

T H E S I S

THE IMPROVEMENT OF TEACHING IN RURAL
AND VILLAGE SCHOOLS

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for the Degree of Master of Arts

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Fort Collins, Colorado

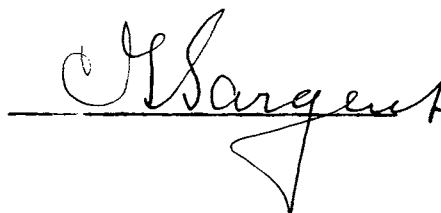
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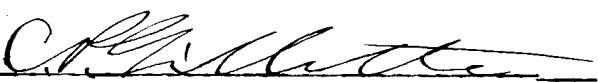
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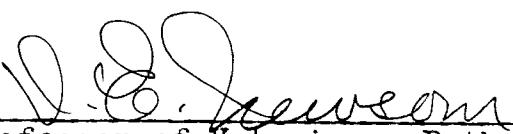
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THIS THESIS HAS BEEN APPROVED AND RECOMMENDED FOR
THE DEGREE OF MASTER OF ARTS


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THE IMPROVEMENT OF TEACHING IN RURAL

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CHAPTER I.

INTRODUCTION.

An attempt has been made to use this thesis as a means of collecting much valuable material from the college library, while available, that would be almost impossible otherwise because of the difficulty of obtaining various books, periodicals and bulletins, many of which might not be available at all.

This material has been collected along the lines of up-to-date methods in education and compiled in a usable form for any who care to read, with the idea that it might be of value to the progressive rural teacher as well as to the village or city teacher.

Mainly, however, this material will find use in the instruction of teachers in the school system in which the progressive superintendent or principal cares to use it as a part of the instruction given at the regular teachers' meetings.

This thesis is therefore confidently submitted with the belief that its use in this manner will help to raise the standards of the systems sufficiently to warrant its compilation.

CHAPTER II.

CHANGING IDEAS IN ELEMENTARY AND SECONDARY EDUCATION

The Education of Patrons and Teachers.

The majority of present day teachers have been schooled in an atmosphere of formal discipline, and each subject was taught because of its supposed general transfer value rather than for some definite aim. As a result certain habits of thought regarding subject matter have fixed themselves upon practically all teachers. The teacher has since been taught to know better but the old habits remain. Only with great effort can he force himself to think in the newer terms. In discussing the work of the school with the adults in the community he readily reverts to the formal discipline view and naturally the layman is still certain of its value. Therefore, as educators there is a two-fold duty to perform.

For the advancement of the coming generation the modern ideas as well as modern methods of teaching must be promoted. This is not at all difficult with the students. In fact they soon appreciate and employ the newer ideas. However, before the teacher progresses very far he is checked up by the adults. They do not appreciate "new fangled ways". Here he finds an almost impossible task before him. He must bring them to see and understand the new ideas or at least tolerate them long enough for him to prove that they at least will not be a

detriment to the education of the youth. The adult of the community cannot be expected to understand all the new schemes for they are not trained to think in educational terms. However, if they have confidence in the teacher, at least he will be allowed a certain divergence from the ordinary way of teaching. If he wins the approval of the students and they appear to be as well educated as before, he will also be favorably considered by the parents. Knowing how difficult it is to put aside the old and take on the new, he must realize that he can make no real impression on the minds of the adults in his community regarding the new education. They believe in deeds, not words, so he must produce results. To do this he must read widely and know the present trend in education. With much careful consideration a few new ideas can gradually be embodied in his work, but he must be sure he can always legitimately defend his changes. He should not attempt to defend his changes in a learned way with strange words and stranger phrases to the adults, but in a language of their own understanding.

Modern Definitions of Education.

The teacher must first establish in his own mind a satisfactory definition of education. Many definitions there are, but a modern and usable one is needed. Bagley states, "Education is the process by means of which the individual acquires experience that will function in rendering more

efficient his future action."1 Kilpatrick gives the following: "To have the children live more richly and successfully, right in the belief that this will mean most to them and to others both now and hereafter."2. Bobbitt makes this statement: "Education is to prepare men and women for the activities of every kind which make up, or which ought to make up, well rounded adult life."3. While from Frasier and Armentrout is taken the following statements: "Education is Life." "Education is growth and it takes place in a social environment." "Education is a social process". "Education is a continuous reconstruction of experience."4. From "A Course of Study for the Public Schools of Colorado" we receive the following contribution: "The chief aim of education is to teach pupils to do better the desirable things that they will do anyhow. This is interpreted to mean both those desirable present activities and assured future needs."5.

From the various statements of the aim of education is found the same underlying thought. Education is living now that one may live more fully in the future. This is very aptly expressed by the statement, What we have been, we are; what we are going to be, we are becoming .

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1. Bagley, W.C. The Educative Process, MacMillan, 1905, p.203.
 2. Kilpatrick, W.H. Foundations of Method, MacMillan, 1925, p.367.
 3. Bobbitt, F. How to Make a Curriculum, Houghton-Mifflin, 1924, p.7.
 4. Frasier & Armentrout, An Introduction to Education, Scott-Foresman, 1924, p.21.
 5. A Course of Study for the Public Schools of Colorado 1926, Elementary Schools, p.8.

The cold storage method of education has never been profitable and it is the belief of many that anything learned far in advance of the time it is to be used will not be retained. Only as one puts into use the things he learns will he use them later when needed again. All too often the things one learns cannot possibly be of use until some future time. Therefore the definition of education is psychologically correct and will function.

Bobbitt, through extensive investigation has classified the various human experiences into ten major groups which he terms activities. They are:

- "1. Language Activities.
2. Health Activities.
3. Citizenship Activities.
4. General Social Activities.
5. Spare Time Activities.
6. Keeping One's Self Mentally Fit.
7. Religious Activities.
8. Parental Activities.
9. Unspecialized or Non-Vocational Activities.
10. The Labor of One's Calling or Vocational Activities".⁶

The aim in education will be a continuous application of school work to these objectives that correct habits may be formed now, thereby assuring their use in adult life. In order that this may be done the teacher first overcomes any

6. Bobbitt, F. How to Make a Curriculum, Houghton-Mifflin, 1924, p.8

false impressions he has and prepares to start out again on a sure and sound basis.

Faculty Psychology.

Faculty Psychology, formal discipline and transfer of training were so closely allied that they will be discussed together hoping to establish in the mind a safe and sane view, discarding the material proved false and making use of all possible material saved from the controversy. "The faculty psychology of the last century is long since dead, and its resting place has almost been forgotten by the scientists of today; its ghost, however, stalks abroad among the masses, and its spirit still lives in the pedagogical theories of many an uncritical thinker. It is no far cry from faculty psychology to the dogma of formal discipline in all its purity."⁷.

There is no question about the layman's belief in formal discipline. His conversation continually brings this to mind. It has also been said that ninety percent of the teachers still believe in it in toto. No doubt there are many who do. They were all brought up on it. It was drilled into them day after day during their years in the public schools. Naturally it will not be a simple thing for them to override these theories. "Subjects were not taught for their own intrinsic value, but for the mechanical effect

7. Colvin, S.S. "Some Facts in Partial Justification of the So-Called Dogma of Formal Discipline", University of Illinois, Bulletin, Nov. 26, 1910, p.6.

they had on the mind. The child studied not primarily to learn but to have his imagination, memory, will, and other faculties trained."8. Here the teacher has the double duty of taking himself in hand and acquiring the proper methods, discarding the old beliefs and also of bringing the layman to look at least with tolerance on the new efforts in the school, for the doctrine continues to make itself felt throughout the school systems.

