minnesota Press, 1930. p. 204.
[7] Ibid., p. 9.

of the guidance group. This was not done haphazardly; regular meetings were held in which individual cases were discussed and each person added his impressions gained through contacts with the individual.

A cumulative record of the enrollee's activities since entering the camp was a final tool for individual guidance. A record of each type of work in which he had been employed and his progress in job instruction, his participation in educational activities, in sports, and other types of recreation were all available for the use of the adviser.

With these essential tools established, individual guidance was begun through the interview. No effort will be made here to describe all the techniques of interviewing since variety of method is a fundamental concept of its effective practice. At first the interviews were arranged by the adviser, usually on the pretext of discussing the results of tests taken by the individual. Later in the period the majority of interviews resulted from an approach by the enrollee.

The number of interviews with an individual ranged from 1 to 4 during the 10-week period. The following table shows the distribution among the 50 individuals of the 110 interviews:

Number of interviews:	*Number of individuals*
1	13
2	20
3	11
4	6

The estimated average length of an interview was 30 minutes, thus a total of only 55 hours was devoted to actual interview work. This is an average of 5½ hours per week.

These figures are offered to show that by devoting about 22 hours a week to interviewing, an adviser can reach every enrollee in a 200-man company with the same frequency that this experimental group was interviewed.

The general content of these interviews consisted of several distinct steps. The first purpose was to obtain additional information for the personal records that have been discussed. The second purpose was to analyze with the individual his differences. An explanation by the counsellor of the meaning of test results, the interpretation of past experiences and future plans as they indicated individual differences were carried on with the enrollee. This analysis of the individual was never the sole work of adviser, it was a cooperative venture by both him and the enrollee. Since the major interest of the enrollee was usually economic, it was seldom difficult to make this analysis from a vocational angle. Care was always taken that facts would not be presented in a manner to form assumptions that were not justified.

The third step of the interview consisted of applying the results of the self-analysis to the field of occupations. This sometimes required the recommendation of occupational information literature which was available in the Camp. The course in occupational information provided a source which could be recommended to the individual when he realized his need for information of this type.

The motivating of individuals to choose an ultimate objective in vocational lines was the next general phase of the interview work. This was a natural outgrowth of a survey of occupations in relation to the results of individual analysis. However, it was discovered that the problem of choosing a vocation appears to be an enormous task for an individual, and one in which he hesitates to make even a general decision. On the other hand, if the interviewer discusses the enrollee's plans for the next few months or years, there is apt to be a response. The choice of these immediate objectives, as shown in the case histories in the Appendix, preceded in many cases any vocational decisions. Later interviews and guidance often translated these immediate objectives into higher goals giving the long-term motivation which is part of guidance.

In our definition of guidance has been included "adjustment to immediate environment." In some cases this problem would precede any vocational choices, and in a few instances assumed major importance in the guidance activities.

The determination of the weaknesses of the individual in respect to the ultimate goal or immediate objectives which he had chosen was another step in the guidance process. He might have lacked essential knowledge, either general or specialized; he might have lacked skills, either general or specialized; he might have been weak in certain personality traits. If the weaknesses were too great he was made to realize the inappropriateness of his choice. But no matter how applicable the choice, certain weaknesses could be definitely shown. To overcome these weaknesses he was led to realize that he must turn at least partially to the educational program of the Camp and work out for himself a schedule of participation which would remedy the defects.

By this reference to the educational activities the connection between individual guidance and participation was made. It was believed that the enrollee, by having a clear motivation for participation, would increase his attendance and a better quality of work would result.

The continuation of the individual guidance after the initial action had been started consisted of analyses of the development being made by individuals to overcome deficiencies. In some cases enrollees misinterpreted superficial interests for real interests and as a result

chose and started to follow lines of development not consonant with the adviser's opinion. They were never prevented from so doing, but careful watch was kept to note diminution of interests. In all cases this took place within a very few weeks. The subsequent interviews then consisted of a review of the entire guidance problem in the light of this new experience gained by the enrollee.

Thus the individual guidance given during this experiment had never for its purpose merely the participation of individuals in the educational program. Participation came only as a result of motivations of an adjustive or vocational nature. Case histories as shown in the Appendix illustrate this fact.

Records of interviews were kept which included pertinent information obtained, information given, analyses made, decisions reached, and plans of action agreed upon.

The members of the control group were given exactly the same opportunities for participation in the educational activities but were not counselled or given individual guidance.

The activities of the educational program during January, February, and March are shown in table 12 as compiled from the monthly educational reports submitted by the camp.

TABLE 12.—*Educational activities during January, February, and March*

ACADEMIC SUBJECTS

Subject	Average enrollee attendance	Number of meetings	Man-hours instruction
Arithmetic	5	9	40
English, elementary	5	31	131
Algebra	3	12	48
English	11	12	236
Typewriting	10	16	312
Total		80	767

VOCATIONAL SUBJECTS

Auto mechanics	13	11	258
Carpentry	8	24	284
Forestry	7	10	152
Journalism	8	30	452
Map making	4	6	36
Radio	11	56	596
Surveying	6	1	6
Occupations	40	3	120
Machine shop	18	10	360
Printing	10	10	300
Sheet metal	8	10	240
Woodworking	8	10	240
Total		181	3,044

TABLE 12.—*Educational activities during January, February, and March*—Contd.

