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STATE OF IOWA
1939

The Iowa Plan for Directed Study Through Work-Type Reading

Issued by the Department of Public Instruction
Jessie M. Parker, Superintendent

PREPARED BY
H. K. BENNETT
*Regional Supervisor
Northeast Iowa*

Published by
KLIPTO LOOSE LEAF COMPANY
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By

H. K. Bennett

ACKNOWLEDGMENTS

The sources which have been drawn upon in the preparation of this material are too extensive to be mentioned in detail. The author acknowledges his indebtedness to numerous discussions in yearbooks, professional books dealing with the subject of reading, pamphlets, unpublished theses, magazines, and monographs.

In addition to the sources mentioned above, an extensive analysis of all the work-type reader sets available was made in preparing the outline of basic skills contained in Section V. Numerous other reader sets were also analyzed for suggestions concerning types of exercises that can be used for developing the various abilities listed.

Mention should also be made of the courtesy extended by the various publishers upon whose books the sample exercises contained in sections VII and VIII are based.

FOREWORD

It is a generally accepted fact that classroom practice in the rank and file of our schools fails to keep pace with the findings of educational research. In no field is this condition more clearly demonstrated than in the field of work-type reading. In spite of the fact that fifteen years have elapsed since the publication of the Twenty-Fourth Yearbook with its recommendations on reading, we find that many teachers still do not observe in their classroom practices the basic principles set forth by this committee.

Teachers as a group should not be condemned for this condition. There are many factors that have contributed to this situation over which they, as a group, have no control. The very nature of our public school system, from the standpoint of its magnitude, its organization, and the democratic principles upon which it is based, is one of the principal factors which contributes to this lag.

If the material contained in this publication will make some contribution toward overcoming this inertia, the effort will have been well justified. It deals only with the work-type phase of the reading problem and emphasizes the functional use in the content subjects of the study skills developed as a part of the regular reading period. An effort has been made to summarize in condensed form the basic underlying principles of work-type reading. Suggestions concerning the avenues through which these skills can be made to function have been included.

JESSIE M. PARKER,

Superintendent of Public Instruction.

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INTRODUCTION

It is common knowledge that a great lag exists between actual classroom practice and educational theory and research. Students of education have long recognized this condition. The author of this pamphlet did not appreciate the full significance of this fact, however, until his responsibilities as a supervisor provided an opportunity to visit hundreds of classrooms. This privilege made it possible to observe the work of many teachers with varying degrees of training, teaching under a wide variety of conditions at all levels from the beginning primary grades up to and including the high school.

Because of the extreme importance of reading as a basic tool subject, careful observations were made concerning the extent to which the basic study abilities supposedly developed in the reading program were functioning in the content subjects. The lack of carry-over in this area was so prevalent among teachers at all levels that the condition stood out as a major problem with unmistakable clearness. Furthermore, it was noted that frequently the classroom teacher was not clear on the differences between work-type and recreatory reading. In many cases the reading program was still going forward on the traditional basis, though more than ten years had elapsed since the publication of the Twenty-Fourth Yearbook and much course of study material setting forth its basic principles had been made available to the teachers generally.

Plans for Improvement

In view of these conditions it was thought best to make a frontal attack on the problem at once. Accordingly, work was started on the preparation of supervisory materials for

the program, most of which is contained in this publication. Most of the material was first tried on an experimental basis in one county and then was reorganized into much the same form that it now appears in this pamphlet.

During the next school year, the program was used in six counties under carefully controlled conditions and produced such results that it seemed advisable to make it available to other counties. Accordingly, during the following year it was used in twenty-five counties, in which the results of pre-tests and final tests were obtained.

Obviously a program of this magnitude could not go forward without the cooperation of a number of agencies. The State Department of Public Instruction gratefully acknowledges the splendid services rendered by the county superintendents, city superintendents, and classroom teachers in each of the counties involved in the program. The assistance of the Extension Division of the University of Iowa, with the statistical treatment of the test results in the early stages of the experiment, was most helpful; and the work of the Extension Division of Iowa State Teachers College, in demonstrating the use of the exercises as well as the treatment of the results of the testing program in the later stages of the experiment, is acknowledged with much appreciation.

In-Service Training of Teachers

The notion will no doubt prevail with many that the chief purpose of such a program is to aid in improving the reading ability of children in the intermediate, upper, and high school grades, and to assist in getting the basic skills involved to functioning in connection with the work in the content subjects. While we do not wish to minimize the importance of these phases of the program, an outcome of no less importance is the in-service training of teachers, which will result

from a complete realization of its possibilities. That this problem is recognized as being urgent by members of the committee responsible for writing the Thirty-Sixth Yearbook, is indicated by the following statement: "It was necessary also to omit certain problems that are in urgent need of careful consideration—a striking example relates to the training of teachers of reading. If the program recommended in this yearbook is to be adopted widely in the near future, the types of pre-service and in-service training of teachers must be radically modified. This problem is of such large significance that it should be made the basis of intensive study by some qualified agency in the near future."¹

While no claim is made that this program is the complete answer to the problem pertaining to pre-service and in-service training of teachers, the material has been used in both situations in mimeographed form with gratifying results. Numerous requests for the material in mimeographed form from college and university libraries, teacher-training departments, supervisors, and classroom teachers from all over the country prompted its production in printed form. It is sincerely hoped that the material in its present form will be found to be of still greater value in dealing with teacher-training problems as well as those pertaining to the improvement of reading ability among classroom pupils.

Program Applicable to All Schools

Experience with this program has demonstrated its worth in all types of school situations including pupils from grades four to eight inclusive in rural, town, consolidated, and city systems. Approximately 18,000 rural pupils and 30,000 graded school pupils have had the work. Preliminary re-

1. Gray, William S., "*The Teaching of Reading*," A Second Report, Thirty-Sixth Yearbook, Part I, Chapter 1, Public School Publishing Co., Bloomington, Ill., 1937.

turns from a project involving approximately 4,000 high school pupils in four counties indicates that results equally as gratifying as those obtained in the graded schools can be secured at the high school level.

Administration of the Program

The initial efforts with the program involved six counties. In some cases, both the rural and town schools were included while in others the work was confined to the town schools. The purpose of the experiment was to demonstrate the effectiveness of the application of the basic study abilities to the content subjects in improving work-type reading ability.

In order that there could be no question concerning the authenticity of the results obtained, the assistance of the Extension Service at Iowa State Teachers College and at the State University of Iowa was obtained. Extension workers from Iowa State Teachers College, Cedar Falls, administered the pretests in the fall and the final tests again in the spring, and assistants in that department scored all the tests. The same extension workers also demonstrated type lessons involving the use of the basic study abilities before all teachers involved in the program in each school shortly after the initiation of the remedial program. The statistical treatment of the test results on both the pretest and final test was done by the Extension Service at the University of Iowa.

The basic pattern for the remedial program was prepared by supervisors in the State Department of Public Instruction. The demonstration work done by the extension workers at Iowa State Teachers College was for the purpose of illustrating the use of this material.

Two county-wide meetings were held in each county. The first of these was held early in the fall, at which time the results of the pretests were presented, weaknesses were pointed

out, and remedial procedures were suggested. The remedial material was also presented at this time and its use was carefully explained. The second meeting was held later in the year, at which time a classroom teacher demonstrated the use of the remedial material in connection with unit assignments in the content subjects. At this meeting panel discussions were also arranged for superintendents and teachers, the former dealing with supervisory problems relating to the program and the latter dealing with classroom reading problems.

In the spring, tests were again administered to measure the effectiveness of this program. The following table summarizes the results in three counties. It deals only with the scores on identical pupils and is an accurate measure of the results obtained.

TABLE I.

Results of the Pretest and Final Test on the Iowa Silent Reading Test for Grades 5, 6, 7, and 8, in the City, Town, and Consolidated Schools in Three Counties
(Comprehension—Tests 1-5)

	TOWN SCHOOLS							
	FIFTH		SIXTH		SEVENTH		EIGHTH	
	Pre Test	Final Test	Pre Test	Final Test	Pre Test	Final Test	Pre Test	Final Test
Number of cases	375	375	431	431	435	435	411	411
Median	46.75	78.24	69.01	99.60	91.20	119.13	118.30	140.00
Means	49.89	82.39	70.46	110.59	92.82	120.66	117.73	137.40
Reading Age	10-0	11-9	11-3	13-0	12-0	13-6	13-6	14-3
Standard Deviation	22.22	31.41	27.52	34.20	30.22	33.14	31.6	33.45
Difference of Means.....		32.50		40.13		27.84		19.67
Normal Gain		18.00		21.00		19.00		18.00
Per Cent of Normal Gain.....		180%		191%		146%		- 109.27%
Std. Dev. of Diff.....		1.98		2.11		2.15		2.21
Critical Ratio		16.41		19.02		12.95		8.90
Gain in Reading Age, Months.....		21		21		18		9
Reading Grade	4-9	6-3	5-9	7-6	6-7	7-9	7-9	8-9
Gain in Reading Grade.....		1-4		1-7		1-2		1-0

The average time elapsing between tests was approximately ten months, while the actual school time was less than eight months. The actual working time for remedial instruction was six months.

The significance of the gains made is indicated by the growth in reading age. A gain of 21 months in reading age is indicated for the fifth grade, 21 months for the sixth grade, 18 months for the seventh grade, and 9 months for the eighth grade. A normal gain for each would be approximately 9 months as indicated by the norms on the tests.

By comparing figures for differences of the means with those for normal gain, as indicated by the norms on the test, a gain of 180% is shown for the fifth grade, 191% for the sixth, 146% for the seventh, and 109% for the eighth. These figures are based on the actual amount of school time elapsing between tests.

The significance of the results obtained is clearly indicated by the high critical ratio shown for each grade, indicating that the differences shown are real and not due to chance. The standard deviations show great variability in the groups tested. The fact that the range of variability has increased in the final test would indicate that the superior as well as the average and inferior student profited from the work.

Program Expanded

Because of the effectiveness of the results obtained, as indicated in Table I, it was finally decided that an effort would be made to make the program available to as many as cared to participate, either on a county-wide basis or on a basis of individual schools within the county.

It was at once evident that if attempted on this scale it would be impossible to render the same detailed services by the various cooperating agencies as was done the preceding year. However, the Extension Service at Iowa State Teachers College made two of their men available to assist with the program. On this basis it was necessary that the tests be administered and scored by local school authorities. These men, however, held schools of instruction dealing with the procedure for administering and scoring the tests. They also assisted with the demonstration work and assumed all responsibility for the statistical treatment of the results shown in Tables II and III.

Twenty-five counties participated in the program on a county-wide basis. In addition, a large number of schools participated on an individual basis. Because of the numbers involved, it was impossible for the two men referred to above to take care of all of the demonstration work. Consequently, in a number of the counties, classroom teachers were used to aid with this work. In addition, the representatives in the State Department of Public Instruction assisted in organizing the program in the counties in their respective territories.

The pattern for the remedial program remained the same in most essentials. It was issued in circular form to all town, city, and consolidated schools in the state. County superintendents later duplicated the material so that copies were made available to each teacher involved in the project. The mater-

ial was essentially the same as that which appears in Sections II to VII, inclusive, in this pamphlet.

The following tables are presented to show the comparative results obtained in the rural schools and in the town, city, and consolidated schools.

TABLE II.

Summary of Results—Eighteen Counties, Rural Schools
(Comprehension—Tests 1-5)

RURAL SCHOOLS

	Grade IV	Grade V	Grade VI	Grade VII	Grade VIII
Number of cases.....	1304	1871	1810	1056	1071
Pretest standard	34	57	78	102	124
Pretest score	30.5	48.8	68.0	90.7	114.4
Final test standard.....	48.0	69.0	93.0	115.0	136.0
Final test score.....	51.5	74.7	94.4	117.5	135.0
Difference or gain.....	21.0	25.9	26.4	26.8	20.6
Normal gain	14	12	15	13	12
Per cent of normal gain.....	150%	216%	176%	206%	172%
Per cent grade is of standard	107%	108%	102%	102%	99%
Gain in reading age, months	19	16	15	17	11
Gain in reading grade.....	0-9	1-2	1-1	1-2	1-0
Elapsed time	0.65	0.65	0.65	0.65	0.65

The table shown above indicates the results of the pretest and final test administered to the intermediate and upper grades in the rural schools in eighteen counties. The elapsed time between tests was approximately six and one-half months.

For the fourth grade, a growth in reading age of 1 year and 7 months is indicated; 1 year and 4 months for the fifth grade; 1 year and 3 months for the sixth grade; 1 year and 5 months for the seventh grade, and 11 months for the eighth grade. A normal gain in reading age for the period covered would be 9 months for the fourth grade, 9 months for the fifth, 8 months for the sixth, 8 months for the seventh, and 8 months for the eighth grade.

By comparing the figures of the difference of the medians with those for normal gain, as indicated by the norms on the test, a gain of 150% is shown for the fourth grade, 216% for the fifth, etc. These figures are based on the average amount of school time elapsed between tests.

The average attainment of the rural schools on the final test shows the average for each grade to be equal to or slightly above the standards established for the test.

TABLE III.

Summary of Results—Nineteen Counties, Town Schools
(Comprehension—Tests 1-5)

TOWN SCHOOLS

	Grade IV	Grade V	Grade VI	Grade VII	Grade VIII
Number of cases.....	2489	2865	2916	2751	2575
Pretest standard	34	57	78	102	124
Pretest score	36.2	58	84.2	106.3	125.8
Final test standard.....	48.0	69.0	93.0	115.0	136.0
Final test score	60.5	84.6	109.5	126.7	146.6
Difference or gain	24.3	26.6	25.3	20.4	20.8
Normal gain	14	12	15	13	12
Per cent of normal gain.....	174%	222%	169%	157%	173%
Per cent grade is of standard	126%	123%	118%	110%	108%
Gain in reading age, months	17	15	15	11	12
Gain in reading grade.....	1-0	1-2	1-1	0-9	1-1
Elapsed time	0.65	0.65	0.65	0.65	0.65

Table III shows the results of the pretest and final test for the intermediate and upper grades in the town, city, and consolidated schools in nineteen counties. The time elapsed between tests was approximately six and one-half months.

The scores on the pretests in these schools were much more nearly up to the standards on the test than was the case in the rural schools. On the final test, as the table shows, the scores were considerably above standard.

The difference of the medians between tests represents a gain ranging from 157% to 222% for the grades represented. A gain in reading age ranging from 11 months to 1 year and 5 months is shown, while a gain in reading grade ranging from 9 months to 1 year and 2 months is indicated.

SECTION I.

Suggestions for a Continuous Program in the Improvement of Work-Type Reading Skills

The suggestions contained in this section are prepared primarily for administrators and supervisors who are initiating the program for the first time, for the beginning teacher, and for other teachers who have had no previous experience with it. Many of the suggestions, therefore, will be familiar to those who have had experience with the program. They deal, however, with basic underlying principles that should be carefully observed in the best interests of a successful undertaking.

The suggestion is made that it be a continuous program. This is essential to a complete realization of all its possibilities. The fact that a child has mastered the skills essential to satisfactory accomplishment at one grade level does not necessarily mean that these same skills will function with the same facility at the next. Moreover, weaknesses tend to grow progressively worse from grade to grade as the difficulty of the subject matter with which the child deals increases.

The authors of the fifth chapter of the Thirty-Sixth Yearbook, which deals with the question, "Reading in the various fields of the curriculum," give recognition to this point with the following statements: "The important consideration is that definite training in effective reading habits should be given early and should keep pace with students' needs even to the college level." "One result of the growing realization of the importance of relating training in methods of study to the specific needs of each field of the curriculum has been to place the responsibility for the effective study of a subject squarely upon the teacher of that subject. In effect, every teacher becomes a teacher of reading. Such a plan has dis-

tinct advantages, not only from the motivation of drill in reading skills, but also for guidance in the application of the skills to specific fields."²

Not only do these principles apply at the elementary grade level but in the secondary school as well. For this reason a section pertaining to the application of the basic principles involved in this program at the secondary level has been included in this pamphlet.

Statement of Basic Principles

A simple way of stating the basic principles of the program is to list them in a series of objective statements which the program, if properly administered, will provide. These objectives are as follows:

- A. To emphasize the development of work-type reading skills in the content subjects by incorporating the complete program into the unit plan of teaching
- B. To develop units of material in the content subjects which will incorporate exercises in work-type skills involved in the unit that will contribute to better understanding
- C. To more adequately provide for the individual needs and abilities of the various members of the group
- D. To provide for a greater degree of supervised study
- E. To provide for a greater degree of reasoned understanding on the part of pupils
- F. To provide an opportunity for pupils to appraise and select data
- G. To provide training in the ability to locate dependable

2. Snedaker, Mabel, and Horn, Ernest, *The Teaching of Reading*, A Second Report, Thirty-Sixth Yearbook, Part I, Public School Publishing Co., Bloomington, Ill.

- information from books and articles dealing with problems confronting the group in their study situations
- H. To facilitate the correlation of reading and the related content subjects whenever this procedure will contribute to better understanding of the problems or units under consideration
 - I. To create an atmosphere of active learning guided by purpose, in contrast to rote memorization and formal recitation
 - J. To provide such directive and motivating questions, exercises and activities as will contribute to the improvement of reading ability

Remedial Aspects of Program to be Considered

Before starting work on the remedial aspects of the program, it is necessary that the instructor have a complete diagnosis of the study difficulties peculiar to the group. The teacher who makes intensive use of informal objective tests for directed study will already have considerable information at her disposal on this question. Such information, however, should be supplemented with that which can be gained through the use of commercially prepared standardized tests in reading.

These standardized tests should be of the diagnostic type and should be broad and comprehensive in nature. Tests that are completely diagnostic in nature in the field of reading are not now available. The skills and abilities involved are so numerous and their ramifications are so extensive that tests completely diagnostic in make-up would be too voluminous to be of practical use. There are excellent tests available, however, which are sufficiently diagnostic in form to give all the information necessary on that group in the class which is normal and above normal in native ability, and which contains individuals with no physical deficiencies.

The Normal and Superior Group

The percentage of individuals within the class belonging to this group will vary widely from school to school. It is composed of individuals who have no special deficiencies and who would not be classed as problem cases. They are capable, however, of increasing their proficiency to a marked degree with proper direction, such as a directed study program provides.

The majority of the average classroom group belongs to this classification although, very frequently, as a group they do not make achievement scores on standardized tests comparable to their latent abilities. Frequently also their achievement scores will be below the norms on the tests depending upon the nature of the instructional program they have been receiving.

Experience indicates that the members of this group are capable of marked improvement through a program of remedial instruction of this type. High-ranking students on pretest scores have made gains of as much as five years in grade placement scores during a period of six and one-half months. Pupils with lower initial scores have made equally impressive records.

Educational Deficiencies Group

Authorities vary in their estimation of the percentage of reading disability among the general population. A survey of the literature indicates, however, that disabilities exist to an extent ranging from four to twenty per cent. The average is probably about ten per cent depending upon the extent to which variables are allowed to enter into the deductions.³

3. Monroe, Marion, *"Children Who Cannot Read,"* University of Chicago Press, Chicago.
Betts, Emmet, A., *"The Prevention and Correction of Reading Difficulties,"* Row, Peterson & Company, Evanston, Illinois.

"The usual expectation, judged from the majority of investigations, is that from twelve to fifteen per cent of the school population are sufficiently retarded in reading to need remedial work."⁴

Not all reading disabilities can be attributed to educational deficiencies. It is believed by many, however, that this factor accounts for the largest percentage of them. While there is not a great deal of scientific evidence yet available to substantiate the statement, research workers in the field of reading disabilities at the college level are finding that approximately ninety per cent of the disabilities among this group are due to educational deficiencies or a lack of familiarity with the mechanics of reading.

Others dealing with this subject at the elementary level are finding about the same percentage of deficiency among children in the public schools. Pupils who have unusual difficulty in reading need the services of a specialist but ninety per cent of the poor readers are in need of the kind of guidance which skillful teachers employ in developmental teaching of reading and should be handled in the classroom.⁵

It would seem safe, therefore, to assume that the vast majority of disabilities in the general school population would come under this heading. While the members of this group would be classed as remedial cases, they are not of the acute type that are subjects for clinical examination. Most of them would respond to types of simple remedial measures, in addition to those outlined in this program, that could be handled by the average classroom teacher with a little special training and study. Correction of phonetic difficulties, poor eye

4. Monroe, Marion, and Backus, Bertie, "*Remedial Reading*," A Monograph on Character Education, Houghton Mifflin Co., Chicago.

5. Gray, William S., "*Remedial Reading*," *Journal of the National Education Association*, XX (May, 1931), 163.

movements, lip reading, and head movements would eliminate a large percentage of this group.

Emotional and Environmental Deficiencies Group

A small percentage of the clinic group would come in this classification. Due to emotional instability or unfavorable environmental conditions they are problem cases calling for a different type of treatment, such as can be provided through the services of a psychiatrist, psychologist, or environmental specialist. For this reason they should be referred to a clinic providing services of this type.

Physical Deficiencies Group

This group is composed of those afflicted with speech, sight, auditory, and general physical deficiencies. They are all subjects for clinical examination. Assistance from specialists in the various fields represented is needed in dealing with such problems.

The average school situation provides neither equipment nor trained personnel for dealing with cases of this kind. For this reason it is recommended that the assistance of state institutions be secured in dealing with such problems except in those instances where the parents of the children concerned are financially able to bear the burden.