"If we have analyzed the doctrine of formal discipline correctly, it is evident that its extreme advocates and its extreme opponents are both wrong. Knowledge and training are not merely specific in their application, but they also have a general value."9. "Formal discipline played an important and large part in the determination of school subject matter. Material not justified on any other grounds was retained and is being retained in the curriculum because of its disciplinary value. Much other material that has undoubted claim for inclusion is denied entrance, or admitted grudgingly, because it is said to lack disciplinary value. No one now claims that discipline is an inherent element in a subject that will carry over automatically and magically. Neither is the claim made that there is no transfer of training. Much sound theory and experimental evidence is available to show some transfer in all learning."10.

8. Frasier & Armentrout, An Introduction to Education, Scott-Foresman, 1924 p.25.

9. Ruediger, W.C. Principles of Education, Macmillan, 1910, p.370

10. Burton, W.H. Supervision and the Improvement of teaching, Appleton, 1922, p.280

"Does practice in perceiving, memorizing or reasoning with one type of subject matter improve that mental process in general? Considering the old views of transfer, memory, judgment, discrimination, observation, reasoning, attention, will, etc., were faculties which operated indiscriminately in all lines and kinds of material. Their powers were transferred as a unit. Latin, Greek, mathematics and formal grammar were especially effective instruments for the training of the mind. Old books of twenty years ago state that, 'The pursuit of mathematics gives command of attention and results in the strengthening and training of the reasoning powers.' 'Will-power and attention are educated by physical training. When developed by any special act, they are developed for all acts.' These are now considered extravagant views. In conclusion, it should be urged that the factors of transfer do not imply that better methods of accomplishing intellectual tasks, or greater zeal, initiative, trustworthiness and control cannot be developed. On the contrary, they indicate the ways in which desirable adjustments to life may be more surely secured."11. Horne maintains that, "Present study helps us in a later situation in so far as common features are in-

11. Gates, A.I. Psychology for Students of Education, MacMillan, 1926, p.354

volved. There are no subjects which give an all round mental training for no such training is possible."12. "Discipline and transfer depend not so much upon the nature of a subject as upon the method of teaching, the emphasis placed on the transferable element and the pupil's power to generalize."13.

Colvin gives a set of rules for securing transfer:14.

1. "Judd says, 'Practice with knowledge has a value in the transfer of training which practice without knowledge does not possess.'
2. Train the child in the technic of learning and in the processes that make learning effective and economical.
3. In seeking to secure transfer, especially where purpose does not play an important part, see to it that the stimulus which is to call forth the desired reaction is such that it may be a common element in many objective situations.
4. Education should cultivate through specific training general emotional attitudes. Moods and feelings are often the dominant elements in a situation and these can readily be transferred, I believe."

It is therefore evident that considerable may be saved

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12. Colvin, S.S. Some Facts in Partial Justification of the So-Called Dogma of Formal Discipline, Univ. of Ill., Bulletin No. 26, 1910, p. 19.
 13. Burton, W.H. Supervision and the Improvement of Teaching, Appleton, 1922, p.281.
 14. Same as footnote 12, p. 31.

from the wreckage of the old faculty psychology. It has gone through the fire during the past decade and comes out as pure gold. The teacher should attempt to use the results in his teaching, as those that have survived must have proved their true worth. As Colvin says in the preceeding paragraph, "The value it is to be to the teacher and student depends largely on the methods employed." Therefore, it behooves him to make a careful study of method, but first, he must make a brief review of the psychology directly involved.

"A method of teaching is sound to the extent that it makes possible the working of the Laws of Learning."¹⁵. Thorndike gives three major laws: Readiness, Effect and Exercise. Readiness: when a bond is ready to act, the action gives satisfaction and inhibition gives annoyance. When a bond is not ready to act, forced action gives annoyance. Effect: an individual tends to repeat and learn quickly those reactions which are accompanied or followed by a satisfying state of affairs; the individual tends not to repeat or learn quickly those reactions which are accompanied or followed by an annoying state of affairs. Exercise: whenever a modifiable connection between a situation and a response is exercised, other things being equal, the strength of that connection is increased.

15. Frasier & Armentrout, An Introduction to Education, Scott-Foresman, 1924, p.110.

"Whenever the normal state of a person is undisturbed, the nervous system acts according to inherited patterns, but when the life-processes are disturbed, the nervous system tends to make whatever changes there are in their repertory (readiness). If the results of such changes are satisfying (effect), the same changes are likely to be made again and again to meet the same or similar situations (exercise), until the changed reactions become automatic. They are then habits or attitudes, if consciousness is not essential to the reaction, or ideals and knowledge, if it is involved".16.

"Subject values and teaching methods must be tested in terms of the laws of learning and the application of knowledge to the activities of life, rather than primarily in terms of the demands of any subject as logically organized by science".17

The first object, then, will be to interest the student that he may have the proper mind set, or that according to the law of readiness he may be in an attentive attitude, ready to receive and respond to the lesson at hand. Having the proper attitude his responses function through effect. The new material is acted upon pleasantly or satisfyingly and learning takes place easily and readily. The next step, then, is exercise, and in preparation for the next lesson the teacher should employ the material presented, thereby through exercise

16. Cox, P.W. Curriculum Adjustment in the Secondary Schools, Lippincott, 1925, p.98.

17. Schmiat, G.A. Project and the Project Method in Agriculture, Century, 1926, p.19.

forming the proper habits.

In this chapter the writer has attempted to point out to the teacher the necessity of keeping up to date in his work and employing the newer methods. To successfully do this he must secure a willing attitude on the part of the patrons of his school.

He must accept some modern definition of education or formulate one as an aim toward which to work. In doing this he must not throw out bodily all former ideas but select the truths which have stood the test of trial and make use of them. Finally, he must know the modern trend in psychology and be able to make application of the laws of learning in his work that it may be more successful.

CHAPTER III.

METHODS IN TEACHING AND LESSON PLANNING

A teacher needs to realize the responsibility of his position. Outside of the home, his position is the most important. Considering his responsibility he must set to work to really accomplish something with those he is teaching. This cannot possibly be done through a hit or miss procedure, but the campaign of work for the year must be definitely planned with a certain set of objectives to be accomplished. If he does not accomplish his objectives he should feel that he has failed and set about to reorganize for the next campaign. "Method is simply a way of going to work to get something done. It is a systematic way of doing something and is just the opposite of random, hit or miss, trial and error ways of working."¹.

Considerable study has been made of teacher failures, and the results are very interesting. Of course a great many items play a part in this, but lack of method plays a very prominent part. Buell's field in a survey on teacher failures finds poor methods ranking third place as a cause with insufficient preparation, which is closely allied, ranking fifth. Miss Moses in her study finds poor instruction ranking first with twenty-one percent failing for this reason. From these studies it can readily be seen that properly worked-

1. Frasier & Armentrout, An Introduction to Education, Scott-Foresman, 1924, p.103.

out methods will take one a long way on the road to success. Every effort should be employed to properly organize the work that the student may obtain the greatest good possible from the subject taught. This can only be accomplished by first deciding definitely what of most worth is to be obtained from the pursuance of the subject at hand. Lessons should be so planned as to put the students in the foreground with the teacher merely as a guide. "The usefulness of the guide depends upon his ability to select worthwhile places or objects of interest and to describe and explain them in such a way as to bring out their true worth and significance."² "The road to knowledge is not always plain and easy. Children see no familiar landmarks and it is easy for them to get lost and become discouraged. Confidence in their teacher and his ability to bring them out all right in the end is their strong support."³

The only possible way for a person to hit the mark is to aim at it. His aim can be true only after continual practice, finding the mistakes and correcting them. The laws of learning and habit-forming apply as aptly to the teacher as to the students. Plans for teaching the race have been continually changing and will still continue to change. Each change is usually a step forward, discarding the false elements and applying new ones for trial, but re-

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2. Frasier & Armentrout, An Introduction to Education, Scott-Foresman, 1924, p.1.
 3. Colgrove, C.P. The Teacher and the School, Scribners, 1915, p.18.

taining those proven true.