INFORMAL ACTIVITIES

Subject	Average enrollee attendance	Number of meetings	Man-hours instruction
Leathercraft	6	7	102
Metalcraft	6	5	60
Photography	11	25	732
Woodworking	9	32	620
Music and dramatics	11	6	132
Total		75	1,646

OTHER ACTIVITIES INCLUDED IN STUDY

First-aid	14	9	99
Teacher training	6	8	72
Leader training	14	9	129
Total		26	300
Grand total		362	5,757

ACTIVITIES NOT INCLUDED IN STUDY

Job instruction and correlated study			2,710
Safety			923
Health			252
Total			3,885

CHAPTER V: RESULTS OF THE EXPERIMENT

AT THE conclusion of the experiment, participation ratios and quality marks were compiled for each individual of the experimental and control groups. The methods followed were exactly the same as had been used at the end of the first period (see chapter "Equating of Groups"). From table 13, which shows the individual participation ratios of the second period as compared with the first period for the experimental group, we find that 44 individuals who had individual guidance participated more and 6 enrollees less. Of the 50 individuals, there was an appreciable decrease in only 2 cases.

TABLE 13.—*Participation ratios of members of experimental group with and without guidance (comparison of first and second periods)*

Individual:	*Percentage participation ratio without individual guidance*	*Percentage participation ratio with individual guidance*	Individual:	*Percentage participation ratio without individual guidance*	*Percentage participation ratio with individual guidance*
W. A.	20	25	F. M.	100	112
A. A.	4	92	J. M.	77	80
J. B.	17	34	D. M.	55	113
H. B.	2	43	A. M.	16	68
A. B.	2	58	E. M.	16	44
C. B.	8	30	R. M.	0	12
J. B.	4	30	H. M.	16	80
J. C.	50	31	B. M.	0	6
G. C.	0	36	J. P.	8	24
M. C.	32	42	G. P.	20	51
A. D.	52	92	B. P.	20	52
F. D.	64	121	W. P.	0	26
J. D.	52	51	M. P.	42	40
A. F.	88	152	M. R.	28	42
G. G.	48	57	S. R.	4	43
A. G.	24	57	R. R.	0	70
J. G.	0	16	J. S.	12	38
R. G.	18	52	M. S.	12	50
M. H.	2	0	F. S.	0	21
W. H.	24	60	F. T.	30	18
J. J.	28	43	F. V.	0	7
T. K.	8	20	A. W.	20	16
F. K.	12	22	E. Z.	49	110
J. K.	0	82	F. B.	54	112
P. K.	16	40	R. K.	2	47

Table 14 shows the participation ratios of the members of the control group during the first and second periods. Twenty of the ratios increased, 23 decreased, and 7 remained the same.

TABLE 14.—*Participation ratios of members of control group during two periods without individual guidance*

Individual:	Percentage participation ratio of first period	Percentage participation ratio of second period
A. B	2	36
J. B	5	2
S. B	0	3
J. B	100	102
R. B	64	21
C. C	22	2
F. C	34	24
H. D	15	14
J. D	52	9
S. D	0	0
A. D	12	9
W. E	8	67
P. F	76	30
R. F	33	19
J. F	12	7
H. G	0	0
J. G	16	6
A. G	16	8
P. G	37	22
F. H	8	1
R. H	8	24
R. J	59	87
G. J	16	37
G. K	52	54
E. K	8	1
P. K	0	2
H. L	12	1
A. L	48	67
B. L	8	50
C. L	55	24
D. L	13	20
R. M	20	29
L. M	55	20
J. M	2	0
K. M	16	4
J. N	28	62
P. O	2	11
H. P	20	14
J. P	0	0
A. R	0	0
J. R	0	7
J. S	0	10
B. S	38	38
P. S	0	0
L. S	8	29
J. T	38	67
A. T	40	31
F. W	28	3
G. B	0	0

Since the two groups were equated for all factors affecting participation except individual guidance, we are more interested in a comparison of the participation ratios during the same period. Considering first the control group, it was found that the mean participation ratio during the second period was 22.1 with a standard deviation of 24.33 and a probable error of the mean of 2.32.

This figure compared with the mean participation of 22.1 during the first period would seem to indicate that the educational program and group guidance were kept constant during the two periods, and that any change in the participation of the experimental group must be due to individual guidance.

The mean of the participation ratios of the experimental group during the second period was 51.1 with a standard deviation of 33.62 and a probable error of 3.21. This means that the average number of hours of participation per week of the experimental group was

about five compared to about two for members of the control group. The difference between the means of participation of the experimental and control groups was 29 with a standard error of the difference of 5.88.

Participation was increased 132 percent by the addition of individual guidance to the group guidance and other incentives of the educational program.

By table 15 it can be ascertained that the distribution of the participation ratios of the control group is similar to that shown in table 5, while the distribution for the experimental groups shows a tendency to concentrate in the higher figures.