As a rule a routine check by the school nurse or the school physician will be a sufficient basis for segregating the problem cases belonging to this group. However, detailed diagnosis and remedial correction of the trouble should be left to trained specialists.

In one county where a careful check was made following the completion of the testing program, it was found that ninety-five per cent of those individuals who made unsatisfactory progress were physically handicapped. This check was

made by the county nurse and a campaign was immediately started to correct the weaknesses. In practically all cases the results of the reading tests were sufficient evidence to convince the parents that corrective measures were needed. Following treatment in most cases the children were able to respond to corrective remedial reading measures as normal individuals.

Mental Deficiencies Group

Belonging to this group are those individuals who would be classified as morons. Fortunately, the number belonging to this group in the average school situation is comparatively small.

The advisability of spending a great deal of time with a considerable proportion of this group can be questioned. Lichtenstein, in an article in "School and Society," makes the following statement: "Everyone will concede by now that we need not spend any time training individuals of 50 I.Q. to read. Few will ever be able to read at all, none will become proficient. The time is much better devoted to training in habits of self care, good citizenship, and certain kinds of manual work. As the I.Q. rises, however, the percentage of children who can master the tool of reading increases proportionately. Most children of 80 I.Q. can learn to read. Many have great difficulty, and few ever get beyond sixth grade level."⁶

The claim is not made that this program will do a great deal for the members of the latter group. The progress they make will depend largely upon the extent of their handicap. They can be expected to make reasonable progress if all principles are observed and the program is adapted to material within their range if they are normal in all other respects.

6. Lichtenstein, Arthur, "Why Reading for All?" School and Society, Vol. 48, August, 1938.

Program Applies to Normal and Educationally Deficient Groups

Between ninety and ninety-five per cent of the school population will come within this classification group. They will respond to the devices and exercises outlined in Sections II to VIII inclusive in this pamphlet. The remaining five to ten per cent, representing the physically and mentally handicapped, should be referred to special clinics for help in diagnosing their disabilities. Many of the last two groups will respond after corrective measures have been provided.

Most authorities now recognize that a large percentage of maladjusted children among the school population are victims of reading deficiencies. Research evidence indicates that, in most cases, these maladjustments can be directly attributed, to some degree at least, to the child's failure to succeed in school because of this deficiency. For this reason the responsibility for correction of such disability rests heavily upon the school. It plays a more important role in counseling and guiding pupils at all levels than many of our guidance workers realize. Encouraging improvements in this respect have resulted when painstaking efforts are made to remove such disabilities as indicated by the following statements taken from the monograph "Remedial Reading" by Marion Monroe and Bertie Backus.⁷

1. Other studies have demonstrated that improvement in reading is frequently accompanied by improvement in behavior
2. Teachers' anecdotes frequently indicated favorable changes in behavior during remedial work
3. Personality-rating scales indicated favorable changes in attitudes in many cases

7. Monroe, Marion, and Backus, Bertie, "*Remedial Reading*," A Monograph on Character Education, Houghton, Mifflin Co., Chicago.

Except for those individuals classed as subjects for clinical study and those who are mentally deficient, the vast majority of cases can be handled by the classroom teacher who carefully observes the techniques involved in this program.

Experience indicates that, in most situations, the normal and superior pupil, as well as the educationally deficient pupil, will respond well if individual needs and differences are properly recognized as is suggested.

Suggested Procedure for Initiating Program

Various procedures can be followed in initiating a remedial program. The size of the unit involved will have an important bearing on the procedure to follow. The following plans are suggested with the county as a unit in mind.

PLAN ONE

1. Hold series of county-wide meetings for all teachers
2. Have speakers to discuss various phases of the program
3. Divide rural teachers of county into township groups.
Organize teachers from the graded schools into a second group and high school teachers into another
4. Assign different phases of the program to each group for study
5. Have representative members of a given group report on their phase of the program at each meeting
6. Provide some demonstration teaching for at least one or two meetings
7. Administer pretest and diagnose results
8. Initiate remedial program

PLAN TWO

1. Divide rural teachers into township groups
2. Divide town and consolidated grade school teachers

- into groups according to geographic location. Have high school teachers organized in same manner
3. Establish a series of study centers for each group where teachers can gather for periodic study of the program under competent guidance
 4. Select key teachers who are qualified by training, experience, and disposition to serve as leaders of various groups
 5. Organize the meetings for purpose of studying various phases of the program
 - a. Understand basic philosophy involved in program
 - b. Become familiar with technique of unit teaching and directed study
 - c. Study the technique for administering the reading test
 - d. Diagnose the results of the test
 - e. Prepare units of subject matter in the content subjects
 - f. Prepare various types of study exercises to incorporate in the unit designed to direct study, motivate the problem, improve comprehension, and understanding, and aid in organization and retention of material studied

Training Teachers in Service

In connection with the study centers suggested above, it is important that the meetings be carefully planned with reference to the topics that are to be developed. In planning these topics, care should be taken to make certain that they are developed in their proper sequence and that none of the important details are overlooked.

The following outline is included to suggest the nature of the topics that should be developed in these centers. It is

important that teachers have access to the various books included in the bibliography in studying these topics.

I. Topics to be developed carefully

A. Pattern of program

1. As outlined in Sections III to VIII of this bulletin

B. Techniques involved in supervised study

1. Preparation of different types of study exercises designed to improve abilities involved in understanding what is read, organizing information, retaining information, and location of information (Refer to Sections V and VI)

C. Time allotment schedule that will provide for longer periods of study

1. Refer to pages 12 to 22, Iowa Elementary Course of Study
2. Study the philosophy of the weekly teaching program and its relationship to a program of supervised or directed study
3. Study the contrasting philosophies expressed in the terms "leaders of study" and "hearers of lessons"

D. Provision for individual differences through

1. Preparation of directed study exercises designed to fit various levels of ability in the the group. If material is difficult, exercises should be simple for the slower group
2. Activities of sufficient variety to challenge the various special abilities of the group
3. Wealth of reference materials selected to appeal to a wide variety of interests and ability. This is a factor of tremendous importance in this program. Its significance is clearly stated in the following:

"Materials that range widely in reading difficulty are essential in order to prevent injustice to both the poor and the excellent reader. The reading abilities within an intermediate-grade

group studying the westward movement may vary from that of the pupil who reads with difficulty a fifth grade book, such as Clark's *Westward to the Pacific*, to that of the pupil who reads easily a college textbook, such as Riegel's *America Moves West*." ⁸

E. Magnitude of teaching load in terms of number of pupils rather than number of classes, if philosophy of directed study and provision for individual differences is accepted

1. This is an important concept for teachers to have in developing a program of directed study that will provide for recognition of individual differences

F. Problem solving versus verbalism

1. Discussion and study of significant issues rather than repetition of words and phrases of the author. Intelligent discussion depends on understanding
2. "The conscientious student, actuated by pride, marks, or the desire for approval, may memorize or paraphrase the words of the text or lecture even though little understanding attends his efforts. This is verbalism. It centers chiefly upon words rather than upon the ordering and authenticating of meanings, and either fails completely to give the student ideas of any sort or leads to ideas that are not sufficiently accurate or complete enough to be of use." ⁹

G. Unit organization of subject matter

1. Introductory statement describing its content
2. Unit or general objective

8. Snedaker, Mabel, and Horn, Ernest, "*The Teaching of Reading*," A Second Report, Thirty-Sixth Yearbook, Part I, Chapter V, Reading in the Various Fields of the Curriculum

9. Horn, Ernest, "*Methods of Instruction in the Social Studies*," Part XV, *Report of the Commission on the Social Studies*, American Historical Association, Charles Scribner's Sons, Chicago

3. Specific objectives
 4. Directed study exercises (Refer to Sections V, VI, VII and VIII)
 5. Pupil activities
 6. Socialized discussion
 7. Evidences of mastery or minimum essentials
 8. Unit test
- H. Teaching procedure over unit
1. Introduction of unit
 2. Supervised or directed study
 - a. Sometimes referred to as individual work or laboratory period
 - b. Refer to Sections V to VIII for suggestions on how to prepare materials for this period.
 3. Class discussion
 - a. Emphasis should be placed on discussion rather than recitation
 4. Testing period
 5. Reteaching
 6. Retesting
- II. Other suggestions for training teachers in service
- A. Organize committees for the study of specific problems
 - B. Train teachers in the administration and scoring of tests and interpretation of test results
 - C. Make use of such stimulating supervisory aids as observations and conferences, demonstration lessons, concrete helps in the form of sample exercises, annotated references, samples of directed study exercises prepared by classroom teachers, and lists of various types of activities
 - D. Give the classroom teachers training in handling problem cases involving educational deficiencies, such as: lip reading, head movements, poor eye span, etc.

- E. Provide encouragement and special help for those teachers who encounter difficulties in their efforts to change the content and their methods of teaching
- F. Encourage the critical reading of professional literature dealing with the problem. This can be done by keeping the reference library growing through the addition of magazine articles, pamphlets, circulars, and books
- G. Keep teachers growing by having them attempt new problems and new types of teaching of greater breadth as they improve
- H. Be sure that the specific changes which are necessary in bringing about improvements are clearly understood by the teacher before she attempts a new procedure

Remedial Reading Instruction at the High School Level

The reading problem at the secondary level is in all essential respects identical with that in the elementary grades. The fact that the pupil now in question is a high school pupil does not change the nature of the reading difficulty involved although its solution may be more difficult because of the greater degree of complexity of the reading material involved.

Many pupils enter high school with serious reading deficiencies which in turn are responsible for a very large percentage of the failures at this level. Furthermore, as has been previously stated, between ninety and ninety-five per cent of these deficiencies are due to weaknesses in the reading instructional program. The school cannot shift the responsibility for this condition nor can the high school teacher shift the responsibility back to the grades, although it must be admitted that many pupils enter high school with serious shortcomings in this respect. The fact remains, however, that each new subject the pupil takes in high school presents new

reading problems for him. Many educational deficiencies in reading result from the failure of students to master the reading required at one level before attempting that at the next. The result is a progressively increasing accumulation of deficiencies. Shifting the responsibility does not cure the evil. The only logical solution is for each high school teacher to recognize his or her responsibility and initiate a determined campaign of correction.

note In some schools an effort is being made to do the remedial instruction in the field of English. While this is a commendable effort, it will almost surely produce results like those obtained at the elementary level under similar circumstances. At the elementary level the remedial work and general teaching of reading skills and abilities done in the formal reading classes has failed to carry over to the content subjects. In experiments conducted at the secondary level it has been found that the same situation prevails here also. This is not to be wondered at, since the degree of departmentalization at the high school level is much more pronounced than in the grades and the possibility of integrating the work in reading with other subjects is practically nil unless every teacher is working earnestly at the problem.

The English teacher can and should work on the reading problem in her own field. Experience and research indicate, however, that her efforts in English will do little to strengthen the work in the other fields. It is generally accepted now that transfer of learning is not a dependable way to teach any subject. Why should we expect it to function in this connection with any greater facility than it does in numerous others where its failure to operate is no longer questioned?

Numerous references are made in the Thirty-Sixth Year-

book, "The Teaching of Reading" to this problem at the high school level. Repeatedly the suggestion is made by different contributors that the instructional work in reading at this level should be approached through each of the various subjects in the curriculum. Other references of a similar nature are found throughout the literature dealing with reading at the secondary level.

Though reading problems in the secondary school are different in degree from those in the elementary school, they are not different in kind.¹⁰ Secondary school pupils need instruction in how to read and study in connection with practically every phase of their curriculum; they need guidance in their voluntary reading; and they frequently need direct instruction in reading skills that have proved difficult. Provided that every teacher gives careful attention to these reading needs as they arise, probably few separate periods for reading will be necessary in most secondary schools, except for pupils who have serious reading difficulties.¹¹

Since the problems at the elementary and secondary levels are so similar in nature, there should be little necessity for enlarging upon what already has been stated concerning the continuous aspects of the program. The basic principles previously stated are fundamental at all levels. It is important, however, that high school teachers be thoroughly familiar with the philosophy of the program as developed in Sections II to VIII inclusive before attempting the remedial work.

10. Gray, William S., "*Reading and Literature*," Review of Educational Research, 2: February, 1932, pp. 29-34 (Chapter III of Report of Committee on Special Methods at High School Level, Walter S. Monroe, Chairman)

11. Goodykoontz, Bess, "*The Teaching of Reading*," A Second Report, Thirty-Sixth Yearbook, Part I (Chapter III, "The Place of Reading in the Curriculum")

SECTION II.

Individualizing the Instructional Program in the Content Subjects

Table I, in the introduction, presents the results of the pretest and final test on the Iowa Elementary Silent Reading Test administered in the town, city, and consolidated schools in three counties. Attention is again called to this table because it has certain important implications from the standpoint of individual differences. The wide range in standard deviation between the pretest and final test shows that the range of variability between the individuals in the groups increased materially during the time the program was in progress. Any program that is truly effective from the standpoint of providing for individual differences should be characterized by an increase in the range of variability if it really provides a challenge to the superior as well as the inferior student and is properly administered. While the increase in variability for the fifth and sixth grades is much greater than for the seventh and eighth grades, a substantial increase is shown in each instance.

Further light can be thrown on this subject by examining the results of these tests on individuals from a specific group. For this purpose three schools were selected at random from which a study of the results of the program was made in the fifth grade. Table IV shows the distribution of the scores on the pretest and final test in terms of reading age and grade placement.

TABLE IV.

Pretest		Final Test	
Reading Age	Reading Grade	Reading Age	Reading Grade
9.6	4.5	11.6	6.3
9.3	4.2	10.6	5.3
8.9	3.1	10.3	4.1

THROUGH WORK-TYPE READING

8.9	3.1	10.3	4.1
8.6	3.9	10.0	4.7
8.0	3.8	9.6	4.4
7.0	3.5	8.6	3.9

School No. 2

Pretest		Final Test	
Reading Age	Reading Grade	Reading Age	Reading Grade
11.3	5.1	13.6	7.9
10.9	5.4	13.3	7.7
10.6	5.3	13.3	7.7
10.6	5.3	12.0	6.7
9.9	4.6	11.6	6.2
9.9	4.6	11.3	5.1
9.6	4.4	10.9	5.5
8.9	3.1	10.3	4.1
8.3	3.8	10.0	4.7

School No. 3

Pretest		Final Test	
Reading Age	Reading Grade	Reading Age	Reading Grade
12.0	6.6	15.9	10.3
12.0	6.6	14.3	8.8
11.9	6.4	13.9	8.1
11.6	6.3	13.3	7.8
11.3	5.6	13.3	7.8
11.0	5.4	13.3	7.8
10.9	5.4	13.3	7.8
10.9	5.1	13.0	7.5
10.6	5.1	13.0	7.5
10.6	5.1	12.6	7.2
10.6	5.1	12.6	7.2
10.6	5.1	12.3	6.9
10.6	5.1	12.0	6.7
10.6	5.1	12.0	6.7
10.3	4.1	12.0	6.7
10.0	4.7	12.0	6.7
9.6	4.4	11.9	6.3
9.6	4.4	11.9	6.3
9.6	4.4	11.6	6.2
9.6	4.4	11.6	6.2
9.3	4.3	11.3	5.9
8.9	3.1	11.3	5.9
8.9	3.1	11.3	5.9
8.3	3.8	11.3	5.9
8.3	3.8	11.0	5.6
8.3	3.8	10.9	5.4
8.3	3.8	10.6	5.1
7.0	3.5	10.6	5.1
6.0	3.3	10.3	4.1

5th grade
~~*6 derivations*~~
~~*3 derivations*~~
page school

GRADE PLACEMENT

School No. 1

Pretest		Final Test
4.5	Upper Score	6.3
3.1	Median	4.1
3.5	Lower Score	3.9
1.0	Range	2.4

School No. 2		
Pretest		Final Test
5.1	Upper Score	7.9
4.6	Median	6.2
3.8	Lower Score	4.7
2.2	Range	3.2
School No. 3		
Pretest		Final Test
6.6	Upper Score	10.3
4.1	Median	6.7
3.3	Lower Score	4.1
3.3	Range	5.2

From the standpoint of individual differences, a very significant fact is revealed by this table. In each of the schools represented, not only are significant gains in reading ability indicated but in each instance the range of variability within the group has increased materially. Furthermore, there seems to be a rather close correlation between the amount of gain made and the amount of increase in variability. In other words, the teacher who has accomplished most from the standpoint of raising the general level of reading ability within her group has also accomplished most from the standpoint of providing for individual differences.

Factors to be Considered in a Well-Planned Program of Individualized Instruction

Any plan of individualized instruction that ignores the social advantages of group activity has a very serious shortcoming. For this reason the program should be so organized that each pupil can participate with a definite feeling of having made a contribution to the work of the group. This should be accomplished without sensitizing him to the fact that he has shortcomings of a nature that make him inferior to other members of the group.

When thinking in terms of individual differences, we should think of these differences in the broadest sense of their

meaning. The individual who is inferior in reading ability, as compared with other members of the group, may be very superior to other members in his emotional sensitivity, physical development, artistic ability, or mechanical skill; any one of which might provide him an opportunity to make a unique and distinct contribution to the group activity. For this reason it should be possible to find for each pupil an outlet for his talents in connection with each of his subjects in the content field. Where the work on a given unit is divided into the academic and activities phases, many opportunities for providing stimulating outlets for special abilities can be suggested in the activities phase of the unit. The limitations on the possibilities here are set only by the limitations of the teacher's own resourcefulness in suggesting projects.

This practice, if carefully followed, will do much to enrich the program of studies. Each pupil, if given opportunity to develop his special ability, will be able to make contributions to the group which might not otherwise come to their attention. For this reason the more nearly we succeed in individualizing the work within the group the greater the degree of enrichment and socialization we can provide.

Avoid Drill Situations

In connection with this program, major emphasis is placed on the importance of making the basic study skills function in the content subjects. Frequently the mistaken notion is advanced that the best way to develop these skills is in drill situations in periods set aside for this purpose. While it is possible to bring about improvement in this way, generally the benefits derived are shortlived because the skills so developed are seldom practiced in study situations.

Two reasons for this condition can be advanced. In those elementary schools which are highly departmentalized, the

problem of remedial study-type reading is most likely to be handled by the reading teacher. Unless the teachers of the content subjects are working on the program also, the amount of carry-over is apt to be negligible. Precisely the same situation prevails in the high school where the responsibility for the remedial program is placed on the English teacher. Without the active cooperation of the other teachers on the staff the effectiveness of the work is questionable. Another inhibiting factor is the general lack of understanding teachers have concerning the philosophy of a program of this type. This is especially true of the inexperienced teacher whose training is limited.

Providing Reading Materials Suited to a Wide Range of Reading Ability

Much has been written in recent years on this point but the problem of providing reading materials in any of the content subjects for the wide range of reading interests and abilities within a given class is still a major problem. Reference to Table IV shows that in the three schools represented, grade reading levels ranging from 4 to 6 grades are indicated in these classes on the basis of the retest scores. These figures involve fifth grade children. In school No. 3, with an enrollment of 29 children, six different grade levels in reading ability are represented. In developing a unit in American history on Pioneer Life, for example, this teacher, in order to satisfy the range of reading abilities represented in the class, would need to provide materials ranging from fourth to tenth grade level. Any teacher who has attempted to do this in actual practice will recognize at once the difficulty involved. While history in the elementary grades is suggested here as an example, the problem applies with equal force to other subjects in the content field at both levels.

Selecting Materials to Meet Varied Interests and Abilities

While textbooks within a given field will vary considerably in difficulty depending upon their authorship, the use of this kind of material alone is not sufficient to provide for the great variability among pupils in a given class. This condition, coupled with the fact that the material developed in a text for a given grade is not likely to be treated extensively in texts prepared at various grade levels above and below, makes it necessary to seek other sources as well as parallel texts to meet the need. There are a number of exceptions to this condition in the high school, however. Much upper grade material in text form is available in the fields of literature, social science, and science, which aids very materially in providing reading material at lower levels in the high school. In any case the importance of parallel texts should not be overlooked because of the stimulation their use gives to the discussion period as a result of the difference in viewpoint and emphasis with which a given subject is treated in different texts.

There are several other sources of reading material that can be used in providing for individual differences, the benefits of which are not now being fully realized. Among these are biographies, travel stories, recreational stories, and source materials appearing in various forms, such as memoirs, journals, diaries and letters. A complete discussion of sources of this type, together with a discussion of their use, is given in the Thirty-Sixth Yearbook, Chapter V.¹²

While in themselves they do not provide for a wide range of differences, encyclopedias should not be overlooked as an important means of providing for individual differences at both levels. Some of the standard works in this field now

12. "The Teaching of Reading," A Second Report—Thirty-Sixth Yearbook, Public School Publishing Company, Bloomington, Illinois.

provide supplementary materials in the form of work units which give valuable aids in dealing with this problem. Of particular value are the visual aids provided in some of this supplementary material.

Readers as a Source of Informational Material for Both Grades and High School

Many of the readers now on the market contain a large amount of informational material which can be used for supplementary reading in connection with the various content subjects. Their use in this connection applies to the high school as well as the elementary grades. Just as material from the intermediate grade level will prove helpful with poor readers in the upper grades, so will upper grade material prove helpful to poor readers in the high school. In each instance it may be necessary to go even beyond the next lower level to find material of suitable difficulty.