Glenn Frank makes a very apt statement in an article entitled, "The Revolt Against Education."

"I know the battle that has waged around the problem of training the mind. But one thing is clear, and that is that we shall find no really conclusive answer to the educational dilemma growing out of the enormity and complexity of modern knowledge if we attempt to determine the future evolution of education mainly in terms of curriculum construction. Any such approach will inevitably drive us to a choice between superficial general knowledge and accurate specialized knowledge. We must look for the really creative development of education in methods of teaching rather than in the materials of teaching.

"Our classrooms will become more and more places in which students rather than teachers perform. The best teacher will be the one who says the least to his students. This means the virtual scrapping of the lecture system. Teaching is especially a formal process while learning is essentially an informal process. I suspect that the next great advance in education will be marked by an extensive informalizing of the teaching process."⁴

The teacher who thinks his principal duty is to stick to the text and continually bombard the students with questions,

4. Frank, Glenn, The revolt Against Education, Journal of Education, June 3, 1926.

requiring a definite and stilted answer will soon be no more. This does not mean that questions will not be used in the classroom, because a few well formulated questions will always be needed and form a part of the best method. The qualities of a good question are, "the amount of reflection it stimulates, its adaptation to the experiences and ability of the pupil, and to what extent it brings forth a complete, well rounded thought on the part of the pupil."⁵

"Today in the teaching of any subject a teacher who wishes to be progressive should always say to himself: 'My business is not to give a general mental training by means of my subject for that is not possible, but to give a specific mental training such as my subject affords. Especially, must I rely not so much upon the generalized mental habits my subject is mistakenly supposed to form by its discipline, as upon the conscious ideals of thought and conduct I am able to instill appropriately in relating my subject to life.'"⁶

Method is nothing more than a form of procedure; it is the manner in which the individual uses the material at his disposal to produce or attain some end. If there is no method there is no product; if a poor method, a poor product; and if a good method, a good product. From the standpoint of the scholar, method is a guide to the employment of various means, an instrument for dealing effectively

5. Frasier, Armentrout, An Introduction to Education, Scott-Foresman, 1924, p.126.
6. Schmitt, G.A. Project and the Project Method in Agriculture, Century, p.14.

with the materials of his problem. Methods must be flexible, they must serve as general guides, they must not be worshiped as idols, and they must be used as instruments. Method depends upon the subject matter and the intellectual maturity of the student.

In formulating the method for teaching a subject the teacher will naturally be bound by the text and supplementary material available in the school where he teaches. The teacher is also limited by his supervisors and must conform to certain limits prescribed by them. Nevertheless, he should formulate certain aims or objectives to be attained by the students studying the subject. In formulating these objectives he will need to employ great care lest unwittingly some objectives be set up which can only be justified by the old theory of transfer of training. The teacher should see to it that only such objectives are set up as he can reasonably expect to attain, also such that his class can see their value and will be willing to work to that end. Sometimes it is also advisable to allow the class to formulate certain aims of their own. This may often be better done in class for the particular lesson at hand than for the whole subject.

He must be perfectly frank with his classes.. He must set up his objectives and through discussion allow them to make their own. If certain knowledge must be learned by the classes simply to fulfill established requirements and

apparently have no other value, he should not attempt to camouflage this knowledge to be acquired under the already overworked transfer theory, but frankly state the reason why it must be learned.

The next step in method is a careful analysis of the text to be used. From the text to be used separate the material to be taught into its major divisions. Next, assign to each division the approximate number of weeks which will probably be devoted to it, taking into consideration the number of weeks allowed for regular advance work after deducting all holidays, time for reviews, texts, etc.

Using the major divisions, with time to be devoted to each, he can next separate each division into a definite number of units assigning each the approximate number of days to be devoted to each. This now gives a complete but very brief outline of the work to be covered in the prescribed subject. Since each unit is an integral part of the work it should be classified as a lesson. From this it is evident that usually more than one class period will be employed on a lesson, and as nearly as possible in the planning of each lesson the part of the lesson to be developed each day will be assigned on the plan.

The teacher must now employ a method in developing a workable lesson plan. The steps given in the Herbartian system have never been improved upon as a general procedure. Herbart gave five steps: preparation, presentation,

association, generalization and application. Association and generalization are so closely allied with the first two that in modern methods they are not used under their separate heads. If these are followed too rigorously they will hamper instruction. They should be merely used as a guide to the instructor.

The first step will be entitled preparation, for here the student is prepared for the coming lesson. This development the psychologist would term readiness or mind set. To properly prepare the student, his common knowledge must be revived and from this the new developed. The teacher must help to get him to want to learn, arouse his curiosity, and awaken interest in what is to be done. Here he can also present his specific objective for the lesson at hand. The lesson objective should be much more specific than those set up for the teaching of the subject but should have a direct bearing on them.

After the class is properly prepared and its attention and interest is obtained he naturally takes up the instruction of the pupils for the lesson at hand. This step is termed presentation. At this time the teacher brings in any new material needed for the lesson and through demonstration or some other method acquaints the class with it. Developing an understanding of the new, connecting it with the knowledge already at hand and also showing its relation to the accepted objective for this particular lesson, adds an

interest and willingness to learn if not a real desire to do so. In other words, we show the pupil what to do, how to begin, proceed and keep him at it.

Having now made everything ready for the acquiring of new knowledge by establishing the proper attitude, the teacher proceeds to assign the material for the lesson. The assignment is for the pupil that through its proper use he may attain the proper attitude, knowledge or skill in the work at hand. The pupils should have an attitude of working together, not only among themselves but with the teacher, and a 'we will' attitude must be developed rather than a 'you must' attitude.

Next the teacher must formulate some method of discovering whether his plan has been successful or not. He needs also to aid the group in properly summarizing each lesson. Scientific investigation shows that there is no appreciable difference in the value of a class formulating its own summary or a brief to-the-point summary by the teacher. So the method here employed would depend mainly upon the time element. Probably a short but inclusive quiz at the close of each lesson is the most valuable method of determining the success in presenting the lesson to the group. This should be used more as a check on his own shortcomings than the pupil's, for if he perfects his own method the results he aims at will be accomplished.

It is almost impossible for a teacher to work out a

complete set of lesson plans in each subject he will teach, but he can easily make out a brief outline and general objectives for each subject, classifying the subject matter into lessons and assigning the time for each lesson. He can also make complete lesson plans for each subject for the early days of the term. Thus, he will be launched on his way and success will the more surely follow. His plans will presently resolve themselves into a statement of his aims or objectives, a few large topics of subject matter and questions to be used to introduce them. He will bear in mind at all times that the question-answer method or topical discussion are very poor forms to use in developing a lesson, and that learning is an informal process.

No stilted form can be worked out that is satisfactory for lesson plans in all subjects and for all teachers. In fact the teacher should soon develop his own technique in the system he uses. But since one suggestion often leads on to better plans, a form will here be suggested which can be used for detailed plans or the brief skeleton-like form which must soon be used because time does not permit one to do otherwise.