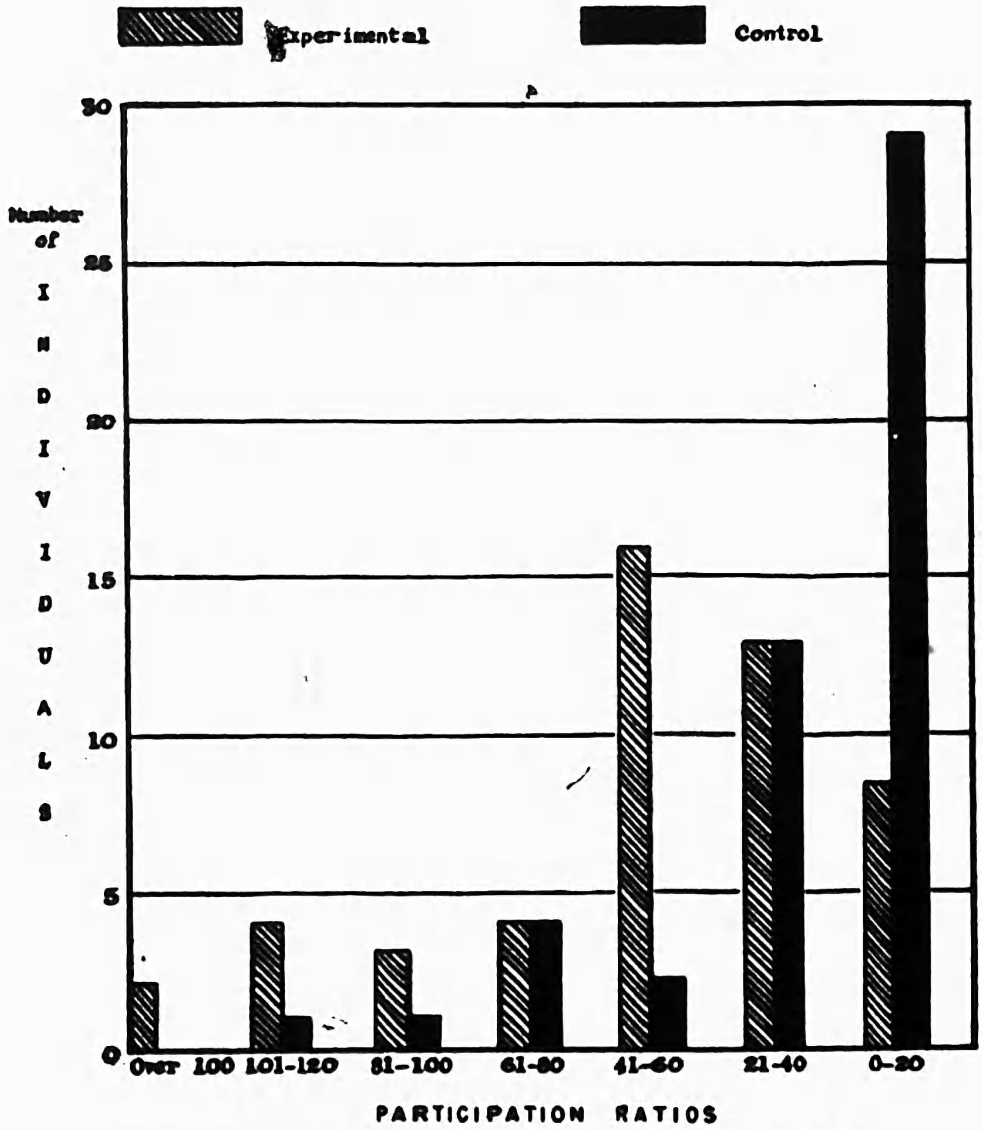
TABLE 15.—*Frequency distribution of participation ratios*

Ratio	Experimental group	Control group
121 or over	2	0
101-120	4	1
81-100	3	1
61-80	4	4
41-60	16	2
21-40	13	13
0-20	8	29
	50	50

According to the marks given by the instructors of the educational activities, the effect upon quality of work was almost as great as upon participation. The same numerical equivalents were given to marks as during the first period. The mean of the control group was 2.05 with a standard deviation of 0.863 and a probable error of 0.08. This indicates that the quality of work was very slightly above "average," and was the same mean as had been obtained for all marks during the first period.

The mean of marks for the experimental group was 2.48 with a standard deviation of 0.8804 and a probable error of 0.08. This placed the mean about half way between "average" and "above average." The "above average" mark was obtained 67 times by members of the experimental group and 21 times by members of the control group. This was 54.5 percent of the marks of the experimental group and 25 percent of the marks of the control group. Thus the probability that a mark would be "above average" was increased 118 percent by the presence of individual guidance. Table 16 shows that the number of "below average" marks was decreased to a still greater degree in the experimental group. While 22 percent of the marks of the control group were "below average," only 6 percent of the marks of the experimental group fell in that category.

DISTRIBUTION OF PARTICIPATION RATIOS



DISTRIBUTION OF PARTICIPATION RATIOS SHOWN IN TABLE 15.

It would appear that the quality of work done in voluntary educational activities had been raised due to individual guidance to a degree at least equal to the increase in participation.

TABLE 16.—*Frequency distribution of quality ratings during experimental period*

Mark	Experimental group		Control group	
	Number	Percent	Number	Percent
Above average	67	54	21	25
Average	48	40	46	55
Below average	8	6	17	20

At the end of the first period it had been found that the positive correlation between participation and the intelligence quotients was 0.40. If it could be shown that an appreciable change had been made in this correlation in the experimental group alone, conclusions could be drawn concerning the effect of individual guidance on participation in respect to mental ability. Table 17 shows the participation ratio and intelligence quotient of each member of the experimental group at the conclusion of the period when individual guidance was practiced. The intelligence quotients were derived from the Terman group test of mental ability, grades 7–12. The reasons for the exclusive use of this test in comparisons have already been shown.