In these readers a wide range of topics is treated usually in an interesting style and when all the possibilities are exhausted, discussion of a given topic may be found at a number of different grade levels. Where the work in the content subjects is organized in the form of work units devoted to the study of a given topic, such as dairying, transportation, settlement of Georgia, life in the middle colonies, home life, the middle west, fur-bearing animals, clothing, etc., a wide variety of supplementary references written at all grade levels can be found. Two very excellent volumes devoted to a subject index of the various reader sets on the market are now available. The first of these is an index for the primary grades prepared by the American Library Association,¹³ and the second, a similar study for all elementary grades just re-

13. Rue, Eloise, "*Subject Index of Readers*," American Library Association, Chicago

leased by the Department of Education, State of California. ¹⁴ The latter contains also a complete and detailed vocabulary study of an extensive list of readers. In addition, this same department has also prepared an excellent bibliography of material on forty-five topics or curriculum units for the intermediate grades. ¹⁵ While this is not an annotated list and does not suggest the grade placement for the various books listed, a wide range of reading variability is provided for in this list.

Other valuable sources of reference material can be found in recreatory or pleasure reading lists for children in the elementary grades. Many of these are annotated lists with the grade placement for each volume indicated. While the books in these lists are intended primarily for recreatory reading purposes, many of them are excellent also for collateral reading purposes in connection with the various content subjects. Such a list has, for a number of years, been prepared by the Iowa Pupils Reading Circle with supplementary lists each succeeding year. ¹⁶ Copies may be secured on request. Two excellent lists have also been prepared by the State Department of Education, State of California. The first of these is a bulletin, "Pleasure Reading for Boys and Girls," ¹⁷ and the second appears as an appendix in the book, "Teachers' Guide to Child Development in the Intermediate Grades." ¹⁸ Another excellent list for the

14. Hocket, John, "The Vocabularies and Contents of Elementary School Readers," State of California, Department of Education Bulletin, Sacramento, California

15. "Teachers' Guide to Child Development in the Intermediate Grades," California State Department of Education, Sacramento, California

16. Iowa Pupils Reading Circle, Iowa State Teachers Association, 415 Shops Building, Des Moines, Iowa

17. "Pleasure Reading for Boys and Girls," State of California Bulletin, Department of Education, Sacramento, California

18. "Teachers' Guide to Child Development in the Intermediate Grades," California State Department of Education, Sacramento, California

upper grades has been published by the American Library Association and is known as "Leisure Reading for Grades Seven, Eight, and Nine,"¹⁹ prepared by the National Council of Teachers of English. This same organization has published a graded list of books designed primarily for children's general reading.²⁰ The American Library Association has also prepared a list especially for senior high school use.²¹

Many of the books in the lists mentioned contain valuable material for use in supplementing the work in the content subjects. Their chief value lies in the fact that they usually treat the material in much more detail than the regular texts and often give atmosphere that is difficult to secure in any other form.

The Importance of Concepts

Most of the work which has been done in the development of supplementary reading materials to provide for individual differences has centered around vocabulary studies. The false assumption is frequently made that if the vocabulary used comes within the grade level of the individual, the subject matter treated will be within the comprehension range of individuals in that particular classification. However, this is not always true because of the difficulty of the concepts sometimes involved. Due to the fact that the topics treated in the lower and intermediate grades are not so apt to involve difficult concepts, this problem is not as acute in these grades

19. "Leisure Reading for Grades Seven, Eight, and Nine," National Council of Teachers of English, American Library Association, Chicago, Illinois

20. "Graded List of Books for Children," Joint Committee of the American Library Association, National Education Association and National Council of Teachers of English, Nora Beust, Chairman, American Library Association, Chicago

21. "1000 Books for the Senior High School Library," 1935, published by the American Library Association, compiled by joint committee of American Library Association, National Education Association, and National Council of Teachers of English

as in the upper grades and high school. It tends to increase, however, in the intermediate grades and grows more acute as the grade level increases. For this reason teachers should be alert to this possibility in the choice of reference materials.

Individualizing the Work Within the Unit

The problem of providing for individual differences can be considerably reduced by organizing the work in the content subjects around vital problems or centers of interest usually referred to as problems or work units. This type of classroom procedure provides that a larger percentage of the time be devoted to study under immediate direction of the teacher and a correspondingly smaller proportion of time devoted to recitation. This philosophy, however, does not mean that the importance of the recitation period would be minimized. It would, however, be conducted on a much higher plane involving discussions of the principles, attitudes, appreciations, skills and abilities upon which the units are based. Under this procedure the facts as such are not discussed in their unrelated form but only as they apply and contribute to the understanding of the problems being developed.

The teacher who in common parlance is referred to as a "textbook teacher" cannot realize this objective without a change in her classroom practice as well as her philosophy. Classwork based on a single text provides a minimum of opportunity for discussion or exchange of ideas. At best the work becomes a verbal repetition of the content of the text and rote memorization of this material. Obviously, too, the opportunity for providing for individual differences through reading is almost completely eliminated by reason of the fact that the basic text, for reasons previously given, does not fit the reading level of the entire group.

A basic condition which is essential to the complete realization of this philosophy is the provision of reference materials suited to all levels of ability represented in the group. While an abundance of this type of material is not now available, a number of suggestions have been given relative to sources to which one might refer in selecting materials. One of the principal advantages resulting from the use of the unit procedure is the fact that units are organized around large problems designed to develop certain desirable attitudes, appreciations, skills or abilities. This fact in itself makes it possible to focus much material on a given subject from sources outside the literature confined to the field itself. It is in this connection that the subject index to readers, the graded reading lists for recreatory and collateral reading, and the bibliography on instructional units previously mentioned are most useful. With access to reference lists of this kind, it is possible to focus upon the work in the content subjects much material previously overlooked. In almost every classroom there is some material of these types available.

Sections VII and VIII of this pamphlet contain sample units which have been prepared and used by classroom teachers. The first is based on a unit in sixth grade history and the second on a unit in tenth grade biology. They are included to illustrate how the unit, when properly organized, will aid in providing for individual differences. This is accomplished through the use of varied references, the provision of different kinds of study exercises in the academic phase and different types of activities in the activities phase. Provision is also made in the academic phase for the development of different kinds of study skills and abilities as outlined in Section V.

Using Course of Study Materials

When organizing their work in the content subjects on the unit basis, teachers should have an authoritative outline to which to refer. Outlines organized on the unit basis are now available for practically all subjects in the curriculum. They will be very useful to teachers who are working on this problem.

Recording the Individual's Progress

On pages 77, 78, 79, of this pamphlet, are charts designed to aid in recording the progress of individual pupils with reference to each of the thirty-six basic study abilities included in the program. These charts are not intended to indicate degree of progress but are intended to serve as a means of indicating the individual's mastery of the skills involved when considered in the light of his individual capacities.

The sample record given below is for the purpose of suggesting a way of indicating the relative degree of progress the pupil is making. The information could be based on his scores on informal tests prepared by the teacher, open book tests, or standardized test records. Where this procedure is followed, the rating is done on a 5 point scale using the following symbols: 1—superior, 2—excellent, 3—good, 4—fair, and 5—poor.

Pupil's Name

Grade

	1	2	3	4	5
1. Finding answers to direct questions					
2. Proving answers by citing words or phrases					
3. Checking correct answer in multiple choice questions					
4. Selecting definite items of information					
5. Defining words or phrases from context					
6. Recognizing similar ideas					
7. Reading extensively to answer involved questions					
8. Giving main idea of paragraph					
9. Arranging ideas in proper order					
10. Selecting important points					
11. Summarizing paragraphs					
12. Analyzing what to remember					
13. Organizing to aid in memory					
14. Using the index to locate information					
15. Using alphabetical arrangement					
16. Using table of contents					
17. Skimming to locate answers to questions					
18. Using the dictionary					
19. Using maps as a source of information					
20. Citing proof of answers to true-false questions					

There are numerous ways in which such a record can be used. The number of items listed in the lefthand column can, of course, be changed to suit the occasion. Likewise, the nature of items listed can be organized according to the particular phase of the work being stressed at the time. A teacher might prefer to concentrate at one time on comprehension exercises and at another on organization, memorization, or location of information exercises. The frequency of the check also may vary according to the situation. Over a period of years teachers can build up a series of tests for which a file can be maintained making it possible to use the tests year after year.

Use of Study Guides

Next to the provision of suitable text and reference material, the use of study guides is probably one of the best means, at the teacher's disposal, of providing for individual differences. In addition, it affords an ideal instrument for developing the various basic study skills. Thus it becomes the organ through which the reading program is integrated with the content subjects.

To illustrate the method by which these devices can be used in providing for individual differences, attention is called to Exercise II-B-1-a, on page 86, in Section VII, for the elementary grades, and Exercise II-B-1-a, on page 95, in Section VIII, for the high school.

A survey of the two groups of questions in each case will disclose at once that the direct questions and the thought questions differ both as to kind and scope. The first five are simple, direct questions all of which are answered directly in the text. The answers to the last five will also be found in the text or reference materials. However, the answers to these questions involve more thinking and reasoning on the part of the pupil. Rather than directing the child to find the answer to a fact question, the nature of the question necessitates his finding the facts involved and his further application of the facts to the problem with which he is confronted. In both instances the pupil is dealing with facts although the plane upon which their application is made is very different. This viewpoint is often confusing to teachers because of the criticism so often leveled at teaching facts. As is so often the case, the misunderstanding surrounding this point is a misuse of terminology rather than difference in viewpoint. A thorough mastery of the facts involved in any problem is essential to the solution of that problem. However, when facts are stressed in isolation with no bearing upon the prob-

lems involved, the work tends to verbalism and the class routine becomes one of rote memorization in contrast to meaningful learning. Hence the importance of setting before pupils vital problems, issues or difficulties which demand solution. When established on this basis the facts involved in the issues confronting the class become a vital and useful instrument for developing the attitudes, skills, abilities and appreciations being sought. The facts involved, regardless of the procedure being followed, are soon forgotten but the other aspects of the learning situation, which are vital in the development of personality and character which good instruction aims to provide, are present. Perhaps one of the greatest contributions that the unit or problem method makes to teaching procedure is the opportunity it provides for setting before pupils vital problems or issues the solution of which necessitates a critical application of the facts pertaining to the question.

The same principles suggested in the illustration given above can be applied equally well in connection with various other types of comprehension exercises, such as matching, true-false, completion, and vocabulary exercises. In addition, the possibilities of providing differentiated exercises in the organization field are numerous. This can be accomplished by differing the amount of material involved in the assignment. There may be individuals within the group for whom the selection of paragraph headings or the matching of paragraphs and paragraph headings would constitute a major assignment, while others might work on the problem of organizing an entire section of material into a three or four-step outline.

Homogeneous Grouping

This practice is frequently used as a means of making some provision for individual differences. If the grouping

is made solely on the basis of ability, its values from the standpoint of providing for individual differences can be seriously questioned, assuming, of course, that we keep in mind the social implications involved. For example, if the grouping is made only on the basis of the child's ability to deal with books, the various other contributions that he may be able to make because of special peculiar abilities might be overlooked and one of the best means of making provisions for individual differences lost.

In some larger schools the basis for grouping pupils is determined by chronological age only. In this way a complete cross section of individual ability is contained within each group. When considering the problem in its broadest terms, the latter plan will probably more nearly provide for the maximum development of each individual than will the former, provided all of the various aspects of an individualized program are observed.

Visual Aids

Visual aids as a means of providing for individual differences are of vital importance. This question is of particular significance in connection with the child who experiences difficulty in dealing with text material.

A number of sources of material of this type have been previously suggested. The possibilities existing in the various standard encyclopedias, as well as the supplements accompanying them, illustrations in the regular text material, and special illustrative materials found in newspapers and current magazines should be fully utilized. In addition there are now available many specially prepared inexpensive materials, such as Building America—a series of pictorial study units developed by the National Society for Curriculum Study, and distributed by E. M. Hale & Company, Milwaukee, Wisconsin.

Interest in the use of such aids as motion pictures, lantern slides and stereopticons is increasing rapidly. While some of these materials are rather expensive, many schools are discovering ways and means of providing these services. Their importance in dealing with the problem of individual differences can hardly be overemphasized.

SECTION III.

**Suggested Pattern for a Remedial Program in
Work-Type Reading**

I. General principles to be observed in both grades and high school

A. Administration of a pretest

For the purposes of this program, the Iowa Silent Reading Tests are probably the best adapted standardized tests available for revealing basic fundamental weaknesses in the field of work-type reading. The elementary form should be used for grades four to eight and the advanced form for grades nine to twelve. In some instances it may be advisable to use the elementary form in the ninth grade. The tests should be administered as early in the school year as possible. The scoring can be done by the local teachers under supervision, and the results analyzed so that the remedial program can be inaugurated without delay. On the basis of the weaknesses revealed by the test, the necessary remedial exercises can be selected from the exercises keyed to the outline of basic skills (Section V) for use in the remedial program.

B. Use of the material "Basic Study Skills and Their Application to the Content Subjects," (Section V)

The material in this outline is based upon an analysis of the various sets of work-type readers on the market. The major silent reading abilities developed in these readers have been isolated and classified under four main heads as follows: Locating information, comprehending what is read, organizing what is read, and remembering what is read. Under each of the abilities are a number of different suggested teacher procedures for developing each.

This section is the core around which the entire remedial program is developed. Therefore, teachers and superintendents should carefully read the introductory statement to this part of the pamphlet and become thoroughly familiar with the organization of the outline before the remedial program begins. Refer to pages 57 to 79 inclusive.

C. Use of sample exercises keyed to the outline of basic skills in connection with the content subjects

The outline of "Basic Skills" is a four-step outline using the symbols I-A-1-a. These symbols are used in connection with each sample exercise to make it possible to refer directly to the exercise it represents in the outline of basic skills. For example, symbol II-B-1-a refers to the first exercise listed under teacher procedures in that part of the outline dealing with comprehension.

The sample exercises for the elementary grades are based on geography texts in wide general use. The sample exercises for the high school are based upon texts in common use in a number of different fields at this level. Page references are used in each case so that teachers should experience no difficulty in locating the page or pages in the text upon which a given exercise is based.

It is important that the remedial work in the program be centered around those exercises listed in this outline in which the tests indicate the group is weak. All of the sample exercises contained herein are centered around the abilities tested in this test. While the sample exercises for the elementary grades are based on geography only, it is not intended that the work should be confined to this subject alone. It

applies with equal effectiveness to all other subjects in the content field. The section dealing with sample exercises at the high school level contains exercises from a number of different subjects at that level but the possibilities have by no means been exhausted.

D. Use of informal tests to improve speed and comprehension

The purpose of these informal tests, as well as a detailed explanation of how they are prepared and administered, is given on pages 80 and 83 in this pamphlet. Further information concerning this procedure as it applies to the elementary grades can be found in the Iowa Elementary Course of Study, pages 480 and 481.²² High school teachers are referred to "Better Advanced Reading," by Stone, pages 26 to 32, for detailed information on the same point.²³

E. Use of motivation charts

These charts were prepared for the purpose suggested above, i. e., to motivate the work of the individual pupil. Pupils should be led to think in terms of abilities which an exercise is designed to develop, and these abilities should become a regular part of their vocabulary.

Every study exercise used in connection with an assignment in the content subjects should be related to some of the abilities listed on this chart. Children should be conscious of the purpose of each exercise used. In other words, when doing an ex-

22. State of Iowa, "*Iowa Elementary Course of Study*," Derry & Williams Press, Waterloo, Iowa

23. Stone, Clarence R., "*Better Advanced Reading*," Webster Publishing Co., St. Louis, Missouri

ercise keyed to II-B-1-a in the outline of basic skills, they should understand that the purpose of this exercise is to help them understand what they read.

In determining when a pupil's name should appear on the chart, two different procedures might be used. One plan is to use informal tests prepared by the teacher to test a given ability, and the other is to place it entirely on a subjective basis, as suggested on the chart.

For classroom use, it is probably best to prepare a chart on oak tag large enough to accommodate all three charts on one sheet.

F. Use of differentiated assignment to take care of individual differences

"According to a well-known psychological law, failure to succeed leads to dissatisfaction in the task and a natural turning away from it. Giving the child reading material that is too hard for him, giving insufficient drill on word recognition and the selection of too difficult seat-work activities may lead the most favorably disposed child to dissatisfaction with the school and unwillingness to perform his tasks."²⁴

Two factors are of utmost importance in this connection. The first has to do with the provision of an abundance of supplementary reference material designed to appeal to a wide range of reading abilities and interest, and the second with the development of directed study and seat-work exercises that will be suited to the various levels of ability within the group.²⁵

24. Yoakam, Gerald Allan, "*Reading and Study*," The Macmillan Company, Chicago

25. Durrell, Donald D., "*The Teaching of Reading*," A Second Report, Thirty-Sixth Yearbook, Part I, Public School Publishing Company, Bloomington, Illinois

In this connection attention is called to the list of sample exercises included in this bulletin. The exercises keyed to II-B-1a on page 86 for the elementary grades and II-B-1-a on page 95 for the high school grades best illustrates the point in question. The fact questions are of a nature that all but those mentally or physically disabled would be able to answer. The thought questions are designed to take care of the upper group. With reference to both groups, the number of exercises provided and the degree of difficulty would depend upon the amount of material to be covered and the ability of the group. Such exercises could be worked out over much longer units of material and should be characteristic of all assignments made in the content subjects. Such a procedure calls for much greater emphasis on the direction of study by the teacher and much less on lesson learning of the traditional type.

For a more detailed discussion with reference to the differentiated assignments and provision for individual differences, refer to Section II, pages 26 to 42.

G. Use of text and reference materials

1. Textbooks in the content subjects

a. Basic texts

- (1) The remedial part of this program centers around the development of the study abilities tested in the Iowa Silent Reading Test. Since these abilities are used in the content subjects, it is important that they be developed in this field. For this reason the basic text in the various

content subjects has a very important place in the remedial program.

The exercises used in connection with a given unit should be prepared with the easy, more simple exercises listed first. These should be of a nature such that the slower students will be able to do them. The exercises in the list, however, should become progressively difficult so that there will be material included that will be a definite challenge to the superior student.

b. Parallel texts

- (1) Supplementary material of this kind can be provided without difficulty. A variety of textbooks other than those adopted for basic use should be provided for each subject in the intermediate and upper grades. These references should represent a range of difficulty sufficient in extent to provide for all of the individual differences represented in the group. For this reason it should contain books designed for grade levels both above and below the grade in question.

Simple exercises should be developed for the slow student, based on easy references, while more difficult material involving research and reasoning processes should be prepared for the superior group. Material designed to meet the needs of the group between these two extremes should also be included.

2. Collateral readings

a. Extensive reading

- (1) Repetition of the material in the basic and parallel texts will cause the pupil's interest to lag. At this point collateral readings should be introduced. Books of this type should be made available in all the content subjects. Their contribution in the field of history is clearly stated by Kelty. "Books of this kind break up the movement under consideration into their component elements. Some view it from one angle, some from others. Some are geographic in emphasis, some are mainly social histories."²⁶

This material might be classified as semi-recreational in character. In the elementary grades such books are beautifully illustrated and interestingly written. Frequently they take the form of travel stories, stories of great industries, or stories of children in foreign lands. They provide a most effective means of enriching the curriculum in the elementary grades. At the secondary level, books dealing with subjects of an academic nature, written in popular style, as well as biographies and autobiographies, are excellent examples. In the fields of social science, science, and history, the work of such contemporaries

26. Kelty, Mary G., *Learning and Teaching History in the Middle Grades*, Ginn & Co., Chicago, Illinois

as Stuart Chase, Hendrik Van Loon, and Paul DeKruif are classic examples. An abundance of this type of material is now available in all fields, and libraries should contain much of it.

b. Recreational reading

(1) These books should be of such nature that they can be used at home or in the free reading periods in the library. This phase of the library service should be comprised of fiction, interesting travel stories, and action stories based on scientific fact in the various content fields.

3. Current magazines

a. Juvenile magazines for the elementary grades and adult and juvenile magazines for the high school representing the various fields contained in the content subjects curriculum should be provided.

4. Encyclopedia

a. Refer to recommendations of the American Library Association ²⁷ for sets recommended for first purchase at each level.

5. Dictionaries

a. Select dictionaries designed for use at the various levels involved.

6. Atlas

a. Any good standard atlas available should be selected.

H. Time allotment schedule to provide for more supervised study

27. Subscription Books Committee, "Subscription Books Bulletin," American Library Association, 520 North Michigan Ave., Chicago, Illinois

The provision of more time for the supervision of study activities will depend much upon whether or not the time allotment schedule is made flexible enough to provide for such activities. Elementary teachers are referred to the Iowa Elementary Course of Study,²⁸ pages 13 and 14, where suggestions are made concerning the "week as a unit of time" in working out the time schedule. Under this plan the teacher becomes a "leader of study," a philosophy which fits in ideally with the purposes outlined in this program. With this arrangement, the number of periods per week devoted to a given subject is considerably reduced but the length of the period is materially increased, thus providing more time for study under teacher supervision. It is not intended to suggest that the total time devoted to a subject under this plan will be reduced. It does provide, however, for much more intelligent use of the time provided.

At the secondary level, many schools are making added provision for supervised study under the direction of the classroom teacher by increasing the length of the class period to sixty minutes. The philosophy of supervised study as it applies to the high school situation is very ably treated in the text, "The Passing of the Recitation," by Thayer.²⁹ In addition, a number of references are listed in the bibliography dealing with the subject of unit organization. Most of these references also contain a comprehensive discussion of supervised or directed study.