First, the objectives to be attained must be formulated through the study of the particular subject. These should be carefully discussed with the class as a part of the first lesson. If the students in the class have something to add to these objectives or some changes to make it is well to

let them feel that their viewpoint also will be willingly accepted. In determining the objectives the teacher must first set before himself the major objectives of the schools as determined by someone who has made an exhaustive investigation in this field. Bobbitt's, "How to make a Curriculum" and Research Bulletin, Vol. 1, No. 5 of the N.E.A. are excellent examples.

Having chosen his objectives, the next step will be to make an outline of the subject. The teacher should first divide the work to be accomplished into the major topics. These are usually given in the table of contents of the text used. After each major topic assign to it a certain number of weeks for study. Next, divide each major topic into lessons, each lesson to form a complete unit of work. He should not feel that it is necessary for each lesson to constitute one day's work. Often it is advisable to occupy the time for two or three days with one lesson.

The outline of work in a subject should be somewhat in the following form:

AMERICAN HISTORY

Outline of Work

- | | |
|---|---------|
| 1. Establishment of the English | 2 weeks |
| Lesson 1. The New World | 3 days |
| Lesson 2. English Colonies | 4 days |
| Lesson 3. The Struggle with France
for North America | 3 days |

II. Separation of the Colonies from England 3 weeks

Lesson 4.

Lesson 5.

A few notes might be placed under each lesson but they should be very brief as they really belong in the lesson plan which follows.

After completing the outline of the subject the teacher must take up the making of the lesson plans. The lesson plan should be made very specific that he may attain it. It should be classified under one of the objectives which has been set up for this particular subject. These should be activity objectives rather than ideal objectives. If it should merely resolve itself into a development of skill or memory exercises to fulfill a graduation or college entrance requirement, frankly state it as such.

In general the lesson can be organized under the topics already mentioned as, Step I. Preparation; Step II, Presentation; Step III. Application, but sometimes it is necessary to combine some of the steps or change the order of them. The teacher should not hesitate to do this if it will obtain the results he wants. It is always advisable on the plan to note any schemes one intends to use in developing the lesson, such as reference material, illustration, dramatization, etc. Very often it is desirable to combine preparation, and presentation that old knowledge may the better be connected with the new.

LESSON PLAN.

Major Topic: Establishment of the English. 2 weeks

Lesson I. The New World. 3 days.

Objective: An appreciation of the labors and privations undergone to discover a new continent.

Step I. Here the class is prepared for the next lesson.

This is really a prerequisite to the assignment.

Knowledge already obtained by the class should be briefly summed up and the way paved for the use of the new material. (No new material, however, should be presented in this brief summation if the teacher wishes to separate Steps I & II.)

Step II. In this step bring in new material in such a way as to cause the group to see the value of it and be ready to work on it. How the objective can be accomplished is pointed out here. The material should be made interesting to the group forgetting personal interests.

Step III. Now is the time to make the assignment using the text, references and any other material available. Under this step the class also prepares themselves on the material assigned, acquiring knowledge and skills.

Step IV. Testing refers to class recitation, quizzes or any other method of determining their knowledge. The class recitations should serve as a guide to

the teacher in future lessons, checking as much on his ability as a teacher as on the knowledge of the student.

References: One may note here any material to be used by the class in their preparation of the lesson.

The measuring of one's success will come in the last step of the plan which is called testing. This is necessary for the teacher's growth and should be carefully planned. A more elaborate discussion of testing will be taken up later in the thesis.

The school is continually taking on new duties which formerly belonged to the home. Therefore, its work is becoming more and more important to each coming generation. As the teacher's duties increase he must adopt better and more exacting methods. This can only come through a carefully planned procedure.

The teacher should in each subject set up his major objectives for that subject and discuss them with his class. He must analyze the subject, dividing it into major divisions and then into units of work with an objective for each unit. At first he should work out a plan for each unit which may cover one or more days work as a lesson. He should in general follow the Herbartian system of teaching, dividing the lesson into preparation, presentation, application and testing.

Complete sets of lesson plans in all subjects are prac-

tically impossible but each text should be analyzed and divided down into units with the approximate time to be devoted to each, and objectives set up for each unit. Time would not be wasted to also make out lesson plans in each subject for at least the first week.

Success comes only after a period of careful, selective planning. Careful planning must necessarily result in method. It is advisable to write out the method in detail at first, later by notes, that one may always ponder over it and correct errors, that nothing important may be forgotten when the teacher is before the class.

CHAPTER IV.

THE ELIMINATION OF HOME STUDY THROUGH THE USE OF SUPERVISED STUDY IN THE SCHOOL.

Teaching or imparting knowledge is apparently very well done. This phase, however, makes very little change upon the individual supposed to receive it. The learning process is the weak part in the school system. The teachers are trained to disburse knowledge but ordinarily they are not trained to aid the student in the learning process.

This condition has long been recognized among the students of pedagogy and many schemes have been tried out with more or less success. Lessons have been assigned more or less briefly and understandingly and then the student has been left to himself to either succeed or fail, according to his labors and the methods of study he happens to use.

For quite a number of years various methods have been attempted to supervise a part of the study time of the student, but it was demanded of him that a large part of his study be done at home. Lessons supposed to be prepared at home were found to be poorly done, or entirely neglected. Various reasons are found for this condition. The physical conditions in most homes are not conducive to concentrated study. Then again, when the student becomes puzzled some member of the family or friend is present and attempts to assist him. The assistance is seldom in such form as to be of aid to the student even if it happens to be correct.

Therefore it was found advisable to reduce as much as possible the amount of home study required. This forced the school to care for more time for study. Since extra time is seldom available a more efficient plant must be used.

Of the various plans tried are to be found the study hall, the alternate period, the unassigned lesson, the study coach, the conference, the library-study-hall, the double period and the divided period, the latter being the most commonly used.

Each plan presupposes a teacher to guide the study of the student. In the majority of cases the teacher is found caring for too many students and the various students studying a number of different subjects, so he cannot possibly be efficient in his guidance.

Within the last few years the divided period has become very prominent and quite efficient. Within the state of Colorado this year, (1928) of the one hundred and seventy seven schools accredited by the State University, over seventy percent are using supervised study and practically all of them are employing the divided period. The length of the period ranges from forty-five minutes to three hours, with by far the majority employing the sixty minute period.

Supervised study is defined as the definite guidance of the learning efforts put forth by the pupil. To fulfill this definition it is found that supervised study included not only the study period but the assignment and re-

citation as well. However this must not be considered as a new method of teaching. It follows upon the method given in the preceding chapter simply by enlarging upon it and making it more efficient.

If this plan is efficient each teacher will have an opportunity to personally direct the study of each of his pupils each day, providing they need it. He must be particularly diligent, however, lest the bright, lazy pupil absorbs his time to the detriment of some needy individual who hesitates to ask for aid of him.

Many advantages result from properly conducted supervised study and these have been proved through years of experience. Some of these are the reduction of failures, elimination from school and the amount of home work required. It also aids the absentee in making up work missed and raises scholarship, besides creating more responsibility for the teacher. Provision is made for individual differences and more complete and definite assignments are required. It aids the student in the difficulty at the time it occurs and allows the teacher to observe the student's method of study. The criticism that it does not promote self-reliance may be justified where a teacher is willing to assist the pupils rather than direct them in doing their own tasks and becoming independent in their study and applying their knowledge to new situations.

The class period is usually divided into three sections:

the recitation, the assignment and the study period; however, the order is often varied although usually arranged as stated. This of course depends upon the subject taught, the teacher and the class. All three steps do not necessarily take place the same day, but will be found in each lesson.

That his work be the most efficient the teacher should see to it that he has all necessary materials at hand which the class will use during the period. He must also demand that the class come provided with their usual materials, as pencils, paper and texts and any other materials needed in that particular class.