TABLE 17.—*Relation of participation to intelligence quotients of enrollees who received individual guidance*

Percentage participation	*Terman I. Q.*	*Percentage participation*	*Terman I. Q.*	*Percentage participation*	*Terman I. Q.*
152	119	52	121	31	79
121	85	51	116	30	85
113	106	51	91	30	80
112	83	50	107	26	100
112	91	47	75	25	95
110	71	44	83	24	78
92	78	43	103	22	91
92	91	43	83	21	84
82	82	43	112	20	91
80	98	42	103	18	86
80	102	42	107	17	86
70	65	40	72	16	86
68	98	40	96	7	74
60	103	38	84	6	83
58	82	36	69	2	69
57	88	34	90	0	100
57	111				

The positive correlation between these two factors of participation and mental ability is 0.20 for the experimental group. The standard deviation of the correlation is 0.14. The experimental coefficient is 0.52 which according to McCall [1] shows that the approximate chances are 12 to 1 that the true correlation is above zero.

The relation between individual participation ratios and intelligence quotients for the control group is shown in table 18.

[1] McCall, William A. How To Experiment in Education. New York, The MacMillan Co., 1923, pp. 155, 233.

TABLE 18.—*Relation of participation to intelligence quotients of enrollees who received no individual guidance*

Participation	Terman IQ	Participation	Terman IQ	Participation	Terman IQ
102	105	24	85	6	104
87	96	22	95	4	95
67	117	21	102	3	71
67	90	20	111	2	89
62	89	20	71	2	100
54	94	19	91	2	79
50	115	14	100	1	73
38	99	14	97	1	63
37	105	11	83	1	90
36	101	10	68	0	90
31	102	9	83	0	65
30	130	9	83	0	85
29	81	8	52	0	98
29	91	7	115	0	61
29	95	7	72	0	92
24	93	6	91	0	99
24	91				

The positive correlation existing in this control group is 0.40 and the standard deviation of the correlation is 0.12. This is almost exactly the same as existed for the entire 100 men during the first period. The experimental coefficient is 1.20, which indicates that the chances are approximately 2,350 to 1 that the true correlation is above zero.

The drop in correlation in the experimental group would seem to indicate that the individual guidance will definitely lessen the tendency for those enrollees of lower mental ability to avoid participation in a voluntary program. This is explained by the phase of individual guidance that analyzes the enrollee and attempts to fit his activities to his abilities.

Further compilation to show the effect that individual guidance has on the relation of participation to intelligence quotients is shown in table 19. The first part of the table shows this relation for the experimental group; the second part shows it for the control group. The last portion of the table indicates the differences existing between the first two parts, or the increase in participation of the experimental group over the control group. In all parts of the table the enrollees are grouped according to their intelligence quotients. The mean participation ratio of each intelligence group is shown in the second column.

TABLE 19.—*Participation means of individuals grouped by intelligence quotients*

EXPERIMENTAL GROUP

I. Q.	Number of individuals	Mean of participation
Over 110	5	71.0
101–110	7	61.4
91–100	12	49.0
81–90	15	46.5
Below 81	11	44.5
CONTROL GROUP		
Over 110	5	34.8
101–110	6	38.8
91–100	18	24.1
81–90	11	19.5
Below 81	10	5.2
INCREASE IN PARTICIPATION DUE TO INDIVIDUAL GUIDANCE		
I. Q.	Participation increase	Percent of increase
Over 110	36.2	104
101–110	22.6	57
91–100	24.9	104
81–90	27.0	138
Below 81	39.3	755

This table indicates that the individual guidance was almost equally effective in increasing actual hours of participation for all groups of mental ability. The percentage increase of those who had low-intelligence quotients was very high because of the low participation of that group without the presence of individual guidance.

The effect of individual guidance upon the quality ratings of the individuals grouped by intelligence quotients is shown in table 20.

TABLE 20.—*Quality ratings of individuals grouped by intelligence quotients* [1]

EXPERIMENTAL GROUP

I. Q.	Number of individuals	Mean quality rating
Over 110	5	2.8
101–110	7	2.6
91–100	11	2.6
81–90	15	2.4
Below 81	11	2.2
CONTROL GROUP		
Over 110	5	2.3
101–110	6	2.2
91–100	15	2.0
81–90	9	1.8
Below 81	8	1.5

[1] One member of the experimental group and seven members of the control group did not participate and had no quality ratings.

This table indicates that the increase in quality of work in educational activities due to individual guidance was not confined to one intelligence group. The increase was approximately the same for those with high, average, and low mental ability. The differentiation in quality of work noted between high and low mental ability groups was not materially lessened by the presence of individual guidance.

Table 21 shows the amount of participation of individuals in both groups in relation to the amount of schooling, which is measured in terms of the last grade completed.

TABLE 21.—*Participation mean of individuals grouped by years of schooling*

Years of school	Number of individuals	Mean of participation
EXPERIMENTAL GROUP		
12	6	60
11	4	63
10	8	44
9	14	53
8	12	45
Below 8	6	52
CONTROL GROUP		
12	5	21
11	4	8
10	10	29
9	13	26
8	10	22
Below 8	8	15

This table indicates that individual guidance increases to a greater extent the participation of those on the extremities of previous schooling. The participation of the enrollees who had completed 9 or 10 grades of schooling was increased only 77 percent by individual guidance. The participation of those who had completed the junior or senior year of high school was increased 324 percent. The participation of those who had completed the eighth grade or less was increased 162 percent.

The participation of the experimental and control groups in relation to the ages of the enrollees is shown in table 22.