28. State of Iowa, "*Iowa Elementary Course of Study*," Derry & Williams Press, Waterloo, Iowa

29. Thayer, Vivian Trow, "*The Passing of the Recitation*," D. C. Heath & Co., Chicago

I. Demonstration teaching

It has been demonstrated repeatedly that the most effective way to bring about improvement in teaching methods is through the demonstration technique. Teachers unfamiliar with the technique involved in this program will acquire an understanding of the procedures involved much more readily in this way than through a long study of the problem although it is not intended to discourage a systematic study of the entire procedure.

While extension workers have been used considerably in connection with this program, it has been found that classroom teachers are also very effective demonstrators. In a great many instances they can be used to supplement the work of the extension people and in some instances can be used exclusively. Frequently teachers will be found in the system who are using the technique involved to some extent. Such teachers can readily be trained for demonstration work.

J. Final test

Before the end of the school year, it is recommended that the opposite form of the pretest used be administered to measure the progress made. While the primary purpose of this test is to measure the growth in reading achievement, these scores will also serve as an excellent basis for carrying the program into the succeeding year, thus serving in the next grade as a pretest achievement record for continuing the reading program.

K. The use and abuse of workbooks in this program

1. Evils to be avoided

- a. In developing good study habits

- (1) *Little Supervision*—Frequent tendency to use them as a crutch to provide busy work There is too little supervision in their use, and consequently no attention is given to the development of good study habits.
- (2) *Lack of purpose*—Even though they use many devices used in the development of study abilities, they do not aid materially in attaining this end because the emphasis in their use is in the wrong direction. Children will not acquire the particular abilities for which an exercise has been prepared unless they have been made thoroughly conscious of the purpose of the exercise at the time it is given.
- (3) *Faulty concepts*—General tendency to use the workbook as an end in itself rather than as a means to an end. Too often the completion of the exercise called for constitutes the main objective in the work of the class. On this basis interest becomes centered around the completion of the task rather than the development of specific study habits and skills.
- (4) *Poor assignments*—Teachers sometimes assume that the workbook will teach itself. An assignment properly made, based on workbook exercises, calls for the same careful preparation and presentation as any other assignment. When teachers adhere to the page assignment method in assigning workbook exercises, the result is that little attention is given to the development of desirable study habits.
- (5) *No adaptations*—Commercially prepared material is not always adapted to the care of individual differences. Such material can be prepared successfully only when done in the light of the needs of each individual within the group. Obviously the classroom teacher is the only one who is in a position to do this successfully. This pertains particularly to the development of good study habits.

b. In attaining a thorough understanding of the subject

- (1) *Lax instruction*—An almost inevitable tendency to stifle the individual initiative of the teacher. This tends to detract from the vitality of the work because it loses its personal touch and becomes so much “canned” material.
- (2) *Wrong emphasis*—Too frequently the discussion period consists of checking the answers to the questions. Children who have not finished the exercises then copy in the answers. The result is that children still have not mastered the content, not only as it pertains to the facts involved but also as it pertains to a complete understanding of the attitudes being developed.

2. Principles to observe in use of workbooks

- a. *Contribute to learning*—Use only those parts of the book which will contribute to an understanding of the principles involved in the subject being studied.
- b. *Assign specifically*—They should never be looked upon as a means of providing busy work. Assignments out of these books should be made in such a way that they play a vital part in the understanding of the principles involved in the study of the subject, as well as to contribute to the development of the basic study habits.
- c. *Interest the child*—In each workbook exercise, the children should be made keenly aware of the particular study skill the exercise is designed to develop.
- d. *Use as supplement*—The workbook should never be used as a basis of discussion in the recitation period. Study exercises under any circumstances should not be used for this purpose unless they are of such a nature that they contain involved thought questions.
- e. *Use as background*—The purpose of the study exercise is to provide a background of knowledge to make it possible to carry on an intelligent discussion of the subject. Each exercise should be evaluated in terms of the contribution it will make to this end.
- f. *Adapt to teacher's program*—The teacher should establish her own class procedure pattern and adapt the workbook exercises to her own plan rather than adapting herself to the workbook plan. This would do much to overcome one of the chief objections to their use.

II. Additional equipment needed in the elementary grades (for the complete formal reading program)

A well-balanced formal reading program for the elementary grades has a very close relationship to remedial work such as is suggested in this program. For this reason further suggestions are offered concerning the nature of the equipment that should be provided in this phase of the work, as well as the proper use of such facilities.

A. Work-type reading facilities

1. One set of good work-type readers
 - a. Every school should be equipped with at least one up-to-date set of work-type readers. These readers should not be looked upon as an end in themselves but rather as a means to an

end. They have not served their purpose if the skills developed here are not carried over into the content subjects. They should be used as the avenue through which the various work-type skills are introduced, following which they can be carried into their functional setting through a program such as is suggested here.

B. Basic and co-basic readers

1. It is recommended that a set of basic readers be adopted for uniform use throughout the elementary grades. As a rule these readers are dual purpose in nature containing both work-type and literary material. It serves as a basis for laying the groundwork for both programs, each of which must be treated in a different manner. The co-basic readers should be carefully selected with reference to the vocabulary load. The greater the similarity of the basic vocabulary in the two sets, the less the load will be. This is a factor of much importance in the primary grades.

(Note): The distinction between recreatory reading and work-type reading should be kept clearly in mind. For this reason the following suggestions on the use of recreatory reading material are included.

C. One set of literary readers of recent copyright date

1. This set should be used for silent reading of the appreciation type. Sets of this type should not be used for formal oral reading as is so frequently the case. This same statement also applies to the recreatory type of material contained in the basic and co-basic readers. The oral check on material of this kind, except that which is used for oral reading in audience situations, should be

accomplished by having children read what certain characters said the way they think they said it; by having them read certain descriptive passages which they particularly liked; by dramatizing certain stories which are particularly well adapted to this procedure, and by carrying on a discussion of the story read with emphasis on the appreciation angle. The degree of difficulty of these sets should be well within the range of ability of the group in question. If necessary, use sets written for the next lower grade.

D. Broken sets of literary readers for group work

1. The chief value of such material is the possibility it provides for taking care of a wide range of interests and abilities. Its chief use is in connection with the oral reading situation where children prepare stories for dramatization or for oral presentation to the class. They may also be used for oral reading within the group.

E. Single copies of literary readers for oral reading in audience situations

1. Single copies from as many different sets as possible should be provided. Among them should be books suited to different grade levels so as to reach all levels of ability in the group. This material should be used for oral reading in audience situations only and should be reserved for this purpose. It is only through the use of material which is not available to the entire group that we can provide ideal audience situations. The regular reader sets and free reading materials should not be used for this purpose.

SECTION IV.

**Development of the Basic Study Skills and Their
Application to the Content Subjects**

To critical observers it has become increasingly evident that there is need for the development of techniques designed to facilitate more extensive use of the basic study skills in connection with actual study situations. This is as true in the junior and senior high school and junior college as it is in the elementary grades. Authoritative sources have been previously cited relative to the urgent need for attention to this problem at the secondary level. Further evidence of the recognition of this need at all levels is indicated by the following statement taken from the Thirty-Sixth Yearbook: ³⁰

“The National Committee on Reading was bold enough in 1924 to suggest that guidance in reading should be provided in junior and senior high schools. This was a noteworthy step, in view of the fact that very little consideration had been given prior to that time to reading problems at the secondary school level. Experience during the last ten years fully justifies the recommendation of the National Committee. Furthermore, evidence has been secured that shows the urgent need of further extending the period of training. Instead, therefore, of limiting the fifth stage in development of reading in the junior and senior high school grades, the present report includes the junior college as well. As a result, provision is made for carefully planned guidance in reading throughout the period of general education.”

30. National Society for the Study of Education: *“The Teaching of Reading,”* A Second Report, Public School Publishing Co., Bloomington, Illinois

Applied to the Elementary Grades

During recent years a great deal of emphasis has been placed on the development of good study habits on the part of children in the elementary grades. The importance of this phase of the reading program first came into prominence with the publication of the Twenty-Fourth Yearbook, in which emphasis was placed upon the importance of dividing the reading work into its two major fields, work-type reading and recreatory reading.

Following the publication of the Twenty-Fourth Yearbook, a number of different sets of study-type readers were placed on the market in response to the demand which the publication of this yearbook created. The purpose of these study-type readers was to develop the various study abilities in connection with content subject material which was placed in these readers for this purpose. In each of these sets of readers the authors have selected material well adapted to the particular study ability they wished to develop. In this way there could be no continuity to the various subjects developed in the readers, but they served well the purpose for which they were prepared; namely, to develop the essential study abilities needed in connection with the preparation of lessons in the content subject fields.

Recent studies have revealed that there is a gap between the formal study-type reading situation and the use which is made of the abilities developed here in the preparation of lessons in the content subjects. The reason for this is quite obvious. In the formal reading program, we have set up a more or less artificial condition for the development of abilities which are to be used in their functional setting in a very different situation. The difficulty is to get these abilities to carry over into their functional setting.

In order to bridge this gap, material is needed which will

guide teachers in the development of these various study abilities in their functional setting. This is the purpose for which the exercises contained in Section V have been prepared. They have been prepared after making a careful analysis of the various upper grade study-type readers now on the market. The Twenty-Fourth Yearbook, as well as a number of pamphlets and syllabi from various sources, was also analyzed in this study.

In attacking this problem, we should keep in mind the fact that merely telling pupils how to study is not an effective way to bring about improvement. It is important that they be skillfully guided in the acquisition of these skills and that this drill be incorporated as a regular part of the assimilative technique in connection with the preparation of their lessons. In other words, it must be functional drill rather than drill in isolation. This is the gap which exists in our present work-type reading program which it is hoped this material will bridge. It is important, therefore, that teachers keep in mind in connection with the use of this material, the necessity of making their remedial work functional drill rather than drill in isolation. Remedial exercises of this type should not be used apart from the regular work of the class.

The exercises which are outlined in the following pages are grouped under four main headings dealing with four major study-type reading abilities. They are, comprehending what is read, organizing what is read, remembering what is read, and locating information. Under these headings are listed the various abilities in each of which the children should be proficient in order to master the major ability. Following this are suggested teacher procedures for developing each of the abilities listed which concern specific skills pertaining to the ability in question.

It should be understood by teachers that the accompanying list of specific skills is by no means exhaustive. The analysis previously referred to contained many more skills than are found in the following list. It was felt, however, that to present the entire list would be confusing. It would be impossible to cover the complete list in initiating the program and the omission of a large number would be apt to be discouraging.

Teachers are encouraged, therefore, as their experience with the work increases, to discover for themselves from the numerous available sources skills other than those listed for developing a given ability. Not only will this practice prove to be stimulating to the teacher but it will afford an opportunity to inject much variety into the study program. Teachers have testified repeatedly that children enjoy doing work of this kind. The greater the variety that is injected into the study program, the more pleasure they will derive from it.

Applied at the Secondary Level

The problem of improving reading instruction at the secondary level is not different from that pertaining to the intermediate grades. While the specific problems may differ in degree, they are not different in kind. Therefore, the same principles that apply with reference to improving the situation in the elementary grades will apply with equal force at the high school level. For this reason high school teachers should carefully study the preceding sections in order to lay the groundwork for a successful undertaking.

All research evidence points to the fact that reading abilities developed in connection with the study of one subject do not necessarily transfer to other subjects. This explains the necessity for having each classroom teacher assume direct responsibility for the development of desirable study

habits on the part of each of her students in the subjects she is responsible for teaching. Traditionally, high school teachers look upon themselves as subject matter specialists. They have assumed that children come to them well grounded in the essential study skills and that their responsibility is to teach their particular subject regardless of the pupil's ability to handle the material from the standpoint of study abilities.

This condition can be attributed in part at least to the fact that teachers are more likely to teach as they were taught than to teach as they were taught to teach. The directed study type of classroom procedure is seldom practiced by college and university professors. A more popular procedure with them is the direct lecture method with occasional periods for questions and discussion. The result is that high school teachers tend to adopt similar practices, with minor modifications, in their own classroom instruction.

Because this is the situation, a drive on the improvement of reading in the high school is an especially good activity to emphasize as a means by which classroom teachers at this level can be made to realize that they have a definite responsibility in this connection. The acquisition of these study abilities on the part of their students also has a direct bearing upon classroom achievement and for this reason teachers will soon come to realize the importance of this type of work.

It is a well-known fact that many of our high school and college students are deficient in reading ability. There are two reasons for this; first, in many instances they have not mastered the essential study skills in the elementary grades, and second, students may have developed effective study techniques in some subjects and very ineffective techniques in others. Hence the necessity of making each teacher responsible for the development of effective study habits on the part of each pupil under her supervision.

It is reliably reported by different students of the problem that approximately ninety per cent of the reading deficiencies are due to weaknesses in the instructional program. This is an indictment which superintendents, supervisors, and teachers can no longer afford to disregard. It is unfortunate indeed that a problem which can be corrected with comparative ease has been allowed to exist for so long without more adequate attention.

The drills or exercises contained in Section V will be found very effective in developing the various major silent reading skills. It is important, however, to keep in mind the fact that merely telling pupils how to study is not an effective way to bring about improvement. It is important that they be skillfully guided in the acquisition of these skills and that this drill be incorporated as a regular part of the assimilative technique in connection with the preparation of their lessons. In other words, to be really effective, it must be functional drill rather than drill in isolation. Teachers should not make use of remedial exercises of this type apart from the regular work of the class.

SECTION V.

List of Drill Exercises to be Used in Developing the Four Major Silent Reading Abilities**I. The abilities needed in locating information****A. Abilities to be developed**

1. Ability to use an index to locate information
2. Ability to use an alphabetical arrangement to locate information
3. Ability to use the dictionary as a source of information
4. Ability to use maps as a source of information
5. Ability to use graphs as a source of information
6. Ability to skim to locate answers to questions
7. Ability to use pictures as a source of information
8. Ability to use the table of contents to locate information
9. Ability to use the Readers' Guide to locate information

B. Teacher procedures for—

1. Developing ability to use an index to locate information
 - a. Give pupils a list of topics. Have them look through the index in their text to see whether it contains information on the topic in question
 - b. Give pupils a list of questions based on a textbook assignment. Have them use the index to locate material that will give answers to these questions. In order to do this they will have to
 - (1) Decide, after reading the question, which is the key word in the sentence
 - (2) Locate this key word in the index
 - (3) Decide, from the topics listed after this word in the index, where the answer to the question will be found
 - (4) Turn to the page and skim until they find the key word
 - (5) Read to find the answer to the question. If they do not find the answer here, they can then repeat the process using a different topical reference after the key word in the index
 - c. Give pupils in the class individual assignments on topics covered in connection with the study of a unit or problem in one of the content subjects. Have them make use of the indexes and tables of contents in the encyclopedia, regular reference texts and other sources for information on the topic which they can report to the class
 - d. Have pupils make use of the tables of contents and indexes in various references to locate supplementary material which might be presented in connection with a demonstration in science. Have them denote all pages referred to as well as citations to figures (n) notes, (f) following pages, etc. Some books have keys in the front of the book indicating the meaning of the abbreviations which are used in the index.
 - e. Have pupils look up references on topics which are

assigned in connection with the discussion of a unit of material. Have them refer to the topical analysis in the back of their reference books to locate the references to this material

2. Developing the ability to make use of an alphabetical arrangement to locate information
 - a. Give pupils several lists of words. Have them write these words in dictionary order
 - b. Give pupils a list of six guide words from a dictionary. Select a list of thirty words from the pages upon which the guide words are located. Give the pupils this list of words in scrambled order and have them list them in proper alphabetical order under the proper guide word
 - c. Give pupils a list of ten guide words from a dictionary. Have them list five words under each in alphabetical order without consulting a dictionary. After completing their list, have them consult a standard dictionary to see whether or not the words they have listed are found in the dictionary under the same guide words they have selected
 - d. Give pupils two lists of words. One list contains words listed in alphabetical order with numbered spaces between each word. The second list is not in alphabetical order but is to be alphabetized by the pupil. To do this have them indicate the numbered space into which each of the unalphabetized words is to be placed

(Note) It is important to impress upon pupils the necessity of knowing the alphabet in order to be able to alphabetize readily

3. Developing the ability to use the dictionary as a source of information
 - a. Have pupils look up the meaning of words selected from sentences in an assignment which contains new and difficult words. Have them select the definition which gives the best sense to the use of the word in the sentence in which it is used
 - b. Give pupils a list of difficult words from an assignment already studied. Have them skim over the assignment to find the word and then write definitions of the word that will properly interpret its use in the sentence
 - c. Have pupils select difficult expressions or phrases from an assignment. Have them select from the expressions or phrases difficult words, look up the meaning in the dictionary and then explain the meaning of the expression in its setting in the context from which it was taken, in their own words
 - d. Give pupils a list of difficult words from an assignment. This list might be compiled by having each pupil list the difficult words as he reads and then make a composite list from this for the group as a whole. Have the class list these words in a single column and opposite each word in a second column write its definition as he interprets it from the context. In a third

column have them write the dictionary definition as it applies to the use of the word in the textbook setting from which it was taken

- e. Give pupils a list of Christian names of men and women, Scottish phrases, English phrases, foreign phrases, dates of important events in history, the population of various countries and cities, signs and symbols, weights and measures, etc. Have them indicate in a written report in what parts of the dictionary information on these topics can be found. Exercises of this type will familiarize them with the location and use of the various appendixes in the dictionary. They might also be asked to list other sources for this same type of information
4. Developing the ability to use maps as a source of information ✓
 - a. Give pupils a list of questions bearing on a map. Have them use a map in finding the answers to these questions
 - b. Have pupils prepare a list of five questions over a map which is to be used by the class for map study. Have the class exchange papers and refer to the map in finding the answers to each other's questions
 - c. Have pupils study a map for the purpose of selecting a route to travel by auto across the continent
 - d. Give pupils exercises which will develop the ability to read directions on a map by asking them to locate certain places with reference to each other by means of direction
 - e. Give pupils questions which will involve an understanding of the direction of the flow of rivers as shown on a map. This can be accomplished by indicating the relative location of the source and the mouth of the river with reference to direction
 - f. Give pupils questions concerning the general direction of land slope by referring to the direction in which the river flows
 - g. Give pupils exercises which will tend to familiarize them with the various symbols used on maps by asking direct questions in connection with map study, which will require the use of these symbols and the keys by which they are interpreted
 - h. Give pupils questions involving an understanding of what is "upstream" and what is "downstream" on a map, by having them list in order the cities they would pass while traveling upstream from a given point
 - i. Give pupils exercises involving the use of scale of miles, by having them refer to the map to indicate the distance between two designated points
 - j. Give pupils exercises involving the use of physical facts indicated on maps, by having them describe the difference in climatic conditions between two designated points
 - k. Give pupils exercises involving the use of parallels and meridians, by having them locate a designated point on the map through the use of these terms
 - l. Give pupils exercises involving the use of parallels and

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- meridians that can be used to explain the ways of living in a designated locality
- m. Give pupils exercises which will tend to develop their ability to interpret the physical make-up of a country from reading a map, by giving extensive questions bearing on its physical make-up, to be answered in written form
 - n. Use the same type of exercise with respect to the political features
5. Developing ability to use graphs as a source of information
 - a. Give pupils practice in making graphs in connection with their daily lessons. This plan will aid them in interpreting graphs from their regular texts
 - b. Give pupils a list of questions, the answers to which can be found by studying a graph
 - c. Give pupils a table of figures from a regular textbook. Have them translate these figures into a graph. Have them do this with two different kinds of graphs using the bar graph and the line graph
 - d. Give pupils questions involving comparisons which can be drawn from a study of graphs. (Example: Compare the average yearly costs for maintaining an army for national defense between two nations over a ten year period)
 - e. Give pupils exercises in reading graphs which will tend to familiarize them with the uses of graph legends, by giving them questions concerning a given graph which will require the use of the legends in formulating an answer
 - f. Give pupils a graph and ask them to prepare as many statements as they can concerning facts presented in the graph
 - g. Give pupils a graph or table and have them formulate from it their own questions
 - h. Give pupils questions on a graph which call for the transposition of figures such as when figures in a graph are given in thousands of barrels, millions of gallons, or thousands of tons
 6. Developing ability to skim to locate the answers to questions
 - a. Give pupils a list of questions over an assignment. First have them read the questions and then read the assignment carefully and turn back and answer as many of the questions as they can from memory. This should be done under time pressure
 - b. Give pupils a list of questions over an assignment, pertaining to numerical values. Have them first read the assignment and then fill in the answers to the questions by skimming quickly over the material to find the answers to the questions
 - c. Give pupils a list of completion exercises over an assignment. Have them skim over the assignment hurriedly and fill in the answers to these questions.
 - d. Give pupils a list of topics dealing with an assignment. Have them skim hurriedly over different references to locate information dealing specifically with each topic

- e. Give pupils a list of statements dealing with a subject which has been assigned. Have them skim the text to find statements that match
 - f. Have pupils skim through an assignment to locate difficult words
 - g. Have pupils compete to see who can be the first to locate a word, phrase, or sentence which the teacher gives from a given page in the text
 - h. Have pupils locate the statement in the text the thought of which the teacher has stated in her own words
 - i. Have pupils see how quickly they can locate the answer in the text to a question taken from the text and stated by the teacher
 - j. Have pupils practice running through material rapidly to get the preview
 - k. Have pupils read an assignment through in one of their content subject books. Then give them a list of summary headings and have them skim to get information for writing a summary statement under each of the headings listed
 - l. Give pupils a list of main titles covered in an assignment. Give them also a list of sub-titles in scrambled order. Have them skim to aid in arranging the sub-titles under the proper heading. This exercise should be done under time pressure
7. Developing the ability to use pictures as a source of information
 - a. Give pupils a list of questions dealing with an assignment, the answers to which can be found by studying a picture dealing with the subject in their own text
 - b. Give pupils a list of questions dealing with cartoons in a newspaper. Care should be taken to formulate questions which will lead to a correct interpretation. Have them study the cartoon to find the answers to their questions
 8. Developing the ability to use the table of contents to locate information
 - a. Give pupils an assignment in the form of a problem or unit in one of the content subjects. Have them search through the table of contents in their own book as well as in their different reference books to determine whether or not these books have information on the subject in question
 9. Developing the ability to use the Readers' Guide and card index file to locate information
 - a. Time should be taken by the teacher to explain to the class the use of these two sources of information. Following this lesson they should be given experience in their use either in the local school library or the public library. Printed directions could be given the class for making a sample card index. Symbols could be worked out for this sample card with directions accompanying the symbols so that a pupil could, by following these directions, use a card index in a library.