He must understand the learning process and have at hand an economical method of study for his particular subject. He must handle the recitation in a brief concise way that will interest the class and not merely be a testing device. This part of the lesson should more nearly take the form of a group conference where the past lesson is discussed in the light of its objectives and new needs are brought up. This conference should be followed by establishing new objectives for the next assignment, and then the teacher merges the recitation into the study period by a carefully and definitely arranged assignment. At this time it is very opportune to offer any study helps to the group as a general guide to effective learning. All three parts of the lesson should become really a supervised learning

period. The teacher, however, must constantly be on guard that he does not talk too much and never should he allow less than half of the period for class study. Otherwise disciplinary difficulties may arise as the group will feel that the time for preparation is insufficient and not be inclined to commence work for that period.

If the recitation and assignment must include over half of the period, occasionally plan to use the whole period for it and later use a similar amount of time for study.

Supervised study should not be adopted at once in a whole system. First, through a series of conferences and study the teacher or teachers should be convinced that the plan is worthy of a trial. Then a plan of procedure or method should be worked out for the classes in which the trial is to be made. The next step will be the educating of the classes to the idea and showing them how they will profit by it.

Now the class should be ready to make application. It is necessary to lengthen the periods at first for the scientific teacher will do more in an ordinary period than the lesson-hearing teacher will do in the lengthened period.

All teachers recognize the waste of time and blind direction of energy or lack of energy in much pupil study. Here is the chance to properly direct his energies and show him how easily and how much more he can accomplish by using proper methods.

The recitation must deal with the subject matter assigned, but the teacher should introduce no new demands for which the pupils have not prepared. However, he should be sure to keep the recitation up with the assignment.

When the assignment is made he should insist that the students make notes on it in detail. Use the text-book and any other helps at hand. He must be sure that he assigns clear cut problems for the students to attack. He should give them a definite goal that they can attain in a reasonable time, with reasonable industry and effort. Also he should be sure that the pupil has clear cut directions of the best, most economical and effective means of attaining the goal. It is well also to set up definite standards for determining when the goal has been reached. An attempt should also be made to guide the pupil to an independence in setting up his goals.

If properly conducted the student should now be ready to continue his study. He must now be taught how to do his own tasks. The teacher's work is more exacting than classroom instruction and he is constantly tempted to tell rather than to instruct, to encourage dependence rather than to develop initiative. He must attempt to discover how his pupils really study and correct their bad habits.

"Emphasize the fundamental principles in the technic of learning:

1. Physical conditions (heat, light, ventilation)

2. Incentive to work rapidly and accurately.
3. Begin promptly.
4. Maintain sustained effort.
5. Concentrate under all circumstances.
6. Know first what the lesson in general is about.
7. Read as a whole before concentrating on various elements or details.
8. Review essential details and fit together in a scheme.
9. Emphasize practice of recall.
10. Assist in outlining.
11. Memorize ideas rather than facts.
12. Most economical use of references and collateral reading."¹

It is surprising the results one may obtain in a very short time with supervised study and the added interest gained on the part of the students. Almost immediately one begins to accomplish the advantages listed under the discussion of supervised study.

Teaching is by and large very well done but the learning process has often been a hit or miss proposition, with the students unguided. Study guidance is needed and this can only successfully be done by the teacher of the particular subject being studied. Home study has become a failure as there is no guidance and too many distractions.

1. Colvin, S.S. An Introduction to High School Teaching, MacMillan, 1919, p.373.

Individual differences must be considered, and under supervised study the teacher is able to help each student as he needs help. Using a part of the period for study has brought about a longer period than more study if not all might be done in the classroom. However, the old short period may profitably be used in this method.

The teacher must understand the learning process to successfully guide the students in learning. Much can be accomplished through the use of this plan, but the scheme should be adapted slowly to the system and only after the most careful preparation.

CHAPTER V.

THE DEVELOPMENT OF INDIVIDUAL INSTRUCTION AS A RESULT OF IMPROVED METHODS OF SUPERVISED STUDY.

Just as supervised study is an advanced and more efficient step in the method of teaching, while still maintaining the underlying principles, so individual instruction is just as surely the outgrowth of supervised study. It would very probably result in failure and disappointment for any teacher to attempt individual instruction before he and his students understood the principles or methods of supervised study and had worked them out successfully in the classroom.

A form of individual instruction was used in the schools previous to the time the grade system became popular, and individual instruction in a form is absolutely necessary in the rural schools containing a number of grades and one teacher. The reason this method has not been considered superior to others and maintained its place is likely due to lack of efficient methods in handling the problem. This would include methods, standard tests, ability of teachers, etc.

Many progressive teachers are rapidly employing individual instruction in its various forms in the schools and there seems to be no question that it is the coming form of instruction in the nation's schools. Therefore, one needs acquaintance with it and understanding of how he may prepare

to use it in the schools.

When the grade system came into vogue it stood as a panacea for all ills. Teachers knew at the time that there were individual differences but no one suspected the range among children of the same chronological age. The teacher of a grade was expected to do as much for one child in the group as another. The teacher today knows that this is impossible. He will have excessive retardation because of late entrance, irregular attendance, physical defects and mental defects. He will also have those accelerated because of more favorable conditions and then all conceivable levels between the two. As a result of the hopelessness of his task he will give special attention or neglect to some of these groups. It can be said, however, that usually he has given hours of his own time to the assistance of the retarded group.

Teachers are always concerned with the waste which comes from the pupils sitting around going nothing. With the ordinary class recitation, the teacher has repetition of the material learned in textbooks. Those already knowing it repeat it to the teacher or idly wait until he attempts to obtain it from the student who does not know it. In either case a large part of the group is doing nothing. He devotes too much time to the getting of facts and not enough to the use of facts and formation of working habits. In the new plan he aims to set up a condition under which

every pupil has a real job during the entire class. The teacher's job is simply the guiding, directing, encouraging and stimulating the student during his learning time.

Thorndike says, "The one thing that education theorists of today seem to place as the foremost duty of the schools - the development of powers and capacities - is the one thing that the schools or any other educational forces can do the least. The one thing they can do best is to establish those particular connections with ideas which we call knowledge and those particular connections with acts which we call habits." 1. With the introduction of class instruction came the impression that individual instruction was thereby included. However, class technic was mass teaching, the lock-step in education, and only the few profited thereby, many falling by the wayside. As soon as the inefficiency of the system became apparent many educators rebelled against the system, but with the lack of scientific knowledge their attempts at other methods were rather feeble against the mass system.

The progress from mass instruction to individual instruction has been very slow but it is now gaining very rapidly and with increased momentum.

One finds in the process of evolution the flexible assignment, adjustment of recitation devices and assignments,

1. Thorndike, E.L. Educational Psychology, Vol. III, Columbia Press, 1923, p.315.

homogeneous grouping by class within the class, differentiated instruction, diagnostic testing, remedial teaching and supervised study. Each scheme has its place in the schools.

Although the grade system is not over fifty years old, there has been a tendency for the last forty years to return to the individual process of teaching. Search of Pueblo, Colorado, individualized the Pueblo schools as early as 1888. Burk of the San Francisco Normal protested against the lock-step system early in this century and individualized the training school of the San Francisco Normal. Miss Helen Parkhurst originated the Dalton Plan of Individual Instruction or the Contract System about 1911, and C. Washburn, a student of Burk, has further perfected the individual instruction plan in the grade schools of Winnetka, Illinois. The fundamental principle of all of these systems is individual instruction and all have done good work considering the material with which they had to work.

The last two systems have been the most successful because of the modern methods. The use of standardized tests and better text books have aided materially. Among the advantages claimed for the individual instruction method are:

- "1. The slow student may progress at his own rate, is more thorough and not so easily discouraged.
2. It focuses attention on the mastery of the subject matter.
3. It concentrates his attention on his own individual achievement.