TABLE 22.—*Participation mean of individuals grouped by age*

EXPERIMENTAL GROUP

Age	Number of individuals	Mean of participation
17	8	59
18	23	49
19	9	31
20 or over	10	68
CONTROL GROUP		
17	8	27
18	16	16
19	11	11
20 or over	15	33

No variances among the groups are sufficiently significant to cause a conclusion that age determines to any great degree the effectiveness of individual guidance.

CHAPTER VI: CONCLUSIONS

THE RESULTS of this experiment show that individual guidance in the form of counselling enrollees for adjustment to their immediate environment and assistance in choosing, preparing for, entering upon, and progressing in an occupation has a definite effect upon participation and quality of work in a voluntary Civilian Conservation Corps educational program.

The effect has been measured by isolating the one factor, individual guidance. By making this type of guidance the sole significant difference between two groups, the variances in participation and quality of work can be attributed to the presence or absence of individual guidance. From the compilations of the previous chapter this study can then show the following:

1. The presence of individual guidance will more than double participation in a voluntary Civilian Conservation Corps educational program. This study showed an increase of from about 2 hours per week per individual to 5 hours per week per individual. This is considered to be a significant increase.

2. By practicing individual guidance the quality of work performed by enrollees in a voluntary Civilian Conservation Corps educational program will be improved to approximately the same degree. This study showed an increase of 118 percent in the number of gradings "above average" when individual guidance was practiced. A decrease from 22 percent to 6 percent of "below average" marks also resulted.

3. Individual guidance is effective with all mental ability groups. However, it has a tendency to be most effective with the low mental ability individuals who would otherwise participate only to a small extent in the educational activities. This study has shown that the correlation between participation and mental ability is reduced from plus .40 to plus .20 by the presence of individual guidance.

4. Individual guidance will improve the quality of work of all mental ability groups.

5. Individual guidance is effective with enrollees of all educational backgrounds. It has a tendency to increase most the participation of those with eleventh and twelfth grade and those with less than an eighth-grade education.

6. Individual guidance is equally effective with all age groups in the camps.

The object of this study was to measure the effect of individual guidance upon participation and quality of work in the educational program. No attempt has been made to measure objectively other results of the guidance which were at least equally as important for the enrollees. Although not a part of this study, the following improvements were noted subjectively concerning the members of the individual guidance group:

1. They showed better adjustment to camp life.
2. They had higher purposes and more definite plans for the future.
3. They obtained more opportunities for employment outside of the camp.
4. They made better use of their leisure time.
5. They showed a better attitude toward their work during the day.

Examples of these improvements may be seen in the case histories in the appendix.

The objective measurement of these other results of individual guidance offers a field for further experiment and study.

The significant effects of individual guidance upon participation and quality of work found in the Camp in which this experiment was made should be applicable to all Civilian Conservation Corps camps. As has been noted throughout, an effort was made to operate a typical program and to give a type of guidance practically applicable to all Camp situations. It has been shown that, with the expenditure of 22 hours each week for counselling, all members of a 200-enrollee company could receive as much individual guidance as did this experimental group. Considering the effects of the guidance, it is felt that this time given to counselling should be the first duty of a camp adviser. The organization and supervision of an educational program should be the second duty in order to provide paths of action for enrollees to follow after their guidance decisions. Actual teaching by an adviser should come only after those two more important duties have been discharged.

The results of this study support the statement that educational advisers should "wear the guidance harness."[1] Individual guidance should be the methodology of Civilian Conservation Corps education. The time and effort expended upon this guidance will bring direct results in participation in the activities of the Camp. Group guidance alone will provide enough incentive to keep a program operating, but to reach any high goals of participation individual guidance must be used.

The curricula of the Civilian Conservation Corps camps are constructed to improve the citizenship and employability of those who participate in them. To obtain widespread and effective participa-

[1] Nystrom, Joel E. In the *Educational Bulletin*, First Corps Area, Vol. 3, No. 6, June 1937.

tion and still maintain the program on a voluntary basis, individual guidance, according to the results of this study, is an invaluable instrument. It can and should be the basis for the entire program. In this way the objectives of Civilian Conservation Corps education will be served.

The results of the study have implications for secondary education in general. Another investigator [2] has shown that the Civilian Conservation Corps is having more success than the school with a certain type of young man, and that guidance was lacking in the schools of his study. We have shown that individual guidance is the principal means of stimulating participation and good quality of work in the camps. If the Civilian Conservation Corps can cause interested voluntary participation by the use of individual guidance, it may be concluded that the lack of this type of guidance is at least a large contributing cause of the failure of the schools with these young men. Group guidance alone will not be sufficient for the schools, individual counselling must accompany it and should reach more than just the so-called problem cases. This conclusion does not confirm the results of the study by Lund [3] which showed no objective evidence to confirm the theory that interviews will increase scholastic achievement in high schools. The positive evidence obtained in the Civilian Conservation Corps study would seem to cast doubts on the type of interviewing or basis of measurement used by Lund, and to indicate that, even for high schools, his conclusions should not be accepted as final.

The results of this experiment have been significant enough to warrant a conclusion that if the Civilian Conservation Corps is to fill its place in the entire picture of secondary education it must continue and enlarge its emphasis upon individual guidance as the basis for its educational program.

[2] Ter Keurst, Arthur J. Op. cit.

[3] Lund, S. E. T. The Personal Interview in High School Guidance. School Review, 39: 196–207, March 1931.