II. The abilities involved in comprehending what is read (or interpretation)

A. Abilities to be developed

1. Ability to read to find the answers to direct questions
2. Ability to read to check the correct answer in a multiple choice question
3. Ability to answer questions from memory after reading an assignment
4. Ability to use related words in getting meaning
5. Ability to prove a point by citing words or phrases from the text
6. Ability to select definite items of information from the text or references
7. Ability to follow printed directions
8. Ability to read or interpret graphs, maps, and charts
9. Ability to define words or phrases from context
10. Ability to recognize similar ideas
11. Ability to paraphrase sentences and paragraphs
12. Ability to read extensively to find the answers to involved thought questions

B. Teacher procedures for—

1. Developing ability to find answers to simple, direct questions and more involved thought questions
 - a. Give pupils simple, direct questions over an assignment from the history, science or some other contents subject text. Have them read the assignment to find the answers to these questions
2. Developing ability to read to check the correct answer in a multiple choice question
 - a. Give pupils a series of multiple choice questions over an assignment from the history, science or some other content subject text. Have the class read the assignment to check the correct answer in each question
3. Developing ability to answer questions from memory after reading an assignment
 - a. Give pupils a series of simple, direct questions over an assignment to be answered from memory after reading the assignment
4. Developing ability to use related words in getting meaning
 - a. Give pupils a list of words which are common to the vocabulary of all members of the class. Opposite each of these words place a longer derivative. Have the members of the class use the longer words in sentences which will show that they understand the meaning
5. Developing ability to prove a point by citing words or phrases from the text
 - a. Give pupils questions with (true or false) answers which are based on a given assignment in a text. Let them answer the question and cite the words or phrases in the text which prove the answer given
6. Developing the ability to select definite items of information from the text or references

- a. Give pupils a completion exercise or test following the reading of an assignment from a content subject text to see how many points they remember
- b. Give pupils a list of pointed questions on an assignment. Have them read to find the answers to these questions

(Note) Great care should be used in the preparation of the completion type exercise. If exercises are prepared by taking sentences from the text and merely omitting certain words and phrases, it is quite easy for the pupil to find the correct completion in the text without at all understanding the context

7. Developing ability to follow printed directions

- a. Give pupils printed directions for making a graph which might be used in connection with the preparation of an assignment in one of the content subjects
- b. Give pupils printed directions for making maps
- c. Give pupils printed directions for use and interpretation of maps based on a map study assignment from a regular text
- d. Give pupils printed directions to follow in writing up an experiment
- e. Give pupils printed directions for making graphs to compare speeds
- f. Give pupils printed directions for making drawings or diagrams of rooms, buildings, fields, playgrounds or objects of any kind to scale. Use this drill also in connection with science demonstrations and experiments
- g. Give pupils regular class assignments in written rather than oral form, to give them practice in following printed directions understandingly

(Note) Teacher should use care in preparing these exercises to clear up specific difficulties which might exist, such as inability to use a scale of miles, or pure arithmetical difficulties involved in preparing graphs

8. Developing ability to read or interpret a graph, map or chart

- a. Give pupils extensive practice in reading graphs
- b. Give pupils extensive practice in making graphs in connection with regular class assignments based on regular texts
- c. Use these same exercises with respect to charts and maps. More detailed use of these abilities are developed under abilities involved in locating information

9. Developing ability to define words or phrases from context

- a. Give pupils words and phrases taken from an assignment in one of their regular texts and have them explain the meaning in their own words in brief sentences
- b. Give pupils a list of words taken from a regular assignment. After each word list a number of different possible meanings and ask the pupils to select the definition that best fits the word as it is used in the sentence from which it has been taken

- c. Give pupils a group of sentences taken from an assignment which has difficult words. Have the pupils look up the meaning of the words and select the meaning that best fits the word as it is to be used in the sentence in question
 - d. Give pupils a list of words taken from an assignment. Have the pupils find sentences in the lesson where the word is used and then write a definition that will fit the word in the sentence in which it is used
 - e. Give pupils a list of sentences from an assignment, which contain new and difficult words. Also give them, in scrambled order, a list of definitions for the difficult words which will properly define them as used. Have them match the words with the definitions given
 - f. Give pupils a list of incomplete statements involving the use of new words from an assignment. Following these statements have a list of four words—one of which when added to the incomplete statement will properly define the new word in the statement as it is used in the text from which it was taken
 - g. Give pupils a list of new words taken from an assignment. List these new words in a column in alphabetical order. In a second column opposite each word have each pupil write his own definition of the word as used in the text. In a third column have him place opposite each word its dictionary definition which will properly define it as used in the assignment
10. Developing ability to recognize similar ideas
- a. Give pupils statements from an assignment which have been interpreted in the teacher's language but which contain the same thought as that contained in the text. Have the pupils locate the same thought as stated by the author in the text
11. Developing ability to paraphrase words, sentences, and paragraphs
- a. Give pupils certain sentences or paragraphs from the text. Have them restate these sentences and paragraphs in their own language in written form
 - b. Give pupils a list of words which mean the same as some of the words found in a given assignment in their text. Have them select from the text those words which have the same meaning as those found in the list
12. Developing ability to read extensively to find the answers to involved thought questions or problems
- a. Give pupils a unit assignment in history or some other content subject, which involves a major problem and requires extensive reading and research. Have them organize the material which they read in such a way as to be able to formulate a satisfactory answer to the question or problem

III. Abilities involved in organizing, summarizing, outlining and evaluating what is read

A. Abilities to be developed

1. Ability to find the key sentence in a paragraph
2. Ability to give the main thought or idea in a paragraph
3. Ability to rearrange material into groups
4. Ability to take notes for a particular purpose
5. Ability to summarize a paragraph, topic or section of material from an assignment
6. Ability to arrange ideas about a problem or question in their proper order
7. Ability to explain a problem or question by summarizing the reasons
8. Ability to select from an assignment the important points
9. Ability to organize material around a definite problem
10. Ability to group material around certain topics
11. Ability to supplement ideas read with items of personal experience
12. Ability to make an outline or analysis starting with the simple two-step outline and progressing through the three and four-step outline

B. Teacher procedures for—

1. Developing ability to find the key sentence in a paragraph
 - a. Give pupils an assignment in a content subject text. Have them read several paragraphs and then place numbers on a sheet of paper corresponding to the number of paragraphs read. After each number have them write the key sentence to the paragraph read
2. Developing ability to give the main thought or idea in a paragraph
 - a. Give pupils a paragraph heading for a number of different paragraphs in an assignment. Have them select from this list the proper heading for each paragraph in the assignment
 - b. Have pupils make marginal headings for paragraphs contained in an assignment
 - c. Have pupils write a summary statement of what each paragraph tells in a given assignment
3. Developing the ability to rearrange material or information into logical groups
 - a. Give pupils a list of the different ideas which are brought out in an assignment. Then have them group or classify these ideas under two or three main heads which will organize the information so that it will be much more easy to remember
 - b. Have pupils make a list of the raw products which are mentioned in an assignment and then have them list under each of them the materials which are made from them
 - c. Have pupils rank, in order of importance, a list of statements prepared by the teacher, which are based on a regular class text assignment. This would call for careful interpretation and evaluation of the material read

4. Developing the ability to take notes for a particular purpose
 - a. Have pupils take notes from an assigned reading that will aid in the solution of a problem upon which they have been working. Have them take notice of all pictures and other illustrations in the assignment in this note taking to supplement with new ideas what they already know about the problem
 - b. Have pupils take brief notes on an assignment. When they have finished, have them use the boldface side or marginal headings for an outline. Have them see how many of the supporting details they can supply in such an outline from the notes they have taken
 - c. Give pupils an assignment over material which has no marginal headings. As they read have them take notes of what they think might be used as the main headings of an outline
 - d. Give pupils some assigned readings in connection with a unit or problem and have them take notes on all the new ideas they get from this reading
 - e. Have pupils write note examinations at frequent intervals. This is done by allowing them a limited time for reading an assignment and taking notes which can be referred to in writing the examination. This should be done under time pressure forcing them to read quickly and evaluate

(Note) Different methods may be used in taking notes, such as in little detail or in great detail, by direct quotation or by paraphrasing and by outlining. The purpose for which notes are taken is an important factor to consider. There are different types of exercises provided to fit the different methods of note taking suggested

5. Developing the ability to summarize a paragraph, topic or section of material from an assignment
 - a. Have pupils make a summary for each paragraph found in an assigned reading
 - b. Give pupils a list of questions over an assigned reading which when answered in complete statements will make a summary paragraph
 - c. Have pupils carefully read an assignment and tell them they will be tested to see how well they have read. Following the reading give them a list of questions over the material read, to be answered from memory
 - d. Have pupils jot down a list of points to which they might refer in giving a summary discussion of a chapter, topic or section of material assigned for study
 - e. Have pupils write side heads for a series of paragraphs, in a text, which have no side heads
 - f. Have pupils read an assignment in a text and write out one good question for each paragraph. Have them exchange papers and read to find the answers to each other's questions
 - g. Give pupils a series of topics which are discussed in a given assignment. These will have to be previously determined by the teacher. Have pupils number the

paragraphs in the assigned reading and as they read put the number of the paragraph under its proper topic heading

- h. Give pupils a series of topics taken from an assignment. Have class divide into groups each group taking a topic. Let each group then select from encyclopedia and other sources interesting material that supplements what has been given in the text and report to the class
- i. Give pupils a list of words from an assignment, some of which will characterize the discussion by describing a condition or event. Have the pupils select from the list the words which apply and then cite sentences from the assignment which prove that they do apply
- j. Give pupils experience in selecting from an assigned reading the paragraph which summarizes a certain topic or subject
- k. Give pupils a series of sentences from an assigned reading. Have them select from the sentences those which best describe a certain situation, condition or event
- l. Give pupils experience in writing brief summary paragraphs covering several paragraphs of assigned reading. This would be a brief statement of the main ideas brought out in the reading of each paragraph
- m. Have pupils make a report outlining an author's explanation of a point in question, showing both sides of the question and the author's line of argument. Have the pupil—
 - (1) State question
 - (2) State author's answer to question
 - (3) State answers with which author does not agree
- n. Have pupils report an experiment bringing out the following points in making the report:
 - (1) Purpose of experiment
 - (2) Method of experiment
 - (3) Result of experiment
 - (4) Conclusion of experiment
- o. Have pupils write as rapidly as possible, from memory, a list of suggestions bearing upon some subject upon which they have been working
- p. Have pupils make a diagram or outline drawing either on the board or on paper, to summarize a topic
- q. Have pupils arrange a summary of a report into topics, with all points in the assignment listed under its proper topic heading
- r. Have pupils arrange summary topics on a chart with each topic listed under its proper heading
- s. Have pupils select a topic for an oral report from those listed over an assignment (Discuss with group the points to keep in mind when giving reports)
- t. Have pupils prepare graphs to bring out comparison of figures discussed in lesson
- u. Have pupils prepare an oral report explaining clearly how something is made
- v. Have pupils write summaries for leading questions over an assignment

(Note) The exercises suggested above can be objectively evaluated by having members of the class identify the best of several summaries. This involves the recognition of the presence or absence in each of the summaries of the important elements in the original selection.

6. Developing ability to arrange ideas about a problem in their proper order
 - a. Have pupils arrange the steps in a process in their proper order
 - b. Have pupils arrange the facts or ideas found in an assignment in order of their importance
 - c. Have pupils organize material in an assignment in such a way as to answer questions or problems raised in the assignment. The assignment might be made in the form of a problem
7. Developing the ability to explain a problem or question by summarizing the reasons
 - a. Have pupils explain why a certain fact is true by having them make a summary of all the reasons for its being true
 - b. Have pupils make an outline over an assignment including all the important reasons why a certain fact is true
8. Developing the ability to select from an assignment the important points
 - a. Have pupils arrange in logical order the steps in a process (Tell how something is made, how a product is prepared for market or the process by which a bill becomes a law)
 - b. Have pupils prepare a list of points to which they might refer in giving a summary discussion over a section of material
9. Developing ability to organize material around a definite problem
 - a. Give pupils a problem to work and then organize material around this problem (Example: How does a bill become a law?)
 - b. Have pupils outline material based on a certain problem in history, science, or geography
10. Developing ability to group material around certain topics
 - a. Have pupils write marginal headings for material used in an assignment
 - b. Give pupils marginal headings and have them read material over to select the paragraphs that should come under each heading
11. Developing the ability to supplement ideas read with items of personal experience
 - a. Have pupils read an assignment and then give them an opportunity to apply knowledge gained through manipulation of laboratory apparatus or field trips
 - b. Have pupils supplement material read with items of personal experience in travels and other experiences
12. Developing ability to make an outline or analysis, start-

ing with the simple two-step outline and progressing through the three and four-step outline

- a. Give pupils a two-step skeleton outline over a paragraph. In making this kind of an outline, put down the paragraph heading first with as many places for subpoints to be listed as is necessary, depending upon the number of subpoints in the paragraph. Have pupils repeat this exercise several times without the skeleton, making their own outline as they go. Later have them do this for several paragraphs in succession
- b. Give pupils a skeleton outline over a section of material using the three-step outline. These steps will call for a paragraph heading, sub-heading and sub-topics. Repeat this exercise until the pupils have become reasonably proficient and then have them do the three-step outline without the skeleton to follow
- c. Give pupils a skeleton outline using the four-step outline. This type of exercise should be repeated until pupils become fairly proficient in filling in the various headings and sub-headings. Following this give them practice in building an original four-step outline over comparatively simple material

(Note) An effective approach to this problem is through the building of cooperative outlines on the blackboard. In this procedure the teacher calls for the pupils' suggestions as to points to be included and lists these to one side of the board in the order in which they are given. Afterwards the pupils suggest the organization of major headings and subpoints and these are listed in order. Pupils unable to outline will develop this skill rapidly if permitted to deal with topics concerning which they have a considerable amount of information. Topics which fall into naturally logical organizations also are of help to pupils weak in outlining ability. Such a topic as "The World War" suggests such important sub-points as causes of the war, the course of the war, and results. The causes in turn might be sub-divided into remote and immediate.

IV. The abilities involved in remembering what is read

A. Abilities to be developed

1. Ability to analyze what it is necessary to remember
2. Ability to organize material as an aid to memorization
3. Ability to remember (things to do in developing this ability)

B. Teacher procedures for—

1. Developing ability to analyze what it is necessary to remember
 - a. Have pupils determine clearly, before they begin to read a lesson, the definite purpose for which they are studying
 - b. Have pupils read carefully so that they understand exactly what the book tells them
 - c. Have pupils decide in each lesson what they should remember

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- d. Have pupils try to recall the important things in each lesson, after they have finished studying it
- e. Have pupils make an outline of the important things in a lesson after reading it through once

(Note) It is not intended to suggest here that the teacher deprive the pupil of the opportunity to figure things out for himself by giving too detailed an assignment, but rather that the pupil should be encouraged in developing this type of technique in the preparation of any and all assignments

- 2. Developing ability to organize material in order to remember it
 - a. Give pupils practice in organizing the material under the main headings to aid in its memorization
 - b. Have pupils write and answer a group of questions over the material read
 - c. Have pupils write a summary of an assignment to help remember it
 - d. Have discussion over each part of a chapter, unit or problem to aid in its memorization
 - e. Have pupils prepare an outline over chapter, unit or problem to aid in its memorization
 - f. Have pupils make a list of topics discussed in an assignment. Have them practice recalling the details of the assignment by following the list of topics
- 3. Developing ability to remember (things to do in order to develop the ability)
 - a. Have pupils come to realize that there must be a determination in their effort to remember
 - b. Have pupils understand that in order to remember they must understand what they read
 - c. Have pupils make out a question or questions, for each paragraph in a given assignment. When they have finished reading the assignment, have them go over the questions and see if they can answer them from memory
 - d. Have pupils appreciate the importance of working actively in their efforts to remember. Practice in organizing material will aid in doing this
 - e. Have pupils read an assignment and then write a brief statement as to what they think the author's plan is in his organization and presentation of the subject
 - f. Have pupils fill in a blank outline from memory after reading an assignment
 - g. Have pupils write answers to a list of short answer questions after reading over an assignment
 - h. Have pupils repeat rules or material to be remembered at frequent intervals to prevent forgetting
 - i. Have frequent discussion of what is to be remembered
 - j. Have pupils write as quickly as possible, on a sheet of paper, following the reading of an assignment, a list of suggestions from the assignment
 - k. Have class formulate a series of questions in connection with an assignment. Have them read to find the answers to these questions
 - l. Have pupils practice recalling and reproducing the substance of a speech they have heard

Abilities Involved In
COMPREHENDING WHAT IS READ

	Find answers in direct questions	Check correct answer in multiple choice question	Answer questions from memory after reading assignment	Use related words in getting meaning	Prove point by citing words or phrases from text	Select definite items from text or references	Follow printed directions	Read or interpret maps, graphs, and charts	Define words and phrases from context	Recognize similarities	Paraphrase sentences and paragraphs	Read extensively to find answers to involved thought questions
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.
4.	4.	4.	4.	4.	4.	4.	4.	4.	4.	4.	4.	4.
5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
6.	6.	6.	6.	6.	6.	6.	6.	6.	6.	6.	6.	6.
7.	7.	7.	7.	7.	7.	7.	7.	7.	7.	7.	7.	7.
8.	8.	8.	8.	8.	8.	8.	8.	8.	8.	8.	8.	8.
9.	9.	9.	9.	9.	9.	9.	9.	9.	9.	9.	9.	9.
10.	10.	10.	10.	10.	10.	10.	10.	10.	10.	10.	10.	10.
11.	11.	11.	11.	11.	11.	11.	11.	11.	11.	11.	11.	11.
12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.
13.	13.	13.	13.	13.	13.	13.	13.	13.	13.	13.	13.	13.
14.	14.	14.	14.	14.	14.	14.	14.	14.	14.	14.	14.	14.
15.	15.	15.	15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
								<p>The purpose of the chart is to make it possible for the teacher to individualize the acquisition of the basic study abilities. When, in the estimation of the teacher, a pupil has become reasonably proficient in the use of a given ability in his regular class work, he would be allowed to enter his name in the column provided on the chart under the heading corresponding to the ability in question.</p>				

Abilities In

ORGANIZING, SUMMARIZING, OUTLINING, AND EVALUATING WHAT IS READ

											Supplement ideas read with items of environmental experiences	Make an outline or analysis
Find key sentence in paragraph	Give main thought or idea in paragraph	Rearrange material into groups	Take notes for a particular purpose	Summarize paragraph topic or sentence	Arrange ideas in proper order	Explain problem or question by summarizing reasons	Select from an assignment the most important reasons	Organize material around a definite problem	Group material around certain topics			
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.
4.	4.	4.	4.	4.	4.	4.	4.	4.	4.	4.	4.	4.
5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
6.	6.	6.	6.	6.	6.	6.	6.	6.	6.	6.	6.	6.
7.	7.	7.	7.	7.	7.	7.	7.	7.	7.	7.	7.	7.
8.	8.	8.	8.	8.	8.	8.	8.	8.	8.	8.	8.	8.
9.	9.	9.	9.	9.	9.	9.	9.	9.	9.	9.	9.	9.
10.	10.	10.	10.	10.	10.	10.	10.	10.	10.	10.	10.	10.
11.	11.	11.	11.	11.	11.	11.	11.	11.	11.	11.	11.	11.
12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.
13.	13.	13.	13.	13.	13.	13.	13.	13.	13.	13.	13.	13.
14.	14.	14.	14.	14.	14.	14.	14.	14.	14.	14.	14.	14.
15.	15.	15.	15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
<p>The purpose of the chart is to make it possible for the teacher to individualize the acquisition of the basic study abilities. When, in the estimation of the teacher, a pupil has become reasonably proficient in the use of a given ability in his regular class work, he would be allowed to enter his name in the column provided on the chart under the heading corresponding to the ability in question.</p>												

Abilities Involved In REMEMBERING WHAT IS READ		Abilities Needed In LOCATING INFORMATION					Use pictures as source of information	Use graphs	Skim to lo- cate answers to questions	Use Maps	
	Analyze what should be remembered	Organize ma- terial as an do	Remember things to do	Use an in- dex to lo- cate informa- tion	Use alpha- betical ar- rangement	Use the dictionary	Use the Readers' Guide	Use table of contents			
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.
4.	4.	4.	4.	4.	4.	4.	4.	4.	4.	4.	4.
5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
6.	6.	6.	6.	6.	6.	6.	6.	6.	6.	6.	6.
7.	7.	7.	7.	7.	7.	7.	7.	7.	7.	7.	7.
8.	8.	8.	8.	8.	8.	8.	8.	8.	8.	8.	8.
9.	9.	9.	9.	9.	9.	9.	9.	9.	9.	9.	9.
10.	10.	10.	10.	10.	10.	10.	10.	10.	10.	10.	10.
11.	11.	11.	11.	11.	11.	11.	11.	11.	11.	11.	11.
12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.
13.	13.	13.	13.	13.	13.	13.	13.	13.	13.	13.	13.
14.	14.	14.	14.	14.	14.	14.	14.	14.	14.	14.	14.
15.	15.	15.	15.	15.	15.	15.	15.	15.	15.	15.	15.
<p>The purpose of the chart is to make it possible for the teacher to individualize the acquisition of the basic study abilities. When, in the estimation of the teacher a pupil has become reasonably proficient in the use of a given ability in his regular class work, he would be allowed to enter his name in the column provided on the chart under the heading corresponding to the ability in question.</p>											

SECTION VI.