4. Discourages loafing on the part of the bright pupil,
5. Permits a personal contact between the pupil and teacher.
6. It exercises individual initiative.
7. It reduces retardation and prevents elimination of student from school."²

The criticism that it pushes the superior student through school too rapidly is not justified. It enriches his schooling but few more complete school in less time than they were allowed under the older systems. The average student travels at approximately his ordinary rate and although the slow student consumes more time in completing his schooling he feels no stigma on him for it and is more likely to complete his schooling.

The two schemes most successful today are not opposed to each other and many systems in adapting themselves to individual instruction are using a part of both schemes.

The Dalton Laboratory Plan was primarily a high school plan. The work to be accomplished in each subject is broken up into monthly assignments, called contracts. These are printed or mimeographed with specific instructions and each pupil is given a contract in each subject. The morning session is entirely laboratory work. The student, on arriving at school, goes to the laboratory of the subject he wishes

2. Douglas, H.R. Modern Methods in High School Teaching, Houghton, Mifflin, 1926, p.493.

to study. Here he works by himself or with the aid of students or teacher until he decided he prefers to pursue another subject. He is free to pass to any laboratory at any time. He may progress as rapidly as he wishes in any subject, but if one is completed before the month is up he spends the remainder of his time on the others until all are completed, then he receives a new set of contracts.

The teacher's part in the system is to preserve an atmosphere of study in his laboratory, explain any detail of the assignment not understood by any student, give information in regard to the use of laboratory equipment, suggest methods of attacking particular problems and when need arises to give full explanation.

At the close of the morning session there is a general assembly where all students are brought together and have group contacts which unify the school.

In the afternoon classes are held for general discussion in the various subjects but not for a recitation.

Under this plan the student works by himself at his own rate and at the subject which at the moment appeals to him. He is freer than under the old system and sees his job as a whole. He avoids useless repetition as found in classroom recitation and is promoted when the work is completed. He does more and better work. The teacher is more profitably occupied and teaches as necessity arises and is the more able to locate difficulties.

The basic principles of the Winnetka technic which deals with an elementary school are:

- "1. A clear definition of the essential fundamental subjects in terms of units of achievement (goals).
2. Self-instructive, self-corrective materials in these subjects.
3. Diagnostic tests to measure achievement.
4. Individual subject promotion, within certain limits on the basis of achievement in the fundamental subjects.
5. Large emphasis on group and creative activities during certain periods of the day.

"The work is divided into two groups called 'common essentials' and 'group creative activities'.

"The common essentials are those knowledges and skills used by nearly everybody, a certain speed and accuracy in arithmetic, the ability to use the common forms of punctuation and capitalization correctly, the ability to write legibly and with reasonable speed, the ability to read with a certain degree of speed and comprehension, the ability to spell correctly the most commonly used words, information concerning commonly known persons, places and events, and ability to discuss intelligently the outstanding civic, social and industrial problems confronting the American people.

"The group creative activities are appreciation of literature, music, art, playground activities, assemblies, hand-

work, projects, dramatizations, discussions, etc.

"Progress in the common essentials is strictly individual. Practice materials are written up as carefully as if they were to be used for a series of correspondence lessons. Practice books are self-corrective. Daily work is not marked except by the pupil. Tests are corrected by the teacher and the student's record of progress depends on these."³

Washburn suggests that in attempting individual instruction one should commence with mathematics or language as these adapt themselves to this form more readily than some of the other subjects. One danger will be the tendency to assign too much work for the student under each contract, goal or objective. Care must be used and adjustment made if need be that the teacher does not discourage the students. Each student should have material at hand to enable him to check himself up that he may know when he has command of the unit of work. Diagnostic tests must be arranged to determine any weakness and then drills assigned on these points. After a thorough drill the student takes a comprehensive test over the unit of work. This must be passed with nearly a perfect score showing absolute command of the subject before the student is allowed to proceed to the next unit of work.

In establishing individual instruction in a system it will only be used in a few subjects at first. Most of the

3. Washburn, Vogel, Gray, A Survey of the Winnetka Public Schools, Public School Publishing Co., 1926, p.4.

work will be done during the class period in the classroom for a laboratory. Occasionally the teacher will hold a class meeting for special reports, discussions, problems of special interest to the whole group. There is no better way of having every pupil working to nearly his capacity than through individual instruction. It will be well also at intervals to check the students by standardized tests to be sure the class is up to standard.

The majority of text books are not written to be used under the individual instruction method. However, they can be adapted to its use and supplementary material is easily available. There are a number of books of this nature appearing and the exercise pamphlets in mathematics, English, literature and history adapt themselves readily to this work.

Any teacher can do some experimental work in individual instruction and will find that its careful use will give him a better and broader view of education and liven up the interest in his class group. He will have to teach without the use of the daily recitation, using it only at intervals instead of daily, and when used it does not result in a period of testing but class discussion to further the class work and lead on to the following lessons.

Individual instruction is the natural outgrowth of supervised study. Individual instruction was used in our early schools but discarded later for the grade system. Supervised study, however, is bringing it back again and with scientific

methods of teaching it is accomplishing its function successfully. The older schemes failed largely for lack of scientific methods.

The Dalton and Winnetka plans are the outstanding ones, although the method is gaining ground rapidly all over the nation. Schools adopting this plan should move to it slowly, only using it in a few subjects to begin with and then only after the teachers are thoroughly acquainted with the plan and understand its use.

Individual instruction is serving a great need in the rural schools. Here subjects are grouped and all grades often prepare the same subject at the same time with the teacher every ready to assist those needing it. This greatly reduces the number of classes necessary and permits better instruction and allows more time for group activities.

The chief advantages claimed for the individual method are:

1. Each student progresses at his own rate.
2. He must master the subject before leaving it.
3. It discourages loafing on the part of the bright students.
4. It exercises individual initiative.
5. It aids in keeping the slow students in school.

The "Twenty-fourth Yearbook of the Society for the Study of Education" gives a very good plan for individual instruction in a rural school.

CHAPTER VI.

THE ADVANTAGE OF USING OBJECTIVE TESTS IN MEASURING STUDENT ACHIEVEMENT.

Examinations are almost, if not quite, as old as formal education itself. Methods in education evolve slowly and the improvements in examination methods have lagged far behind the improvement in teaching methods. The examination is established as an integral part of our educational practices. It was the earliest and is still the most widely used method of determining educational results.

The formal examination was never seriously questioned until recently, and mainly because there was no direct means of measuring its reliability. However, since it has been proved often unreliable and the scoring of it still more unreliable many complaints are raised against it.

Progressive teachers of today are not attempting to do away with it entirely as many attempted to do a few years ago. They realize its value and believe it will always hold a definite place in education. However, they do believe that the essay type of examination, although sometimes necessary, can very largely be replaced by the so-called 'new type examination'. This examination is defined as those tests or exercises which may be objectively scored and which require little writing on the part of those being tested.

Testing or examining is necessary for a number of reasons. It is often an incentive to learning and when wisely adminis-

tered leads the student away from formal memorization of the text to general learning. It is employed for general diagnosis of achievement. The teacher relies largely upon it for obtaining records of work done and defending the records made for the student's work. That the grading of the examinations is unreliable he knows, but with the aid of daily classroom grades it is the best measure he has. Standardized tests are devised to be accurately scored but their use is limited and they cannot replace the written examination. To properly improve the method of measuring pupil performance the teacher must be trained in the scientific method of constructing his own examinations. Standings, marks, grades and estimates are demanded by the world, from administrators and teachers. Therefore he finds that examinations are necessary. Educational and vocational guidance which are becoming prominent factors in the schools also require an accurate estimate of one's past achievements.