APPENDIX

Case No. 1

Michael is the next to the oldest of seven children and was born in East Boston June 2, 1920. His father, who was born in Newfoundland and had very little education, has always been a longshoreman. The work is seasonal, and, while his hourly pay is fairly good, the economic status of the family is greatly reduced by the fact that he works only half time. The mother is deeply religious, and has tried to do what she considers best for her children. She aids the family income by caring for sick people and leaving the home in charge of the oldest sister.

Michael entered a private grammar school when he was 5 years of age. From the very beginning he had difficulties with his school subjects. In the third grade and again in the seventh he was held back a full year because of scholastic failures. According to his statements, he was never given individualized aid and the constant threat seemed to be, "we won't let you pass if you don't do better." At home his parents also threatened punishment if he did not succeed. When he failed in classes they kept him indoors all afternoon and his mother supervised additional work. The results seem to be an intense hatred of regular school subjects. But he finally graduated from the school, and entered the public junior high school. His curriculum was selected by choosing the electives he wanted from subjects written on the blackboard. Since at home he had enjoyed making various connections with wires and sockets, he chose electricity. His work in this subject was failing, and, with two or three other failures, he left school before the end of the term. The one bright spot in this year was the aid given by a mathematics instructor who took him aside, talked with him, and gave him some special work. He was not failing in mathematics when he left. His leisure time in school was spent in playing street sports with the gang.

Joining the Civilian Conservation Corps in October 1937, Michael showed no interest in any educational activity, and his work during the day could be classified no better than "fair.". By three different mental-ability tests he could score no higher than a 65 I. Q., showed low in clerical aptitude, and about average in mechanical aptitude.

The first conference of guidance work was very important with this boy. He connected all education with his sad school experiences, and was much opposed to participating, was drifting along with no plans

for the future, and was not worried about being uninterested. By analysis of tests the adviser had surmised the low I. Q. as definitely the cause of school disinterestedness; competition with those of greater ability had always brought discouragement. It also appeared that electricity was a course in which this handicap would be marked. During the interview it was discovered that a short course in woodworking hadn't "been so bad" as other school subjects. The interest of the mother in the boy was also capitalized upon. After the discovery that her birthday was only 2 months away, he was asked if he would like to make her something for a present. Progressing slowly within that one interview, the boy decided finally to make her a table lamp, thus introducing again that earlier interest in electrical connections. He set to work in the camp shop, and although a slow worker showed real interest.

A second interview was held in which more far-reaching guidance activities could now be discussed to relate this present activity to a purpose. He had become enthusiastic about the Civilian Conservation Corps and said he planned to stay at least a year longer, and, although not expressed, he wanted guidance. When pictures of the educational program had been published in a community newspaper, the adviser had been careful to include Michael and to see that he obtained a copy that could be sent home to his mother. Foremen reported a much better attempt by him in the field work, and he was placed on a work project of a carpentry nature, and showed great interest, although lacking skills.

With interest at a high pitch, Michael willingly joined a group receiving occupational information. He was made to realize the few opportunities existing in woodworking and the large number of competitors for the existing work, but he was also shown the breadth of the field, the related work in which the skills of this trade are valuable.

Michael still chose this field, and the necessity of a basic knowledge of elementary school tools and skills was emphasized. As with so many other enrollees, the necessity of a better educational background was a necessity. He was not urged to join classes of an academic nature, but was shown why many side tracks would be taken in his vocational classes to give him this elementary training. By this project method, certainly the one most applicable to this case, Michael was given training in woodworking, arithmetic, English, and spelling.

The results measured in terms of participation show a rise from 0 to 95. The awakening of the entire personality of the boy is by far the outstanding result of the guidance. He has direction and is measuring everything with which he has contact in terms of that objective.

Case No. 2

Arthur was born in New Bedford, Mass., March 14, 1917. His parents had immigrated from Portugal a few years previously and his father was employed in the New Bedford mills. Three years later the parents, Arthur, and his four sisters returned to Portugal. In the Serra da Estrella mountains of northeastern Portugal the family worked the farms that had been tilled by their ancestors for generations. The oldest sister, 18 years senior to Arthur, soon returned to America, and has since married and lives in New York.

The father left the family in 1922 and migrated to Argentina, where he still works on a farm and sends small amounts of money back to Portugal to aid in the support of the family. Arthur entered the public schools of Portugal and maintained a standard of above the average despite the many hours of work in helping his mother operate the farm. His boyhood was marked by one attitude, "When I grow up, I am going to return to *my* country." The cause of this is not quite clear, since his mother discouraged this view and desired that he become a Portuguese citizen. Probably his geography in school, which was always a favorite subject, and the infrequent letters from the older sister in New York who, despite a marginal existence, seemed to show no desire to return to the native land of her parents, influenced this attitude.

Arthur finished the "second examination" which is the highest grade of the public schools, but was unable to advance into the "colleges" because of economic reasons. Less than one-half of the boys of Portugal successfully pass this examination, and by custom are the ones absorbed into the commerce and business establishments of the towns. Thus Arthur in the small town near his mother's farm went to work in a bakery shop waiting on customers for pitifully small wages, all of which he turned over to his mother.

At the age of 16 all Portuguese youth are required to serve 15 months in the army, and unless Arthur maintained his American citizenship he would be forced to do likewise. His mother openly opposed Arthur's plan to continue his American citizenship and evade the military service. To do so it was necessary that he register every 2 years at the American Legation either in Lisbon or Porto, the latter was the nearer but still 191 miles distant.