Suggestions for Using Informal Reading Tests to Improve Speed and Comprehension

The following plan is suggested for providing training for improving speed and comprehension in reading. If given informal reading tests and shown how to chart the results, children will become interested in improving their speed and comprehension. There are several ways of giving informal tests for this purpose. The following plan has been tried and proved to be very effective. The tests should be given regularly once a week and the children taught to plot their own curves. It is also advisable for the teacher to prepare large charts which can be placed on the wall for the purpose of plotting the median for the class as a whole for both speed and comprehension.

I. Steps in giving informal tests

- A. Choose a selection of five or six hundred words from a history or some other content subject book
- B. Give these directions for telling the children to read
 1. Find page _____ in your book and turn your book face down on your desk
 2. Then turn the book face up again and when all have turned book over, ask children to mark in their books the paragraph where the reading is to begin and also the end of the paragraph where the reading is to end. Have them turn their books over again.
 3. Have each child prepare a piece of paper with his name at the top of it and the word "Time" under it. Then have him number down the page to ten as:

- 1.
- 2.
3. and so on to ten
4. Say to the children
"When I say 'ready, go' begin to read. Read as rapidly as you can but not so fast but that you understand what you have read. I have placed on the board under the map ten questions over what you are going to read, which you will answer as soon as all have finished their reading. I shall be writing numbers on the blackboard while you are reading. Mark down after "Time" on your paper the last number I have written when you have finished reading. Do not refer to your book again after marking the time on your paper."
5. Go to the blackboard and indicate each 15 seconds as: 15, 30, 45, 1:00, 1:15, 1:30 and so on until each child has finished. At the same time watch to see that each child is remembering to mark down the time as he finishes.
6. As soon as all have finished reading the selection and recording their speed, have the children answer the questions which were previously put on the board and which have been covered by hanging a map or curtain over them. These questions should be of the short answer type and should cover the most important items covered in the selection read.
7. Let each child record his own results. The charts may look like those shown below. Quarter inch squared manila paper will answer the purpose very well.

- C. On the comprehension chart the child colors off with crayola as far as he goes on the text, e.g., if he answers four questions correctly, he colors off the squares beginning with ten up through forty. The same idea, of course, could be worked out by using a line graph.
- D. On the speed chart the child colors off the squares up through the number nearest to his rate of speed. For example, if he reads 255 words per minute, he colors the squares up through the square with 250 in it. His speed is determined by dividing the number of words in the selection by the time it took him to read it. For example, if there were 600 words in the selection and it took him two minutes to read it, he reads 300 words per minute.
- E. The Iowa elementary course of study, pages 490 and 491, gives some particularly helpful suggestions concerning this type of work. Teachers are encouraged to refer to these pages in connection with the work in this program.

SECTION VII.

Study Exercises Keyed to Outline of Basic Skills (Elementary Grades)

The following sample exercises are based on geography textbooks in common use. Their purpose is to develop the essential study skills in a functional situation. Frequently children are guided in the acquisition of these skills in an incidental way in the reading period, but they do not carry over into their functional use. There are also many situations where the skills are never taught, either in the reading period or in the content subjects. These exercises illustrate how to develop the essential skills in their functional setting.

Not all of the exercises suggested in the outline of basic skills are illustrated in this series of sample exercises. It is hoped, however, that they will serve to illustrate how the directions contained in teacher procedures actually can be made to function in the classroom. Teachers will want to supplement them by preparing exercises of their own.

Key I—B—1—a

No. 1. Have pupils turn to the table of contents to determine where in their text "Our Home State and New World," by Brigham and McFarlane, published by the American Book Company, they will find information on their problems dealing with the "Corn and Meat Belt." Later have them refer to the index to get additional and more detailed information on the same questions. Have them skim the pages referred to, to see if they have information bearing on the problem. If the group is not familiar with the use of these aids in locating information, time should be taken to instruct them in their use.

No. 2. Have pupils turn to the table of contents in their text "The Americas," by Atwood Thomas, published by Ginn & Company, to determine where they can find information on the problems listed under "Corn and Meat Belt." They will find here where the "Corn Belt" is treated as a subject, but no information on the "Meat Belt." Have them refer to the index to determine whether or not they can find additional information on the subject. Here they will find references under the topics "Corn Belt" and "Meat Packing in the Central States." Have them skim over the page references to determine what pages can be used for reference to this problem.

No. 3. Have pupils turn to the table of contents in their text "Journeys Through North America," by Stull and Hatch, published by Allyn & Bacon, to determine where they can find information on the prob-

lems listed under "Corn and Meat Belt" in the course of study. They will not find this topic mentioned in the table of contents. Next have them turn to the index. Here they will find page references listed under "Corn Belt" and under "Meat Packing." Have them skim the pages referred to, to see whether or not they deal with the problem. The class should be encouraged in using this same technique when referring to their references on the problem.

Key I—B—1—c

Have pupils refer to the index in the text "Foreign Lands and Peoples," by Russell Smith, John C. Winston Company, to locate information that will aid in answering the following questions:

1. What are apt to be the characteristics of plants growing in the desert?
2. Why have Arabs bred horses which show such remarkable endurance?
3. What are some of the principal differences that occur in the surface of the Sahara as one crosses on his camel?
4. What happens to the rain which travelers sometimes see falling in the desert, but which never reaches the ground?
5. What effect has the age of machinery and engineering had upon Egypt?
6. Why does the Nile river overflow its banks each year?
7. Why do the people avoid building houses on oasis land?

Key I—B—2—a

No. 1. Have pupils list the following words which have been taken from the text "The Americas," by Atwood Thomas, Ginn & Company, in alphabetical or dictionary order:

1. Industries, regions, census, influence, northward
2. Streams, flowing, plains, cultivate, neighbors
3. Fertile, frontiers, wagons, driven, prairies

No. 2. Have pupils arrange the following list of words taken from the text "The Americas," by Atwood Thomas, Ginn & Company, in alphabetical or dictionary order:

1. Map, largest, region, joins, location
2. Market, products, bushels, mills, slaughtering
3. Plants, cities, manufacturing, understand, supply

Key I—B—2—d

The following words have been taken from pages 78-82 of the text "Journeys Through North America," by Stull and Hatch, Allyn & Bacon. Have pupils enter the words in the second column in the blank spaces in the first column so that when the blanks are all filled the list in the first column will be in the proper dictionary order:

- | | | | |
|-------------|------------|------------|------------|
| 1. broken | | 11. shrubs | |
| 2. | prairie | 12. | dries |
| 3. | seed | 13. | valley |
| 4. | straight | 14. | township |
| 5. | usually | 15. | fierce |
| 6. location | | 16. tough | |
| 7. | stretching | 17. | scarce |
| 8. | productive | 18. | tablelands |
| 9. | destroy | 19. | thick |
| 10. | wind | 20. | bunch |

Key II—B—1—a

No. 1. Read the paragraphs on page 226 and the first half of 227 in your text "Living Geography," by Huntington, Benson & McMurry, Macmillan Company, then close your book and see how many of the following questions you can answer. Write your answers in complete sentences.

DIRECT QUESTIONS—

1. What problem confronted the immigrants who came from Europe to South America?
2. Where in South America are the cold regions located? Where are the hot regions located? Where are the temperate regions located?
3. In what regions in South America did the immigrants usually settle?
4. Why did not more of them choose to settle in the extreme south?
5. What climatic conditions prevail in the regions where the most immigrants settled?

THOUGHT QUESTIONS—

6. Why is the proportion of Indians to Whites so much greater in South America than in North America? Give two reasons.
7. Why is it that the number of immigrants from Europe to South America is so much less than from Europe to North America?
8. Why has the relative location of these two continents to the torrid zone had an effect upon the number of immigrants to each?
9. Why is it more difficult to ship perishable goods from London to Buenos Aires than from London to New York?
10. Explain the differences in the preparation you would have to make for a trip from London to New York and a trip from London to Buenos Aires?

No. 2. Have pupils read on pages 89-93 of the text "Our Home State and New World," by Brigham and McFarlane, published by the American Book Company, to find the answers to these questions:

1. What two reasons does the author give that explain why we should know about the different states that make up our country?
2. Upon what basis are the states divided in your text to aid in your study?
3. To what group of states does your state belong?
4. How did the French explorers make their way to the west and south of the Great Lakes?
5. Why is it that the trading posts established by the explorers did not help much in settling this part of the country?
6. When did the real settlement of the states in this region begin?
7. What hardships confronted the new settlers in this territory?
8. What kind of men and women were required for settling in this new land?
9. What river did many of the new settlers follow in getting into the new territory?
10. What different methods of travel did the new settlers use when coming into the territory?

No. 3. Have pupils read pages 114-118 of their text "The Americas," by Atwood Thomas, published by Ginn & Company, to find the answers to these questions:

1. What kind of farming is practiced in the corn belt?

2. What proportion of the land in the corn belt is planted to corn?
3. Why is it that wheat is not grown in the north section of the corn belt?
4. Why is it that oats are usually the first crop planted in the spring?
5. What are the weather conditions prevailing in the corn belt that make this a good section for growing corn?
6. At what time of year does the farmer in the corn belt harvest his hay?
7. How does the farmer tell when it is time to harvest his corn?
8. When does the farmer in the corn belt plant his winter wheat?
9. What do most corn belt farmers do with their corn?
10. Why is alfalfa the leading hay crop in Nebraska?

Key II—B—2—a

Have pupils read pages 78-80 of the text "Journeys Through North America," by Stull and Hatch, Allyn & Bacon, for the purpose of checking the correct response in the following multiple choice questions. Have them underline the word or phrase following each incomplete statement which will correctly complete the statement:

1. The word which correctly describes the location of the West North Central group of states in its position in the upper Mississippi Valley is (north, south, east, west)
2. The western part of the Central States can best be described as being (mountainous, prairie, tableland, high plain)
3. The High Plains country, because of its climate, is well adapted to (fruit growing, grazing, small grain growing, the raising of cultivated crops)
4. The homes of the early settlers on the prairie were usually made of (lumber, brick, prairie sod, canvas)
5. Those areas on the plains which have few trees and much grass are usually referred to as (lowlands, grasslands, uplands, prairies)
6. In those sections of the prairie where rainfall is plentiful, the absence of trees is caused by (high winds, excessive heat, thick sod, extreme winters)
7. Not much progress was made in the development of agriculture in the prairie states until (the country became densely populated, a plow was invented that would cut sod, railroads were built, windbreaks were grown)
8. The substance called humus which is found in the rich prairie soils is made up of (fine rock dust, soil from the great ice sheet, fine rock from mountain streams, decayed vegetable matter)
9. Prairie land is easy to farm because (it is rich soil, it is level land, it is free from rocks, it is free from forests)

Key II—B—4—a

The words in the first column are taken from the preliminary assigned reading in the text "Our Home State and New World," by Brigham and McFarlane, American Book Company. In the second column opposite each word is listed a longer derivative. Have the pupils use each word in the second column in a sentence which will show that they understand its meaning.

Settle	settlement
Section	sectional

Region	regional
Surface	surfaced
Temperate	temperature
Clear	cleared
Moisture	moisten
Autumn	Autumnal
Rough	roughage
Foreign	foreigner

Key II—B—7—c

Refer to pages 264-265 and plate 21 in your text "Living Geography," Book II, by Huntington, Benson & McMurry, Macmillan Company. On an outline map you can then do the following things:

1. Trace the political sub-divisions: Northern Ireland, Irish Free State, Wales, England, and Scotland.
2. On your map, using soft pencil, show with heavy dots the relative location of the different cities listed in the first paragraph on page 264. Print opposite these dots in small letters the names of the cities.
3. With a red crayon make dots showing the location of the iron mines in England, Scotland, and Wales.
4. With blue crayon make dots showing the location of coal mines in England, Scotland, and Wales.
5. Color in orange on your map that portion of England known as Black England.
6. Color in green on your map that portion of England known as Green England.
7. At the bottom of your map place the words "Cotton" and "Woolen" opposite each other. Under each of these list those cities which are famous for the manufacture of these goods.
8. Place a legend in the lower left-hand corner of your map which will explain the meaning of the colors used.

Key III—B—2—a

No. 1. Have the pupils number the paragraphs on pages 93 and 94 in the text "Our Home State and New World," by Brigham and McFarlane, American Book Company. Have them match these numbers with the following paragraph headings.

How trees influenced the location of homes
 Uplands and lowlands
 Where the settlers of this new territory came from
 Traveling conditions
 Difficulties encountered by settlers
 Present conditions in this region

No. 2. Have pupils number the paragraphs on pages 114-115, beginning with corn belt crops, in the text "The Americas," by Atwood Thomas, Ginn & Company. Have them match these numbers with the following paragraph headings:

Seeding time for oats and corn
 Threshing wheat and oats
 Corn belt weather
 Mixed farming
 Oats a corn belt crop
 Corn harvest
 Harvest machines

Key III—B—5—a

Have pupils number the paragraphs on pages 87 and 88, starting with "animals" on page 87, of the text "Journeys Through North America," by Stull and Hatch, Allyn & Bacon. Have them read this material over and write a summary statement for each paragraph which will tell what the paragraph is about. The summary statements might be somewhat like the following:

1. Kinds of farm animals raised
2. Kinds of work animals raised
3. The leading swine state and how swine are raised
4. Chicken raising
5. Dairy farming and marketing dairy products
6. The meat packing industry and its by-products

Key III—B—5—b

Each question listed below is based on one paragraph on the section "The Central Plateau," on pages 63 and 64 in the text "Europe and Asia," by Barrows and Parker, Silver, Burdette & Company.

Have pupils read the text to find the answers to these questions, which when written in consecutive order will make a summary paragraph of the section.

TEACHER'S QUESTIONS:

1. What do the pictures in figures 59 and 60 tell about the use of the land in the Central Plateau?
2. Why are sections of the plateau especially well adapted to raising sheep and hogs?
3. Why are conditions on the southwestern edge of the plateau especially well adapted to the production of Roquefort cheese?
4. Where on the plateau are other kinds of grazing animals raised? What kind of animals are they?

The pupils' answers to these questions might appear as follows:

THE CENTRAL PLATEAU

Figures 59 and 60 indicate that sheep are raised in parts of the plateau. In the wooded sections of the plateau hogs feed on fallen nuts from the trees, while on the slopes, which are sparsely covered with grass, sheep are found grazing. The conditions on the southwestern edge of the plateau are especially well adapted to the production of Roquefort cheese because of the large cool caves found in the porous rock in the valleys and because of the grass covered slopes above the fallen floor where sheep and goats are grazed. The northwestern corner of the plateau is used for grazing cattle.

Key III—B—7—a

No. 1. Have pupils refer to page 63 of the text "Europe and Asia," by Barrows and Parker, published by Silver, Burdette & Company. Give them a summary statement on Flanders. Have them read the discussion on Flanders in the text and cite those statements made by the author which will prove the statement made by the teacher to be correct.

Example:

Summary statement by teacher—"Flanders is a low fertile plain covered with sluggish streams and fields of ripening grain and cultivated crops. It is very thickly populated."

Pupil's proof—

1. The fertile plain of Flanders differs in many ways from that of Beauce.
2. In Flanders many sluggish, tree-bordered streams flow among small fields.
3. In some fields you might see laborers at work between rows of sugar beets.
4. In others you would see them weeding potatoes, caring for hop vines or harvesting oats or wheat.
5. The plain of Flanders has been described as "one continuous city."

No. 2. From their reading of page 85 in the text "Journeys Through North America," by Stull and Hatch, Allyn & Bacon, have pupils prepare a summary of the reasons why this area is a corn producing area. Their list might appear as follows:

1. The soil is fertile
2. The weather is warm
3. There is plenty of rainfall
4. The crop can be planted and harvested with machines
5. Machines make it possible to produce large crops and require less time

Key IV—B—1—e

Refer to the text "Living in the Americas," by McConnell, published by Rand McNally & Company. Have pupils carefully read the topic on page 257, "Greenland—The Largest Island in the World." After one careful reading, have them close their books and make an outline of the topic. Following this, have them check their outline against the text for errors and omissions

Key IV—B—2—a

No. 1. This type of exercise should be looked upon as a summarizing procedure. It should be done following the study of the assignment for the purpose of organizing the material to aid in its memorization. The exercise is based on the section dealing with Africa, pages 119-160 in the text "The Old World Continents," by Brodley and Thurston, published by the Iroquois Publishing Company.

Directions to pupils—

We have now completed our study of the unit, "The African Continent." Tomorrow we will begin a summarization of the important points about Africa which we should remember. We have discussed many details which have helped us to understand better the important points to be remembered but which we cannot hope to always retain. In our summarization of the unit we will include in our outline only the major points of importance to be remembered.

You may now start preparing an outline over the entire unit. The first step in your outline would be "Physical Features of Africa." The sub-headings under this, which appear in large type, might serve as entries for the next step in the outline; and the third step might be paragraph headings which each of you can prepare.

A pupil's outline over the first section in the unit might appear as follows:

AFRICA

I. Physical Features

A. Early Africa

1. Early civilization along the Nile

2. The Sahara desert to north prevented development of southern part of continent
 3. Long been known as the dark continent
- B. Position and size
1. Joins Asia on northeast
 2. Nearest point across Mediterranean to Europe nine miles
- C. Relief
1. Plateaus
 - a. Two types
 2. Mountains
 - a. Atlas mountains
 - b. Abyssinian mountains
 - c. Ruwenzori mountains
 - d. Darkensburg mountains
 3. Coastal plains
- D. African lakes and rivers
1. Lakes
 - a. Victoria
 - b. Rift valley lakes
 2. Rivers
 - a. Nile
 - b. Congo
 - c. Niger
 - d. Zambezi
 3. Waterways as travel routes
 - a. Used by natives and explorers
 - b. Today used for passage of modern steamboats

No. 2. Refer to the text "Living in the Americas," by McConnell, published by Rand McNally & Company. Have pupils turn to Unit Five, pages 152 to 154, and number each of the paragraphs in the unit. Then have them put these numbers on a sheet of paper leaving room enough between each so that as they read they can write a paragraph heading and a sub-heading for each paragraph.

When they have finished, have them group their headings and sub-headings into the four main headings suggested in the unit.

Key IV—B—2—b

Refer to the text "Foreign Lands and Peoples," by J. Russell Smith, published by John C. Winston Company. Have the children look up the topic "Briton Before Machinery," pages 102 to 104 inclusive. Tell them to read the assignment carefully and as they read, make out a list of questions which the author has clearly answered in the text. After they have finished, have them close their books and write out the answers to their own questions.

If they experience difficulty in answering some of the questions, it is possible that they are not good questions. Have them check such questions in the text to see if they are answered by the author.

Key IV—B—3—f

Refer to the text "The Old World and Continents," by Brodley and Thurston, published by Iroquois Publishing Company. Have pupils carefully read the assignment "A Continent for Colonization," pages 133 and 134. Following the reading, have them complete the following outline from memory:

I. A continent for colonization

A. Dangers in exploring

1. Overland
 - a.
 - b.
2. From sea
 - a.
 - b.
3. Interior dangers
 - a.
 - b.
 - c.
 - d.

B. Early explorations

1. Trading posts established
 - a.
2. Scientists
 - a.
3. Missionaries
 - a.
4. Leading explorers
 - a.
 - b.

C. European development of Africa

1. Causes for interest
 - a.
 - b.
 - c.
 - d.
2. Kinds of colonies established
 - a.
 - b.
 - c.

Key IV—B—3—j

Refer to the text "Our Country Past and Present," by Nida-Webb, published by Scott Foresman Company. Have pupils read the material dealing with "The War of 1812," pages 181 to 185 inclusive. Tell them to read carefully for detail but not to take notes on their reading. When they have finished, have them close their books and list on a sheet of paper as many of the important points discussed as they can remember. Following this have them check their list against the text noting any mistakes they have made.

SECTION VIII.**Study Exercises Keyed to Outline of Basic Skills
(Secondary Level)**

The following sample exercises are based on science, social science, mathematics and commercial subject textbooks in general use in high schools. Their purpose is to aid in developing the essential study skills in a functional situation. In these sample exercises a given skill is applied to a small section of material in a given text for purposes of illustration. When incorporated in the unit assignment, those skills would be included which best develop the subject matter with which the unit is concerned. Usually the complete study of a unit will involve a number of each of the abilities listed under the four main headings in the following outline. The purpose of these exercises is simply to illustrate how a given skill listed under the various abilities in the outline would be applied to a particular section of subject matter.