Some have claimed that the two types of examinations do not measure the same functions and because of this the examinations have been subject to much investigation. Patterson¹ states that the two types do test the same functions if properly constructed but the new type gives a much higher correlation.

Among the many commonly employed means of measurement

1. Patterson, D.G. "Do New and Old Type Examinations measure Different Functions?" School & Society, Aug. 21, 1926, p. 246

of the old type are found:

1. The daily oral-recitation grade.
2. Written papers and note books.
3. Oral and written examinations.
4. Announced and unannounced quizzes.

The grades from these are generally more accurate than teachers have in the last few years been led to believe. Especially is it so when the instructor is careful to see that the content agrees as closely as possible with the recognized objectives of the work covered.

The various questions must be evaluated or weighed for emphasis, more important information, skills and ideals. Teachers must be particularly careful in scoring. The marking is highly subjective, therefore it is well to mark the same answer on all of the papers before proceeding to the next answer. The examinations need to be much longer than usual that they may cover the work well.

Among the commonly employed means of measurement of the new type are found:

1. True-False or Yes & No.
2. Completion.
3. Best Answer or Recognition.
4. Matching.
5. Identification or Multiple Choice.

With this type usually each answer is valued equal to every other answer, and carries a weight of one point. The

scoring is objective, usually keyed, which makes it very simple and impartial. It is a great time saver for both student and teacher. It is more comprehensive since a far greater number of exercises may be employed in less time. However they cannot be employed entirely in some subjects such as mathematics, history and literature, but may be used in part and greatly reduce the teacher's work as well as aid in a more complete evaluation of the student's accomplishment.

When the teacher has scored the examination, this score is usually allowed to also stand for the grade the student made in terms of percent. However, this is not the student's true grade. It simply shows the percent of the particular examination which the student has completed in a satisfactory manner. The same is true regarding the new type examinations. However, here one does not find the temptation to use the score for the grade since the score, if perfect, seldom would be just one hundred. To score the true-false test if the student is told not to guess when he does not know, the score is the total number correct. If told to guess the score is the total number correct minus the number incorrect. The score for the completion test is the number of correct responses. For the best answer score the various answers are evaluated as one, one-half etc. and the total made is the score. The matching test score is again the total correct. The multiple response or identification test depends on the

test. If told not to guess the score is the total correct. If told to guess when there are three choices, the score is the number correct minus one-third those wrong and for five choices, the number correct minus one-fourth those wrong. However, in all of these tests the correlation is a trifle higher when instructed not to guess.

After scoring the examinations the next duty is to translate these scores into student grades. This will depend upon the point system used in the school and the distribution curve used. The same curve should be used by the whole system. Where the three point system is used one often finds this distribution of grades, 16%-A; 68%-B and 16%-C. However, the five point system is the more common and the following distributions are found: 7%-A; 24%-B; 38%-C; 24%-D and 7%-F also 3%-A; 22%-B; 50%-C; 22%-D and 3%-F. Suppose a teacher had twenty-five students taking the examination. He would arrange their scores in order of their value, then group them according to the distribution curve followed. Should he use the second one since each grade of the twenty-five would equal four parts on a one hundred basis, there should be two A's; six B's; nine C's; six D's and two F's. However, he should not make this rule hard and fast. He must use judgment in applying it. If three students had made the highest score he should give them all A's and reduce the number of some other grade given.

Any teacher who is willing to take the time to think out the material in his subject can make good new type examinations and also can improve upon his use of the regular examination. Because of the speed with which the new type tests can be used in class they become very valuable as pre-tests or diagnostic tests aiding greatly in checking up the weak spots in a lesson and enabling the teacher to correct the faults.

Hopkins gives a set of rules for the construction and administration of examinations in general:²

1. State the questions in positive, clear, direct English. Use no statements likely to cause misrepresentation. State so all will interpret the same way.
2. Cover the entire range of the unit selected for measurement to give a wide sampling of pupil knowledge.
3. Questions should test pupil achievement in content of course, not general knowledge.
4. Use no leading questions.
5. Use no trick or catch questions.
6. The test should be simple that the poorest may answer some of the questions and so difficult that the best will not make a perfect score.

2. Hopkins, L.T. "The Construction and Use of Objective Examinations", University of Colorado Bulletin, 1926, p. 5.

7. The relative proportion of fact and reasoning questions should be the same.
8. Questions should not, as a general rule, be arranged according to sequence of topics in the course.
9. Negative statements should be avoided.
10. Sentence and paragraphs should not be copied from the text as this places a premium on mere verbal memory.
11. Give the student definite instructions regarding the examinations and the scoring.

The true-false test is one which enables the teacher to test over much material very thoroughly in a short time. As many as fifty statements may be tested in a ten-minute test. The correlation between scores and knowledge is relatively high. In making this test it is advisable first to write out the number of statements needed to cover the work. Not less than fifty should be used. Then change about half of the statements making them false. Sweeping generalizations should be avoided. Qualifying words, clauses or phrases should be avoided. Statements which can only be interpreted one way should be used. The order of true and false should be arranged by chance allowing no mathematical sequences. Each student should have a copy of the test. Specific directions should be given and it is best to instruct the pupil not to guess. The best form has the words

"true-false" preceding each statement and the student is directed to underline the correct word depending on the statement. If each student cannot have a printed or mimeographed copy of the examination the next best is to have them place on blank paper, numbers corresponding to the number of questions in the test. The statements then read to the class, giving time to understand each one and advise them to place after the corresponding number a plus or a minus sign depending on whether the statement is true or false. If they do not know, leave the space blank.

The completion test has, if anything, a higher correlation than the preceding test. Fifty blanks make a good test and can be completed in twenty minutes. As in the preceding test it is advisable to first write out the statements covering the material to be tested. Then the teacher must omit the words which represent important facts or relationships. Enough of the sentence must be left to indicate the fact or relationship. It is best to leave a blank for only one word. Statements should be worded so that only the word wanted will complete them. The omissions should be such that the number of possible correct answers will be very small. Arrange the statements in the ascending order of their difficulty. This test does not give very satisfactory results by reading it to the class. If it cannot be printed or mimeographed write it on the black board.

The best answer type of test is often used and found

very satisfactory. It enables one to better determine the reasoning of many of the students. In forming this test a number of statements are made. The completing phrase is dropped below the statement and usually three other completing phrases are used which are more or less true. The student checks the one he considers the best. Each answer carries a different value for scoring. No proposed answer should be obviously incorrect but should include erroneous answers which pupils are inclined to give. This is also best printed but may be written on the black board for the class.

The matching test is made by forming two columns of words or statements so that for each word or statement in the first column there is a related word or statement in the second. These related words or statements may be connected by straight lines or one group may be numbered with the request that related words or statements be given the same numbers. This test is often given by using authors in one column and their writings in the other, or in history, men in one column and events in the other. Scoring is done by allowing one point for each correct response.

The identification or multiple choice has a fairly high correlation and is often used in practically all subjects. About fifty items in the three response type may be completed in twenty minutes and in the five response type in about thirty minutes. Statements are worked out as in the best answer test except that only one answer is correct, all others

being wrong, but not obviously so. The correct answer should not be placed in the same position in each statement and the statements should be arranged in the ascending order of difficulty.

Examination methods have not improved as rapidly as methods in teaching. This is true principally because until recently there were no means of measuring their reliability. They do have a definite place in education and are necessary as an incentive to students, to promote general learning and for the necessary records.