An incident happened at this point in Arthur's life which is worth recording as an example of the motivating force which has marked this case. March 1933 approached when Arthur would have to begin his military service unless he could register and reaffirm his allegiance to the American flag. Because of his mother's continued opposition, Arthur planned with his sister of about the same age, with whom he has always had the closest ties, to slip off and go to Porto. Obtaining

just enough money from the sister "so I wouldn't starve to death," he arose about 3 o'clock in the morning and by nightfall had walked 19 miles towards his destination. But his mother upon discovering his absence had asked the police for help, and that first night he was placed under arrest in the town in which he stopped. During the evening hours Arthur, who is small even for his race and whose spontaneous smile makes it easy for him to make friends, inveigled the police into conversation. For 3 hours he told them of his hopes and plans, and it ended with the police giving him lodging and food, releasing him in the morning, and encouraging him in his mission. Sleeping by night in barns, sheds, and even under trees, Arthur continued his long hike across the mountains and down the river valley to Porto. There he visited the American Legation, reaffirmed his allegiance to the United States, and took to the road again, returning the 191 miles on foot in 7 days.

For the next few years Arthur centered his efforts upon the task of obtaining enough money for the trip to the United States. After much planning he obtained the confidence and friendship of one of the wealthier residents of his town who loaned him the money for the trip. In September 1936 Arthur arrived back in New Bedford, owing his benefactor $100, but in his "own country." He lived with an uncle for 2 months in East Fairhaven, Mass., and then joined the Civilian Conservation Corps in January 1937. As he afterwards expressed it, "I couldn't learn English in New Bedford because everybody on the farm, in the church, in the barber shop, they all talked Portuguese." His knowledge of English when he came to this camp was limited to understanding two questions, name and age. He was completely at a loss in his new surroundings, and the good-natured jibings of the men with whom he entered hurt the rather sensitive nature of the boy. Here he was in his America and nobody wanted him.

The first conference with the adviser was held by means of signs and French, of which Arthur had a limited knowledge. This discovery of someone who was interested enough to spend time and effort in communication with the boy made the Civilian Conservation Corps more like the place he had anticipated. Naturally the one objective laid out was the learning of English. He came to the school every evening after all other classes were over and the other enrollees had gone to bed and spent an hour on English lessons. The adviser, realizing his deficiency in not knowing Portuguese and thus the difficulty of explaining the concise meaning of indefinite nouns, of adjectives, conjunctions, and prepositions, made contacts with the Americanization classes in Pittsfield, and there found an English class taught by a man who had an excellent command of Portuguese. The boy was taken to the school 3 weeks after he entered camp, and

enrolled in the class. Despite work on a project that required walking 8 miles up and down mountains during the day, all that winter and spring Arthur walked the 4½ miles three times a week to his English class in Pittsfield. The same drive, that had made him walk nearly 200 miles to sign his name, carried him through February and March blizzards on a 9-mile hike.

Arthur is by no means of high mental ability, but by May he could converse intelligently in a rather limited vocabulary with those around him. On the work project he quickly gained a reputation as a conscientious and hard worker. His leisure hours, when not in his English class, were spent visiting various classes in the Camp School and trying to follow the threads of lecture and discussion.

When the adviser returned to the camp after several months' absence, he found Arthur rather discouraged. His teacher had left the Americanization school and the other classes were too much concerned with civics rather than English. Except for a pronounced accent and a limited vocabulary Arthur had a sufficient command of the English language. No effort was made to give him the aptitude, and interests tests, since the results might have been most misleading, and the administration might have discouraged him. During the period when no guidance was offered he participated in rather a "hit-or-miss" style in many classes of the school, and both he and the adviser realized that his progress had definitely slowed down.

When personal guidance activities were renewed, talks were again resumed with Arthur. It was discovered that he had paid back all of his debt for his passage, had reborrowed the money and sent for his sister, and had now repaid the passage a second time, and was supporting his sister who lived with distant relatives in New Bedford. Arthur talked about joining the Army.

This case had now reached the point where Arthur could divide his time between English and a vocational subject. He realized that retail work, which had been his one experience, would offer difficulties in this country, unless he desired to enter work where Portuguese was the secondary language. To this he was much opposed, he still had the urge to be all American, and not half Portuguese. Thus his vocational choice narrowed down to work where his accent would not be a handicap. After a series of trips to industries, visits to trade schools, and long discussions of previous interests, Arthur decided to study a machinist course in the trade school. It was recognized that this was not necessarily an occupational choice, but rather an exploration into this machine work. During his experience on the farm in Portugal as a boy, Arthur had always been interested in devising contrivances with which to accomplish work.

At the same time the improvement of English was continued. As far as grammar was concerned Arthur knew more than any other boy in camp, but concentration on conversation and vocabulary was needed. Lessons in English in the school were resumed and he arranged his own little book for vocabulary extension, writing down about ten words a day and using them sometimes in his conversation. To accompany his vocational work Arthur studied arithmetic and, after once mastering the difficult transfer to English symbols, he made rapid progress, showing outstanding ability in this subject. At the end of the guidance period he had a 121 percent participation ratio as compared with 52 percent for the previous period, his work had become centered on these three subjects and his work in all of them was "above average."