Key I—B—1—a

Refer to the index in the text "Our Nation's Development," by Barker, Dodd & Commager, published by Row, Peterson & Company, to see if you can locate information on each of the following topics. Indicate by page reference the location of this information as you find it.

1. How the new world came to be named America
2. The American Federation of Labor in politics
3. The formation of the Anti-Saloon League
4. Results of the Battle of Argonne
5. Political life of Joseph G. Cannon
6. Origin of the "Bull Moose" party
7. Causes of the Boxer Rebellion
8. Advantages and disadvantages of the direct primaries
9. First meeting of the Continental Congress
10. Purpose of the Crusades

Key I—B—1—b

Refer to the index in the text "On the Road to Civilization," by Heckel and Sigman, John C. Winston Company, to see where in the book you will find information on the questions listed below. After each question write your answer, as well as the page or pages where it was found. Be prepared also to cite the sentence or paragraph in the text that proves your answer.

1. What is the meaning of the name the Greeks gave to the northern, more elevated part of the Tigris-Euphrates valley?

2. Why is the Battle of Marathon considered one of the decisive battles of history?
3. What were some of the most important reforms Caesar brought about during his reign?
4. What was the chief contributing cause to the end of serfdom in France and England?
5. What effect did the invention of the fly shuttle have upon the weaving industry?

Key I—B—2—c

Listed below are ten guide words taken from Webster's Dictionary. Under each of these words write five words of your own in dictionary order. Check your list with a dictionary to see if they are in proper order and whether or not you have words in the list that do not belong there. Make careful note of any errors you have made so as to avoid their repetition.

diet	king
diverge	miser
groggy	oligarchy
idealize	plunge
informal	right

Key I—B—3—a

Refer to the text "Introductory Economics," by J. H. Dodd, published by Southwestern Publishing Company. The following list of words have been taken from sentences in Chapter XIII, pages 195 to 208. Look up the meaning of each word in the dictionary selecting the definition given that best fits the meaning intended as the word is used in the text.

pecuniary	vanity
medium	intricate
deferred	facilitate

Key I—B—6—a

Refer to Chapter XIV, pages 311 to 332, in the text "Modern Europe," by Thomas & Ham, published by Henry Holt & Company. Read the following questions carefully so that you have them well in mind. After you have read the questions, read the chapter in the text referred to above, close the book and answer the questions from memory.

Following this, check your answers against the text and correct any errors you have made.

1. What relationship generally prevailed between the church and the state during the eighteenth century?
2. What developments in the relationship of the church and the state finally led to the growth of anti-clerical groups in many countries?
3. Describe the difference in viewpoint between those members of the church group who are able to reconcile their science and their religion and those who are not.
4. What bearing did the Dreyfus affair have upon the effort to discredit the Republic in France through an anti-semitic drive?
5. How can the conciliation between church and state in Italy be explained in view of Mussolini's professed atheism?
6. How can the general world-wide movement toward separation of church and state be explained?

7. From an historical standpoint, what precedents have been established that would tend to encourage toleration?
8. Religious toleration has been paralleled by toleration in other fields. How is this trend expressed in politics, economics, and other fields?
9. What conditions in world development have led to the creation of educational systems in countries all over the world?
10. In general, what are the characteristics of modern educational trends?

Key I—B—6—h

Refer to Chapter XV, pages 150 to 164, in the text "Useful Science for High School," by Weed, Rexford and Carroll, published by John C. Winston Company. The following statements contain the same thought as that expressed by the author but are stated in different language. Refer to the text and locate the sentence or sentences in each instance that convey the same thought as that given in each of the statements below. Underscore or mark the sentences in the text so that you can cite them later without delay.

1. It is easier to lift a weight with a pulley than without because when using a pulley you pull downward allowing your weight to do part of the work.
2. It requires somewhat more than an ounce of effort to lift a weight of six ounces because the effort, in addition to lifting the weight, must overcome the resistance of turning the wheel in the pulley, bending the rope around the pulley, and other mechanical deficiencies.
3. In operating a windlass in which the circumference of the circle made by the handle is six feet and the length of the rope around the cylinder is one foot, the effort has moved 6 while the resistance has moved 1.
4. Every pound of useful effort represents some wasted effort. The ratio is usually about 5 to 1.
5. Through the use of the inclined plane, a man will exert a smaller effort over a greater distance.
6. Even though two metal surfaces appear to be perfectly smooth, a microscopic examination shows them to be rough.
7. Skidding and crashes with automobiles are frequently caused by the presence of wet ice or oil on the streets which causes a reduction of friction between tires and pavement.
8. If the driver's reaction time is slow, he is apt to be slow with the brakes. When this happens, the inertia of the car frequently causes serious accidents.
9. An Englishman, Sir Isaac Newton, one of the greatest scientists of all time, first stated the laws of motion.
10. Because one cylinder fires after another in an automobile, the inertia of the moving machinery produces a smooth ride instead of a jerky one.

Key II—B—1—a

No. 1. Read the paragraphs on pages 129 to 137 inclusive, in your text "Adventures With Living Things," by Kroeber & Wolff, D. C. Heath & Company. Find the answers to the following questions as you read, and write them out in complete statements. You should experience no difficulty in answering the first ten; the second list, however, will require some research and careful thought.

DIRECT QUESTIONS—

1. What are the large divisions into which animals are classified and into which plants are classified?
2. What is the difference between a flower and a plant?
3. Where would you look for examples of some of the simple flowerless plants?
4. What are some examples of thallophytes that are easily studied?
5. What are the characteristics of algae?
6. What are the characteristics of fungi?
7. What is the difference between mushrooms and toadstools?
8. How would you describe a lichen?
9. What is the principal difference between fungi and mosses?
10. How would you distinguish between ferns and mosses?

THOUGHT QUESTIONS—

1. Why is it difficult to classify the members of the plant kingdom?
2. Describe the characteristics of some plants which have blossoms that are not distinguished by bright colors.
3. Why are the lower forms of plant and animal life usually found in water?
4. How are the two distinct groups of thallophytes distinguished?
5. List and describe at least three examples each of useful and harmful kinds of fungi.
6. Prepare an outline listing the major groups of flowerless plants with subdivisions under each, and give the distinguishing characteristics for each group.
7. How are the life processes of the lichen, a plant composed of both alga and fungus, carried on?
8. Why does the moss require greater amounts of water than do most plants that grow on land?
9. The algae are characterized by a green coloring matter while in the fungi this characteristic is lacking. What important difference in the life processes of these plants does this difference in character indicate?
10. How do the flowerless plants which produce no seed reproduce?

No. 2. The following questions are based on the material found on pages 17 to 22 in the text "Our Nation's Development," by Barker, Dodd & Commager, published by Row, Peterson & Company. Read the material through and as you read watch for the answers to these questions. The first ones in the list are rather simple, direct questions, the answers to which it will be easy to find. Some of the thought questions, however, will call for careful reading and thought.

DIRECT QUESTIONS—

1. How was Columbus' suspicion that he had discovered a new continent proven to be true?
2. What is meant by the expression that "Daring explorers were filling in a blank map"?
3. What European nations were laying claims at this time to parts of what is now United States?
4. What was the final extent of the Spanish empire in this new country?
5. What was the great stimulating interest of European nations in colonizing America?
6. What was the extent of the Spanish population of this country at the beginning of the seventeenth century?
7. How did the Spanish rulers encourage emigration?

8. Who was responsible for the gradual pushing of the Spanish frontier to the north and the final settlement of the territory?

THOUGHT QUESTIONS—

1. Why did it become necessary for the Spaniards to import African slaves early in the sixteenth century?
2. Why did the universal belief in mercantilism of the period affect the method of conducting government and business in the Spanish colonies?
3. Why did the Spanish government deny their colonists an opportunity to develop habits of self-reliance and independence?
4. Why did disorder and confusion characterize the governments of the Spanish-American states?
5. Why did the efforts at colonization by the French in the sixteenth century fail?
6. How was French colonization on the new continent later stimulated?
7. The French efforts at colonization in the new world were discouraging when compared with other European nations. A number of different factors were contributing causes. How did each of these operate and why did they tend to discourage progress?

No. 3. Read the paragraphs on pages 55 to 61 inclusive in your text "Units in World History," by Greenan and Gathany, McGraw-Hill Book Company. Find the answers to the following questions as you read, and write them out in complete statements.

1. How did the teachings of Christianity conflict with the Roman Government?
2. Why was the Communion a source of difficulty for the Christians at this time?
3. What were the causes of each of the first three persecutions of the Christians?
4. Why were the motives for the persecutions chiefly political and social rather than religious?
5. What was the final outcome of the persecutions and how did Christianity finally triumph?
6. How did the early Christian brotherhoods compare with our present day church organization?
7. What is the history of the development of church organization?
8. How did the Archbishop of Rome come to be looked upon as the religious authority for the entire west?
9. What would you consider to be the most far reaching effect of the persecution of the Christians?
10. How do you account for the fact that Christianity finally became the predominating religion of this period?

Key II—B—2—a

Refer to Chapter VIII, Moths, Bees, and Ants, in the text "New Biology," by Smallwood, Reveley and Bailey, published by Allyn & Bacon, to prove your answers to the following questions:

1. The fourth stage in the metamorphosis of the butterfly is.....
(pupa, egg, adult or butterfly, larva)
2. The eggs from which the honeybee hatches are laid by the.....
(bumblebee, queen, drones, workers)
3. The mandibles of the bee are used for.....
(gathering nectar, jumping, flying, gathering propolis from buds)
4. The unfertilized egg of the queen bee hatches into a.....
(worker, queen, drone, honeybee)

5. The Monarch butterfly migrates to the north in the spring to the northernmost point where she finds the.....sprouting, upon which she lays her eggs. (asparagus, lettuce, milkweed, spinach)

Key II—B—3—a

Refer to pages 48 to 59 in the text "American Government," by Magruder, published by Allyn & Bacon. Read the assignment over and then see how many of the following questions you can answer from memory.

1. Who had direct control of the proprietary colonies existing in America at the time of the Revolution?
2. By whom was the first permanent colony in America sponsored?
3. Between whom did the real charter exist in that group of colonies known as the charter colonies?
4. Which of the colonies made no provision for the two branches of the legislature.
5. Upon what authority did the Continental Congress provide a scheme for perpetuating its league?
6. What were the most serious defects of the Articles of Confederation?
7. What were the chief causes of disturbance during the critical period immediately following the war?
8. What were the two principal issues facing the Constitutional Convention?
9. How did the convention finally compromise on these two issues?
10. What were the principal arguments for and against the adoption of the Constitution in its final form?

Key II—B—5—a

Refer to Chapter XVII, pages 490-498, in the text "The Record of America," by Adams and Vannest, published by Charles Scribner's Sons. The following (true or false) statements are based on this chapter. Indicate the correct answer and cite the statement in the text that proves your answer.

1. The blame for the World war can be definitely charged to Germany. True False
2. One of Germany's major offenses leading to a world conflict was her invasion of a neutral state, breaking a treaty of long standing. True False
3. While, in the early stages of the war, the United States was considered to be a neutral power, no formal declaration of this fact was ever made by our government. True False
4. Nearly a year elapsed before Italy finally joined the Allies. True False
5. In order to avoid a general collapse of all values in this country, it was necessary to close the stock exchange for several months. True False
6. While this country experienced difficulty in maintaining her neutrality abroad, there was little internal propaganda to cause trouble. True False
7. Efforts to enforce international law previous to our entry into the war nearly caused a break between the allied powers and the United States. True False
8. Germany had little justification for the submarine campaign which she inaugurated following England's arbitrary extension of the contraband list. True False

9. Two of Wilson's cabinet officers resigned because they felt his stand was endangering peace. True False
10. The Germans' misinterpretation of the election returns in 1916 finally proved to be disastrous for them. True False

Key II—B—9—a

The following list of words is taken from the text "American Government," by Magruder, Allyn & Bacon. Refer to the text pages 62 to 79 and determine from your reading the meaning of these words and phrases from the context in which they are used. Write your definitions out in your own words. Do not consult a dictionary.

loose leagues	injunction
unitary	sovereignty
alliances	habeas corpus
illiterates	extradition
implied powers	implicated
pursuance	ratification
aggrieved	referendum
subsequently	enumerated powers
asserted	power to invalidate
compact	restricted

Key II—B—9—g

Arrange the words in the list above in one column in alphabetical order. In a second column, list your own definitions, and in a third, list the dictionary definitions.

Key II—B—10—a

Refer to the text "Science for Today," pages 265 to 273, by Caldwell and Curtis, Ginn & Company. Find for each of the statements made below a corresponding statement or statements in the text which convey the same meaning.

1. Our solar system is extremely large yet occupies only a small part of the space which astronomers have explored.
2. There are stars so far from earth that we would continue to see the light from them hundreds of years after their destruction if this should happen.
3. Some of the suns are so extremely hot that they must be composed of gases rather than solids.
4. When examining the galaxy with a telescope, the dim light is found to be the light of separate stars which through the microscope appear to be very close together and to the naked eye are not visible at all.
5. The suns in the galaxy are traveling at tremendous rates of speed in all directions in response to the gravitational attraction of other stars.
6. Ours is only one of many thousands of galaxies scattered throughout the heavens.
7. Earth and the solar system to which it belongs are so small by comparison that they really seem of very little importance.
8. Gravitation, a force produced by the sun, tends to pull other bodies in the same solar system toward it.
9. The temperature at the center of the sun is extremely hot causing explosions on the surface known as sunspots.
10. Energy produced by the sun which the earth receives is responsible for green plant life and hence the food which we eat.

Key II—B—11—b

Turn to pages 120 to 122 in the text "Man's Great Adventure," by Pahlow, published by Ginn & Company. Find in the context as you read these pages those words which have the same meaning as those appearing in the following list:

govern	produced
oratory	stingy
ten years	light
uphold	article
signified	covered

Key III—B—1—a

Read the paragraphs on pages 276 to 279 in the text "The Making of Today's World," by Hughes, Allyn & Bacon. Number the paragraphs from the top of the first page to the bottom of the last consecutively. On a separate sheet of paper write these numbers down and opposite each the key sentence in the paragraph it represents. The first two might be as follows:

1. True, they decided not to have any king; but almost every important idea in their government can be traced back to an English beginning.
2. But their stay, though it lasted well beyond three hundred years, had no lasting effect there.

Key III—B—2—a

Turn to pages 363 to 366 in the text "A History of Our Country," by Muzzey, Ginn & Company. On these pages are ten paragraphs. Number them in consecutive order. Listed below are headings for these paragraphs but they are not listed in consecutive order. Opposite each heading write the number of the paragraph to which it belongs.

1. A Good or a Poor Act
2. The True Motive Back of the Flight
3. New Party Platform
4. Fight over Nebraska-Kansas Bill
5. Struggle in Kansas
6. Setting for Civil War
7. End of the Whig Party
8. Massacres in Kansas
9. A Bid for Southern Support in the Democratic Convention

Key III—B—4—b

Read with care the material in problem I, pages 77 to 91, in the text "Problems in General Science," by Hunter and Whitman, published by the American Book Company. As you read, take notes on the important points you think should be remembered.

The following points are the author's headings appearing in boldface type. Enter under each of these headings as many supporting details as you can get from your notes. Do not refer to your text while doing this but when you have finished, check your outline against the text to see how accurate you have been. Correct any errors you find.

1. Where do foods come from?
2. Green plants make food.
3. Green leaves are starch factories.

4. What are the various food substances?
5. Carbohydrates
6. Fats and oils
7. Proteins
8. Mineral substances
9. Water
10. Vitamins and what they do for us

Key III—B—5—a

Read Unit I, in Chapter II, pages 172 to 177 inclusive in the text "Business: Its Organization and Operation," by Odell, Clark & Others, published by Ginn & Company. As you read the material, write a summary statement for each paragraph that will include the important points stressed by the author.

Key III—B—5—f

Look up Chapter VII, Education, pages 117 to 130 in the text "My Worth to the World," by Capen and Melchior, published by the American Book Company. As you read the chapter, make out one good question for each paragraph in the assignment. When you have finished, exchange papers with your neighbor and answer the questions he has prepared while he answers yours.

Key III—B—5—k

Read the two paragraphs beginning at the bottom of page 372 and ending at the top of page 374 in the text "A History of Our Country," by Muzzey, published by Ginn & Company. From the following group of sentences select the one which best describes the political views of Lincoln and Douglas.

1. Douglas and Lincoln had known each other for twenty years.
2. They were both poor farmers' sons who had come to Illinois as young men and engaged in the practice of law.
3. Neither was an extremist in his views on slavery, Douglas being as far removed from the "fire-eaters" of the South as Lincoln was from the abolitionists of the North.
4. His Republican rival for the senatorship was Abraham Lincoln, a former Whig who had joined the Republicans on the Kansas-Nebraska issue and risen to be their leading politician in the state.
5. But while Douglas believed that the free and slave states could continue to live together in peace, and cared not whether slavery was "voted up or voted down," Lincoln was certain that slavery was a moral wrong and that the Union could not last unless slavery were eventually abolished.

Key III—B—6—a

On page 252 of the text "New Elementary Physics," by Millikan, Gale and Coyle, published by Ginn & Company, you will find a topic dealing with the manufacture of ice. It describes the steps involved in the manufacture of artificial ice. These steps are listed below but not in their correct order. Refer to the text and rearrange the list in its proper order.

1. Compressor acts as exhaust on one side and compression pump on the other
2. Compressor A
3. Heat taken off by water

4. Heat taken from surroundings cools them to 5 degrees F.
5. Brine circulating around cans of water causes their contents to freeze
6. Pumped out
7. Coils D
8. Liquifies
9. Brine does not freeze at 16 degrees to 18 degrees F.
10. Solution of brine around coils D
11. Condenser coils B
12. Pressure
13. Produces heat
14. Regulating valve C
15. Gaseous state
16. 314 calories of heat per gram at 5 degrees F. causes evaporation

Key III—B—7—a

Find Problem XI-B, pages 189 to 194 inclusive in the text "Biology for Today," by Curtis, Caldwell and Sherman, published by Ginn & Company. The title of this problem is "What are Some Adaptations Which Make the Crayfish a Successful Animal?" Read the material over carefully, making summary statements of each reason given by the author to indicate that the crayfish is a successful animal.

Key III—B—10—a

Refer to the text "Biology for Today," by Curtis, Caldwell and Sherman, Ginn & Company. Read the paragraphs on pages 65 to 73 and write a marginal heading for each paragraph. These headings should tell in as few words as possible the content of the paragraph. The marginal headings for these paragraphs might appear as follows:

1. Oxidation in all living things
2. Relation of change to molecular action
3. Diffusion through membranes of plants and animals
4. Osmosis defined and described
5. Departments in the manufacturing system of plants
6. Deciduous and evergreen plants
7. New leaves produced each year, both kinds
8. Types of leaves in tropical and temperate zones
9. Leaves essential to survival
10. Rapid leaf growth deciduous trees

Key III—B—12—c

Refer to the text "Economic and Business Opportunities," by Bieghey and Spanabel, Winston and Company. The following skeleton outline is based on the material covered in pages 63 to the top of 69. The first steps have been filled in. Read the material over and fill in the remaining steps in the outline as you read.

- I. Money as a means of exchange
 - A. Universal custom
 - B. Modern money problems
 - 1.
- II. Origins of money
 - A.
 - 1.
 - B.

- 1.
- C.
 - 1.
 - a.
 - 2.
- D.
 - 1.
 - 2.
 - 3.
 - 4.
- III.
 - A.
 - 1.
 - 2.
 - a.
 - B.
 - 1.
 - 2.
 - 3.
- IV.
 - A.
 - 1.
 - B.
 - 1.
 - 2.
- V.
 - A.
 - 1.
 - 2.
 - 3.
 - B.
 - 1.
 - 2.
 - C.

Key IV—B—2—c

Refer to Chapter III, pages 45 to 64, in the text "Elements of Economics," by Fay & Bagley, Macmillan Company. Read the chapter very carefully noting as much of the detail as possible. You may make marginal notes as you read, if you like. When you feel that you have the chapter thoroughly mastered, write a summary of the chapter, one paragraph in length. Be sure to include only the important points discussed.

Key IV—B—3—c

Refer to Chapter XVI, pages 291 to 310, in the text "The Development of America," by Wirth, published by the American Book Company. Number each paragraph of this assignment. After having done this, read the first paragraph and write on a sheet of paper or in your notebook after the number "1" the questions which the first paragraph answers. Do this for each paragraph in the assignment.

After you have completed the questions on all the paragraphs, turn back and see how many of the questions you can answer. If you cannot answer some of them it may be because they are not good questions. Try rewriting those questions which you cannot answer.

Key IV—B—3—g

Refer to the text "Consumer Goods" by Reich and Siegler, published by the American Book Company. Carefully read Unit IV, pages 61 to 79, then close your book and see how many of the following questions you can answer from memory. After you have answered as many as you can, turn back and find the answers to those questions you did not remember.

1. The source of our linen goods is
2. Linen has several important qualities that add materially to its economic value. Three of the most important are as follows:
 - a.
 - b.
 - c.
3. The plant from which linen is produced requires a growing season months in length.
4. Modern invention has not yet succeeded in developing a method for flax that compares with the hand method used by Egyptians four thousand years ago.
5. The seed from the flax plant is processed to produce
6. Retting is a process used to decompose the woody tissue and dissolve gummy matters so that the fibers can be easily removed. The principal methods of retting are as follows:
 - 1.
 2.
 - a.
 - b.
 - c.
 - d.
7. The process of extracting the fiber from the stem is known as
8. The fibers are used for making fine linens, while the fibers are spun into yarn which is used for toweling, stuffing material, crash, etc.
9. Linen yarn in its green form must be and to remove gum and other foreign substances.
10. In finishing, linen is passed in a damp condition through a machine constructed with hammers and rollers. This process is known as
11. History records the use of lace as ornamental dress during the early part of the sixteenth century. In and its use was a mark of distinction in the upper strata of society.
12. Handmade laces are grouped into four classes as follows:
 - a.
 - b.
 - c.
 - d.