The newer type of examinations called the objective tests usually fall into the following types: true-false, completion, best answer, matching and multiple choice. These are more easily scored and being objective the scores are usually more reliable. The scores, however, must not be used as grades, but must be translated into grades following the distribution curve used in the school.

Any careful teacher can construct his own tests by following a few general rules. Because of the speed with which he may test over considerable material the new type tests also are very valuable as pre-tests. However, one should not entirely neglect the old essay type examination, for it still serves an important place in most testing programs which the new type cannot entirely usurp.

CHAPTER VII.

CONCLUSION.

The first few years of a child's life, before he enters the primary school, is lived in a largely natural way. His time is taken up principally in play and sleep. His activities are largely governed by his surroundings but he is free to follow the activity in which he is most interested at the time. He is only curbed by the parent who guides him lest harm befall him. As he begins to play with others he learns that other interests must be considered. In fact, he is obtaining a real education in life's activities through participation, the only real way of learning. His work in kindergarten follows out largely the same plan and he thoroughly enjoys his participation in it and makes progress rapidly.

When he enters the regular school he may be soon discouraged and dissatisfied. He feels hemmed in and is required to do many things in a distasteful way. Absolute quiet must prevail and he must react in strange ways to definite inquiries. It is all unnatural to him and he often hates it. His teacher keeps him there and imposes tasks upon him so he naturally dislikes her. His reaction is natural, therefore attempts have been made to find a more satisfactory way of educating the youth. Some systems under certain teachers have apparently succeeded but as soon as tried by someone else they have failed. Pedagogues have flocked to each

new method as a panacea for all ills and in a few years it has been discarded as worthless and some new method has been accepted.

As we look back over the wreckage of years and attempt to analyze each new method, we find certain truths prevail. Often these facts are garbed in new clothes until they are scarcely recognizable. Nevertheless they are there. So we must recognize the fact that certain fundamentals will always prevail and our efficiency in educating the youth will depend upon the use we make of them. Our psychology and sociology do not develop new truths but merely explain the old and show us better how to employ them.

Thus, the old "blab schools" employed the principle of repetition for fixing a fact in the mind of a student. The "dame school" undoubtedly employed individual instruction and later our rural schools employed supervised study. The "hickory stick" was used as an incentive to study as is athletics and other privileges today. The schools are doing the same things now but with the belief that it is in a more efficient way.

Ideas and ideals naturally change as a new viewpoint is attained. What is best today is looked upon in a different light tomorrow. Those who do not change must drop out of the general scheme. Progress must be made by each individual to merely hold his own place today. Educational ideas must change as rapidly as other things or the system

be counted out as sadly deficient. Modern youth cannot be expected to be properly educated in yesterday's schools, with yesterday's system and teachers.

Faculty psychology and transfer of training only a few years ago were the panacea for all ills. Only yesterday were they shelved as useless, with no truth in them. Today, however, psychologists and educators have tested them and found some truths among the chaff. These are being reclaimed by scientific means and much good is being found in their use. Teachers now train specific faculties, not general faculties. Also they train for definite transfer under specific conditions, not general transfer, and find the results much improved. Through psychology teachers employ the laws of learning, understand the rate of learning, and fatigue, and realize the need for certain periods of rest.

Under the conditions of modern civilization less time is available in the home for the education of youth. The church also has relinquished much of its influence and if youth is to have the education it needs the school must take over the extra duties. True, there are other agencies as the Boy Scouts, Camp Fire Girls, clubs, etc., each doing an enviable piece of work but only the public school contacts with all youth. The pre-school is being established to relieve the home of the child's care earlier in its life and the college and university is each year caring for more of the youth of the nation. The obligations of the schools to

youth are monumental in size and only through efficient methods can they even approach the work they are supposed to accomplish. Competition in all lines is becoming more keen. The field of knowledge the youth needs is materially broader than in the past. The school without efficient method is bound to fail.

The first step in method must necessarily be the setting up of objectives for general education. The job is too large for any one individual. He had best take those as determined by the investigation of some accepted authority. With these in mind the teacher is able to wisely set up objectives for his particular subject. His work will be successful only as he lays out specific plans in each subject he teaches.

A psychological procedure for learning should be worked out that may be followed for each unit or lesson. The class must be prepared for the work to come, an apperceptive base established and new material gradually brought before the group and explained. A desire for more knowledge is developed in the group as the assignment is given and after learning has taken place testing is resorted to that the teacher may test his success in accomplishing his aims or objectives.

With increased efficiency on the part of the teacher in conducting his class the time devoted to preparation by the teacher, as such, decreases and more time is allowed

for class preparation. The time devoted to home study diminishes, for with increased efficiency more learning is accomplished in the class period than was ever done in the time spent in home study.

Supervised study has gradually crept into the one and two-teacher rural schools because of necessity, for the teacher otherwise had too much to do and the extremely short recitations were of little value. The efficiency of the supervised study system soon became evident. Whole states worked out supervised study programs for their rural teachers and increased standards have resulted. Wyoming is an outstanding example of this method.

The students become more efficient in their study methods, the teacher needs devote very little time to preparation so this part of the period becomes a general discussion period wherein a much broader view of the subject may be attained.

Individual differences still appear and even with this superior method much time and effort is wasted with certain individuals. Some still are loafers. Some could advance much more rapidly than the group while others need to spend much more time on the subject. These things should be taken into account and remedied if possible. The school's problem is always to train for efficiency. Subjects should not merely be passed with a seventy-five percent knowledge of them but with a ninety percent or a one hundred percent

knowledge. This is not possible with mass instruction without an excessive waste of time. The individual method is the only possible way of accomplishing it.

Many have attempted the individual method in education. The old rural schools were forced to this method and their product is not to be despised. Early attempts in the large school systems failed, principally because there was no scientific way of checking results, and the recording systems were inadequate. Later trials succeeded and some schools are outstanding for their work in this field. Teachers to succeed must be well grounded in the psychology of method and supervised study and sold to the idea of the importance of individual instruction in the education of youth. Mathematics and foreign language adapt themselves the best to this method and should be used in the first effort.

Each year the youth is becoming more self-reliant and should also be in school. He should have more freedom to study what he is interested in when he is interested in it. He will then not so feel the artificiality of the school and rebel against it. He will feel that he is working out his own problem, thus making his school real to him. The slow student will not feel that he is lagging behind the others. His natural pace is slower than theirs but he is doing his part as much as is the rapid worker. Therefore he sticks to his job and completes his schooling. The bright pupil completes his work more rapidly and goes on

to something else or enriches his knowledge of the present work in the regular high school course and in either way profits by it. The school becomes a more enjoyable part of the youth's life as does athletics, movies, and church, and he lives it as such.

As the education becomes more efficient the teachers also need better methods of determining student achievement. Under present standards we know that the essay type examination is a slow, laborious process for the student to exhibit his knowledge and for the teacher to rate it. As the regular work speeds up, the testing must also speed up. Objective tests allow a testing over more work in less time. As the recitation is gradually eliminated from the class hour, pre-tests may be given more frequently, consuming only a few minutes, for we still require the unreliable record by which to judge the student.

In reviewing the school of the past, much progress has been made in this region (Colorado). Schools in all degrees of evolution are in evidence. The last three years has seen the raising of the standards of teachers, better knowledge and new methods of teaching. Of the secondary schools of the state a large majority are meeting the state and North-Central Association standards and most of them have adopted some form of supervised study. One who visits practically all the schools in the state sees a marked trend in the schools of a progress from supervised study to the

individual instruction plan with an increased use of standard and objective tests.

What the next method for improvement will be cannot be told at present. However, the plan of education will progress that it may maintain its enviable position in the scheme of civilization.

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