Case No. 3

Howard entered the Civilian Conservation Corps in July 1937 as a 17-year-old boy. His father was a postman in a town of central Massachusetts. Although his parents had urged him to finish school, he had constantly rebelled against its discipline by a refusal to partake in class work. Finally, after falling behind in his studies he left school. Drifting without purpose and unable to obtain employment, he entered the Civilian Conservation Corps because "I thought I might like forestry." During the period until January 1, 1938, he had never attended any educational activity in the Camp.

His mental ability test showed an I Q of 103 which would indicate that lack of mental ability was not a cause of school failure. In the first interview he professed no interests, and his contacts with forestry had resulted in a dislike for the work.

A foreman's comment on his field work gave further evidence to support the case that interest was a major factor to consider for this individual. "Don't keep after him and he will work well." The past strict supervision of home and school without a thought to his individual needs and interests had developed a dislike of "being told to do anything."

The adviser spent most of this first interview in presenting the purposes of Civilian Conservation Corps education. One comment made in interview notes at that time was "tragic that there was no educational adviser in the Camp to interview this man when he first entered." Howard was quite apathetic and, while he acquiesced to the suggestion of browsing around the library and especially among some occupational information books and pamphlets, the adviser had little hope that he would do it. Arrangements were made for another interview in one week.

During the week he was seen several times rather surreptitiously reading various suggested books in the library. At the second interview he was willing to consider his problem, and the adviser began to make headway. Howard reported having especially liked some commercial law that he was reading. Together he and the adviser analyzed this and agreed that for his case it didn't seem to lead anywhere.

Further talk of his past divulged an almost forgotten interest at 14 years of age. He had spent his spare time helping to publish a little community newspaper, and then had tried to enter the printing class of trade school, but had been unable to do so.

No effort was made to affect a vocational decision, although Howard was by this time willing to talk seriously in such terms. Instead the printing class for Civilian Conservation Corps boys at the trade school was discussed as a tryout of interest and aptitudes. He willingly joined and maintained perfect attendance, and his progress was among the best in the class. Reading, which previously had been limited to a few pulp magazines, was now much more extensive. It had begun with a definite reading course laid out by the adviser.

His participation increase was from 2 in the first period to 43 in the second period. While at home during a weekend he made a contact with a printer and was promised employment at the completion of his trade school course.

Case No. 4

John was 19 years of age and had been in the Civilian Conservation Corps for 1 year. His father was a carpenter, but had been ill for several years and unable to work. John and his sister supported the mother and two younger children.

When the boy was 15 years of age a serious head injury had caused a partial loss of memory for more than a year. He had just completed the first year of a machinist course in trade school and he did not return to school. A haunting fear that the injury still made him mentally inferior possessed John, and it was only after the guidance had begun would he submit to any form of a test. His intelligence quotient by the Terman group test was 90.

Previous to the guidance John had made an excellent record on the work projects, especially as an operator and caretaker of machinery.

The guidance problem was first to give the young man confidence in his comparative ability, and this was gradually accomplished. Then the vocational aspects were analyzed. Interests, abilities, aptitudes, and his record of achievement indicated that work along the lines of his present employment was best. He enrolled in the wood-

working class for the use of the machinery. As part of the task of building confidence, he was appointed as an instructor in this subject and he handled the work well. He also participated extensively in auto mechanics, leader training, and the course in occupational information.

During the latter portion of the guidance period he circularized all construction companies for possible openings in compressor, jack hammer, or bulldozer operation. He received two answers which may definitely lead to employment in the near future.

Without the individual guidance this young man was a successful Civilian Conservation Corps enrollee, but was progressing towards no goals. With the guidance he has extended his life and is certainly more employable and a better citizen.

Case No. 5

Wilbur was a clean-cut appearing boy of 17 years of age who entered the Civilian Conservation Corps in October 1937. He had followed a commercial course in high school for 1½ years, and had left to obtain employment in a bottling factory. An anticipated lay-off during the winter was the cause for his joining the Civilian Conservation Corps, and the employment would be open again for him in April. He had had two older brothers join the Civilian Conservation Corps and they had not stayed 6 months. He was determined to "show them up" by remaining his full enrollment period.

He had not liked the strictly commercial subjects such as typewriting in his high-school curriculum. His marks had been fair. His test results were:

I. Q. by Terman group test	100.
Clerical aptitude	50th percentile.
Mechanical aptitude	3rd percentile.
Interests not correlated with: Carpenter, musician.	
Interests correlated with: Office clerk.	

When the first interview was held with this boy about February 1st, he was pursuing a course in radio which he apparently enjoyed. However, an analysis of data seemed to indicate that as more than a hobby radio had little value for him. Because of his expressed intention of leaving the Civilian Conservation Corps on April 1st, and because there appeared no reason either economical or in ability why this boy should not return to high school, the adviser counselled concerning educational activity after leaving camp. It had hardly occurred to the boy that he might return to high school. In the light of his individual abilities the advantages were discussed, but no effort was made to have the boy make his decision while under the influence of the counsellor.

Two weeks later he returned to the adviser. He had thought seriously enough about returning to school to write the headmaster of the school. He wanted further advice about what curriculum he should follow if he should make the decision. He had thought of a machinist course, but, after a review of his analysis, realized the probable error of such a choice. The analysis brought him back again to the commercial course that he previously followed. The adviser suggested the typewriting course in camp as a test of whether his lack of interest in that subject in school resulted from the teacher or some other conflicting factor.

He also followed a course in arithmetic, and made excellent progress in both. He decided to return to school in the fall and completed arrangements with his headmaster to do so.

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