Key IV—B—3—j

Refer to the text "American Democracy and Social Change," by Walker, Beach & Jamison, published by Scribners. Read Topic II, "The United States: Land and People," pages 18 to 35. Read very carefully and make an effort to mentally note the important points discussed. Immediately following the reading, list in your notebook as many of the important points made by the author as you can remember. Do not refer to the text while doing this. After listing all

the important points you can remember, check your list against the assignment noting any discrepancies in your notes as well as important points you have overlooked in the text.

Key IV—B—3—k

Refer to Unit III on Fuels, pages 139 to 213, in the text "Senior Science," by Bush-Ptacek-Kovats, published by the American Book Company. This exercise is worked out cooperatively by teacher and students. Following the introduction of the unit a discussion period is developed during which members of the class are encouraged in raising questions about fuel which they would like to have answered during the study of the unit. It may be necessary for the instructor to initiate one or two lead questions to stimulate thinking along this line. As the questions are developed, they should be put on the board and later mimeographed for the class or if the class is keeping a notebook they can be entered as they are formulated. They should then be used as a guide during the directed study period.

The following is a suggested list of questions. Many more would result from a well-motivated discussion.

1. How can the different kinds of fuels be classified?
2. What are the various sources of fuels?
3. What are the various by-products of commercially prepared fuels?
4. What is the prospect of a limitless supply of fuels?
5. How do various kinds of fuels compare from the standpoint of efficiency?
6. What are the prospects for developing substitutes for our present fuels if and when they become exhausted?
7. What is the origin of our petroleum fuels?
8. What is the origin of the different kinds of coal?
9. How is coke produced?
10. How do natural and commercially prepared gases compare in efficiency and cost?

SECTION IX.

Correlating Work-Type Reading With Units in the Content Subjects in the Elementary Grades

As has been previously indicated, a type of classroom procedure involving directed or supervised study is best adapted to the development of desirable study habits. This is true because, under these conditions, the teacher is able to give much more individual attention to the children as they study. The procedure, however, presumes that the material before presentation to the class will be organized into longer assignments usually referred to as units, problems or contracts.

When handled on this basis the work in study-type reading and the development of units in the content subjects are procedures which become complementary to each other. The maximum benefit from either of them cannot be realized without the presence of the other. The study sheets or board work which usually characterizes the unit assignment provides an ideal opportunity for developing the various study-type skills. The exercises used in developing these skills in turn provide the vehicle through which better understanding results.

The fifth chapter of the Seventeenth Yearbook, "The National Elementary Principal,"³¹ is devoted entirely to the presentation of this phase of the reading program. In addition to an editorial discussion of the subject, it has several sample units developed in a number of different subjects in the content field. Teachers will find this reference to be most helpful in dealing with this problem.

31. Seventeenth Yearbook, Bulletin of the Department of Elementary School Principals, National Education Association, 1201 16th Street, N. W., Washington, D. C.

The following unit dealing with old-world backgrounds, in the sixth grade is presented to illustrate the manner in which reading is made to function in this subject. The unit was prepared by a classroom teacher and used in an actual teaching situation.³² It is presented to illustrate one teacher's method of approaching the problem. Another teacher using a different basic text and different references would develop variations suited to the materials with which she had to work, and to the personnel of her group. In each instance too, the personality of the teacher would be reflected to some extent.

SIXTH GRADE HISTORY UNIT

Life During Middle Ages

I. Teacher Objectives

- A. To present a problem in an interesting manner for the children to work on
- B. To supervise and direct the work so that children will have a reasoned understanding and appreciation of the issues involved
- C. To develop those study skills that will in their execution contribute to a better understanding of the problem

II. Unit Objectives

- A. General objectives
 1. To find out how the people lived during the Middle Ages
 2. To gain a better appreciation of the advantages of our present civilization
 3. To appreciate the contributions that the Middle Ages made to our present civilization
- B. Specific objectives
 1. To understand how feudalism came about
 2. To understand how the social life of the people was organized
 3. To understand the purpose of the Crusades and what they accomplished
 4. To understand the contributions which the Middle Ages made to the art of building

III. Introduction (motivation)

You have been studying about the Romans and the Greeks. You remember how the Roman Empire fell to pieces when over-

³² Prepared by Miss Grace Fleming, Sixth Grade Teacher, Clear Lake, Iowa

run by barbarian people, how Charlemagne's Empire was broken up and how, in general, a new civilization grew out of the remnants and mixtures of the old civilization. This new civilization is known as the Middle Ages. Now we are interested in knowing just how the people of the Middle Ages lived and some of the things they were interested in. We have a list of reference books to which you can refer in working on this problem. They are not the same but they all contain material about the people of the Middle Ages. You may use the table of contents and index to locate material that will help to get information concerning the various study exercises in the unit.

IV. Directed Study Exercises (academic phase)

A. Use the table of contents and index in the various references in doing the following exercises

1. For most of you the following list of words will be new to your vocabulary. As you encounter them in your reading, see if you can determine their meaning from the context. Write your own definition of each word on a sheet of paper, as you encounter it in your reading. When you have finished reading your references, check your definitions with those given for each word in the dictionary and make corrections when necessary.

serf	feudal lord	joust
manor	minstrel	quire
vassal	chivalry	fief

2. What caused feudalism to develop during the Middle Ages?
3. What was the duty of a feudal lord? A vassal? A serf?
4. How many fiefs or estates could a feudal lord control?
5. How was each vassal expected to serve the feudal lord in return for his protection?
6. What is the difference between a vassal and a serf?
7. Why was the lord's castle usually located in the center of the manor? How was it fortified?
8. How did the people of the Middle Ages amuse themselves?
9. Why were tournaments so highly prized?
10. How were the tournaments conducted?
11. How could a boy become a knight?
12. What system of farming was used in the lord's manor?
13. When could the serfs work on their own land?
14. How did the living conditions of the serf compare with those of the lord?
15. What was to be found in a monastery of this period?
16. What did the monks do to occupy their time?
17. Tell the following things about the towns and industries of this period
 - a. Beginnings
 - b. How self-government was established
 - c. Health conditions
 - d. Craft guilds
 - e. Markets and fairs
18. What place did the cathedrals occupy during the Middle Ages?

19. Why did the people of the Middle Ages go on pilgrimages?
20. For what purpose were the Crusades conducted?
21. Give as many results of the Crusades as you can find
22. Find in your text the sentence or sentences that will prove each of the following statements
 - a. There was little trade during the Middle Ages because there was not much money and because there were many robbers
 - b. Under feudalism the land was passed on to the eldest son
 - c. The highest social class in western Europe were the kings and princes
 - d. The decline of knighthood followed the discovery of gunpowder
 - e. Guilds were organized by the merchants to protect them from knights, nobles, robbers, and brigands who frequently robbed their caravans
 - f. Castles were usually built on hills, on bluffs along a river, or on islands in the river, for protection
 - g. Many interesting castles dating back to the Middle Ages are found in Germany
 - h. In early times the monasteries were built of wood but later they were constructed of stone
23. Refer to pages 259 to 264 in your text. Select for each of the following paragraph headings the paragraph with which it belongs
 - a. Social classes in the Middle Ages
 - b. Vassal's services to his lord
 - c. The fight for more lands
 - d. How the knights were educated
 - e. Knighthood ceremony
24. Indicate the correct answers to the following statements and cite the page and paragraph in your text that will prove your answer
 - a. Roman power had long ago declined but a central government was rapidly developed. True False
 - b. The vassal could sell the land if he so desired because the lord had no claim on it. True False
 - c. The poor man or "serf" worked to support the noble and could gain few privileges, but the nobleman was born with certain rank and had many rights and privileges which he did not necessarily deserve. True False
 - d. The knight's armor was light and his horse swift of foot. True False
 - e. The discovery of gunpowder made armor useless and resulted in the decline of knighthood. True False
 - f. In the homes of the "serfs" most of the baking and cooking was done over a fire built on the ground in the center of the hut. True False
 - g. The guilds of the Middle Ages governed the workers in each industry. True False
 - h. Each class of people was moved by various reasons for joining the Crusades. True False
 - i. There is little evidence to indicate that the people profited from their experiences in the Crusades. True False

- j. The Crusades did very little to stimulate trade
True False

B. Extra work for rapid workers

1. Describe the construction of the feudal lord's castle
2. What caused so much fighting during the age of feudalism? List all the reasons you can find
3. Describe the difference between a minstrel and a jester
4. Why did the Crusades appeal to so many different classes of people?
5. Why were monasteries built?
6. Who was the head of the monastery and how were they organized?
7. Explain how the land of the manor was divided
8. Why do we know that "crop rotation" was used in feudal times?
9. Describe the dress of the various classes of people during the Middle Ages
10. For what was the falcon used?

V. Activities Phase

- A. Make a model of a feudal castle with a moat and a draw-bridge
- B. Find pictures or draw illustrations of a feudal lord's armor and weapons
- C. Make a special report on one of the Crusades
- D. Draw a plan of a monastery
- E. Dramatize a scene of a boy being made a knight
- F. Dramatize some of the different amusements that were characteristic of the time
- G. Make a drawing of the dining room in the feudal lord's castle
- H. Dramatize a scene where a feudal lord is accepting a vassal
- I. Pretend you have been on one of the Crusades and tell of the experiences and hardships of the trip
- J. Collect and mount pictures of the Middle Ages

(Basic text used, "America's Heritage from the Long Ago," by Wickham & Phillips, published by Macmillan Company)

SECTION X

Correlating Work-Type Reading With Units
in High School Subjects

With the emphasis that is now being given to directed study, laboratory techniques in classroom procedures, provision for individual differences, extensive reading, vicarious experiences through reading, and greater pupil participation, the importance of developing desirable study habits has received new emphasis. These newer innovations in classroom teaching have served to set clearly before teachers the need for a thorough mastery of the fundamentals essential to good study. The large percentage of failures attributed to reading deficiencies, both in high school and college, serve as constant reminders of the need for more effective work along this line.

Both the Twenty-Fourth³³ and the Thirty-Sixth Yearbook³⁴ committees have recognized this to be a major problem and among other recommendations have stressed the importance of making all classroom teachers reading conscious to the extent that each will assume direct responsibility for developing these skills in his own subjects. Until this recommendation becomes a reality in substantial measure, we will probably continue to hear much about the reading problem at the secondary level.

One of the principal reasons for neglecting this problem in the past was the emphasis placed on lesson hearing in the class situation. In recent years, however, the longer unit assignment with provision for directed study has become increasingly popular. This procedure in the classroom has

33. National Society for the Study of Education, "*Twenty-Fourth Yearbook*," Public School Publishing Company, Bloomington, Illinois

34. National Society for the Study of Education, "*Thirty-Sixth Yearbook*," Public School Publishing Company, Bloomington, Illinois

served to more clearly focalize the reading problem and at the same time has provided an instrument through which the problem can be attacked.

One of the characteristics of the unit assignment is the provision of study guides with appropriate directions for study. It is in connection with the preparation of study guides that the reading skills can best be developed. In this way the skills are made to function in a natural situation, thus making a definite contribution to better understanding. When handled on this basis the work-type reading and unit assignment become complementary to each other; the position of each in the instructional program being strengthened by the presence of the other.

In order to illustrate the point in question, a sample unit from American government, and another from biology are included here. Attention is called not only to the organization of the unit but to the provision that is made for developing the various study skills. Each of these units was prepared by a classroom teacher.

SAMPLE UNIT NO. I.

American Government ³⁵

Unit I. The Constitution of the United States
(Consult: Courses of Study for High Schools—Government
—1935, State of Iowa, Department of Public Instruction, pp.
12-15, for points in this outline)

Time: One week

I. Unit Objectives

To acquire an understanding of the constitutional basis of the government of the United States

II. Specific Objectives

A. To be familiar with the historical background of the Constitution

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- B. To see the members of the body politic as the basis of political power
- C. To know the essential characteristics of the government provided by the Constitution
- D. To know the application and importance of rights listed in the Constitution
- E. To know the cause for and the nature of the federal system of the United States
- F. To know the significance of federal supremacy, and how it is maintained
- G. To understand the American philosophy of a limited government that has delegated powers of expressed and implied origin
- H. To realize that there are subjects not within the scope of the federal government
- I. To see the significance of the court's power of judicial review
- J. To know the different methods of constitutional change and application
- K. To conceive of the Constitution as a growing institution

III. Introduction

You studied United States history and American government in the elementary grades; you have just completed the United States history in the high school. These pursuits, coupled with your ability to do work-type reading, have prepared you for the high school studies in American government.

IV. Directed Study Exercises (academic phase)

- A. When given, use the table of contents and index in the various references in doing the following:
 - 1. Group the thirteen colonies into royal, proprietary, or charter governments in 1776.
 - 2. What was accomplished at this meeting?
 - 3. Locate: Associate each with constitutional history
 - a. Albany
 - b. Philadelphia
 - c. Annapolis
 - 4. What made the years from 1783 to 1789 a critical period?
 - 5. What was the original purpose of the Constitutional Convention in Philadelphia in 1787?
 - 6. Wherein did Edmund Randolph's Virginia Plan of Union differ from William Paterson's New Jersey Plan?
 - 7. What compromises were made between these two plans?
 - 8. Contrast the principles of the Federalists and the Anti-Federalists.
 - 9. Who were the leading Anti-Federalists?
 - 10. How did the Constitution help business?
 - 11. Notice that the Constitution proper has seven Articles. Write a subject heading for each:

Article I.	Article II.
Article III.	Article IV.
Article V.	Article VI.
Article VII.	

IOWA PLAN FOR DIRECTED STUDY

12. Do the Civil War Amendments refer to the negro only? Cite references for your answer.
13. After you have completed your outline, go back to the beginning of it and try to recall the facts that fit each item.
14. Consult the Constitution and its Amendments to locate the following: Place the exact reference in the blank.
 - a. no person holding any office under the United States shall be a member of either House during his continuance in office.
 - b. New states may be admitted by the Congress into this Union;.....
 - c. Congress shall have power to regulate commerce with foreign nations, and among the several states, and with the Indian tribes;.....
 - d. This Constitution, and the laws of the United States which shall be made in pursuance thereof; and all treaties made, or which shall be made under the authority of the United States, shall be the supreme law of the land;.....
 - e. No state shall pass any law impairing the obligation of contracts,
 - f. All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the state wherein they reside.
 - g. No person shall be deprived of life, liberty, or property, without due process of law;
 - h. The 18th article of the Amendments to the Constitution of the United States is hereby repealed.
15. Each of the following cases involves a question of constitutional law. Cite that part of the Constitution at issue by writing the reference after each case. Give the decision in the case.
 - a. Marbury v. Madison, 1803
 - b. McCulloch v. Maryland, 1819
 - c. Gibbons v. Ogden, 1824
16. Judging from his Supreme Court decisions, what seems to have been John Marshall's attitude toward the Constitution?
17. Find synonyms for these terms as used in government:

charter	residual powers
Bill of Rights	public acts
federation	judicial proceedings
due process of law	

B. Things to do

1. Make a list of rights given in the first eight amendments
2. Plan and present a dramatization of the Constitutional Convention
3. Make a bar graph and also a line graph to show the representation by states in congress today. (Consult the appendix in Magruder's "American Government" for number from each state)

4. Write a concise National Creed
5. List in one column the amendments that changed the Constitution; in another, those that added to; and in a third, those that changed custom or usage. Cite that part of the law that was altered
6. List the documentary sources in which the United States Constitution had its beginning

V. Tests—Underline the best answer to each statement below

A. True—False:

1. Congress may lay direct taxes, in proportion to population, on the states. True False
2. A citizen of Iowa may bring suit against another state. True False
3. A state may make a treaty with a foreign nation. True False
4. William Randolph signed the Federal Constitution. True False
5. Congress has the power to create the national bank. True False
6. The Library of Congress grants copyrights. True False
7. There are limitations on the powers of congress. True False
8. Congress may pass a law providing for slavery in the states. True False
9. George Washington was president of the United States while the Articles of Confederation were in effect. True False
10. Randolph's Plan provided for three departments of government. True False
11. The Federalist explained the provisions in the Constitution. True False

B. Multiple Choice

1. The interpretation of the Constitution is made by the state legislature, the federal judiciary, the congress, the president, the president's cabinet.
2. The people, the house of representatives, the United States supreme court, the president's cabinet, the vice president may impeach the president.
3. The United States supreme court, while John Marshall was chief justice, treated the great questions at issue from the national, state rights, individual, public opinion, common law point of view.
4. The Constitution had to be ratified by 1/2, 2/3, 3/4, 9/13, 13/13 of the states before it became binding on all of them.
5. The Constitution has been amended 12, 15, 21, 23 times.

C. Completion: Fill in the blanks with the correct word or words

1. _____ was the president and deputy at the Constitutional Convention.

2. is vice president of the United States.
3. The president of the United States appoints the members of the supreme court by and with the advice and consent of the
4. The has the right to impeach civil officers and bring them to trial before the.....
5. Supreme court judges are appointed for upon behavior.
6. delegates assembled for the Constitutional Convention.
7. The first state to ratify the Constitution was....., the ninth,; the last,
8. The amendment changed the inauguration day to after the election.

SAMPLE UNIT NO. II.

Biology ³⁶

Frequently, long units for convenience in handling are broken down into a number of problems. Some units are particularly well adapted to this procedure while others are more difficult to handle in this way.

To illustrate this method of attack, the following unit dealing with "The Living Green Plant" is used. All of the problems that would be developed in the unit are listed although only one dealing with "The Flower" is reproduced here. The problems are as follows:

- I. The Whole Plant and Its Adaptations
- II. The Leaves
- III. The Roots
- IV. The Stems
- V. The Flower
- VI. The Fruit

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PROBLEM V.

(The Flower)

- I. Scientific Principles: All life is dependent upon the perpetuation of its own species and there is an interdependence between plants and animals.
- II. Introduction to the topic
- III. Test over the parts of a flower: As the parts are pointed out on the slide, write the number of the part in the parenthesis after each part that you are sure you know. LEAVE OUT ALL THAT you are not sure about:

pistil	()	style	()	stigma	()
filament	()	ovary	()	sepal	()
ovule	()	stamen	()	petal	()
anther	()	flower stalk	()	pollen	()

IV. Moving picture of flower

- V. Activity period: Read in some biology book to find the answers to the following questions. Look in the index of the book for "pollination" or "flower."

1. What name is given the male part of a perfect flower?
2. What name is given the female part?
3. Where is the pollen produced?
4. What is the purpose of the pollen?
5. What does pollen look like?

Note: When you have found these five answers, ask the instructor to see some pollen. Make a sketch of what you see. Do this drawing on a ground glass plate that we may be able to show your work to the entire class through the projector.

6. Explain how the sperm nucleus of the pollen grain unites with the egg nucleus of the ovary.
7. Find the parts of a flower that the following definitions fit:
 -: All the sepals of a flower taken together
 -: All the petals of a flower taken together
 -: A leaf-like structure at the base of a flower
 -: The expansion of the flower stalk at the base of the flower
 -: The organ that contains the pollen; one of the essential organs of the flower
 -: The powdery substance of the flower containing the sperm cells
 -: The transfer of pollen from the stamen of one flower to the pistil of the same flower
 -: The closed structure which contains the ovules; one of the essential parts or organs of the flower
 -: The transfer of pollen from the stamen of one flower to the pistil of another flower
8. Examine one of the flowers at the laboratory table. If you have time, tear it apart, being careful to get each part out whole, and make a poster of these various flower parts. Name each part on your poster.

9. Draw on ground glass a slide of **the flower that you are studying.**

VI. Summary

1. Some one will be asked to name the parts of a flower from his slide drawing.
2. Some one will be asked to tell the function of each part. (What the part of the flower is for)
3. Write a paragraph or two telling what is meant by "Pollination."
4. Write a paragraph explaining how fertilization takes place in the flower.

IN CONCLUSION

The material in this pamphlet has been prepared with the problems of the administrator, supervisor, and classroom teacher definitely in mind. It represents an effort to solve in a practical way a problem that has been recognized by leading educators for the past several years. Theory and research have for some time pointed the way although the characteristic lag between these efforts and actual classroom practice has continued to persist.

The material has been thoroughly tried in every conceivable situation ranging from the five-pupil rural school to systems in cities of 30,000 population. The results in all types of situations have been equally gratifying. In spite of this, however, it should be remembered that there is nothing magic about the program. County and city superintendents cannot hope to attain maximum results from the program without careful and stimulating guidance. It is not meant to imply, however, that daily or weekly classroom visitation is essential to accomplish this. Group meetings for discussion and demonstration purposes, individual conferences with teachers, and a general cooperative effort to get at perplexing problems will do much to stimulate the program. In addition, teachers should be encouraged to come to the supervisor with their individual problems whether he be the superintendent, principal, or regularly appointed supervising officer.

Another factor of extreme importance is the provision of adequate library facilities. The responsibility in this connection rests squarely with the superintendent. Every effort should be made to provide the maximum service in this respect.

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NOTE: Study-Type Readers; Any of the Intermediate and Upper Grade Study-Type Readers now Available

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