HOW TO TEACH HANDWRITING

A Teacher's Manual

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PREFACE

Two mistakes of an opposite nature have been made in teaching writing. The first mistake is to expect writing to grow up incidentally without giving the child any specific training in the writing act. The child can learn after a fashion to write with little or no special training, but the quality of his writing is much better when he has had suitable training.

The second mistake is to suppose that teaching writing is some strange mysterious process which can be mastered only by special teachers who have had a large amount of technical training. Writing is no more difficult to teach than the other subjects in the school. Writing is badly taught by the grade teacher, when she attempts to teach it, simply because she has had no training at all in preparation for teaching it.

Writing can be taught by the grade teacher and there are strong reasons why it should so be taught. Writing is an activity which the child performs in much of his school work besides his writing lesson. It is necessary that all the writing be done properly, and it is the grade teacher who must see that it is properly done. When the grade teacher teaches writing, she will feel responsible for the quality of all the child's written work — otherwise not.

If the grade teacher teaches writing, she must have the necessary equipment. This equipment is of two sorts, pedagogical and technical. The teacher must know the principles which govern the process of learning to write and must have a grasp of the methods which grow out of these principles. This is the pedagogical equipment. In addition to this the teacher must have a certain amount of skill in writing in order to be able to teach it. This is her technical equipment.

The importance of the teacher's pedagogical equipment has been grossly underestimated and it has been almost totally neglected. The importance of technical equipment has been commonly overestimated, but nevertheless it has commonly been neglected also. In the small number of cases in which teachers have been trained, the emphasis has been almost wholly on the development of skill in writing.

The aim of this manual is to enable the teacher to get the pedagogical equipment she needs and to furnish the detailed exercises for her use together with such explanation as will enable her to use them intelligently.

The teacher will need to spend time in the preparation of each lesson, particularly in the beginning. This preparation should include a study of the directions, and practice in writing the exercises. It is necessary that the teacher should *show* the class how to write the exercises by writing them on the board. To do this properly the teacher must have a reasonable amount of technical skill and a thorough knowledge of the timing, and all other details, of each exercise.

In the first part of the manual the chief pedagogical and psychological principles which govern the learning process in writing are presented in concise and simple form. This discussion is based in part upon experimental studies of writing, particularly the studies made in the laboratory of the University of Chicago by motion-picture photography and allied methods, and described in the monograph entitled *The Handwriting Movement*, by F. N. Freeman, Supplementary Educational Monograph, Department of Education. In this study, the writing movement of a large number of good and poor writers was photographed and analyzed. From this study of actual cases the characteristics of good writing were determined as described in the first part of this manual.

As the result of this study certain broad principles have emerged as being the most important, and these are made the foundation of the present method of teaching. Among the most important of these is correct position, a fluent and easy sideward movement of the hand across the page, and the proper organization of the movement with reference to time, which we may call the rhythm of the writing. The principle which was found not to deserve the emphasis which has been given it in recent years in American penmanship is the arm movement in forming the letters. This is distinctly subordinate in importance to the other principles which have been mentioned.

In addition to these principles, which are derived directly from the experiments on writing, certain principles of effective practice in the development of skill of movement are applied. Among these is the need of sufficient repetition of a specific act, with the attention concentrated upon its improvement. Another principle is the distribution of these repetitions throughout several periods. A third is consistency, which is accomplished in writing by the correlation of penmanship with other subjects of study. This is emphasized throughout the course.

The manual also makes use of the results of widespread surveys of writing in the public schools, and discusses in a systematic but concise way the pedagogical principles which govern the teaching of the subject.

In the second part of the manual the general principles which are

laid down in the first part are applied in a full series of exercises for the first six grades. These exercises are described and illustrated in sufficient detail to be taught from the manual. The exercises are arranged in the form of daily lessons.

A prominent feature of the exercises is their organization into a definite sequence, based on certain clearly defined principles. The principles govern the order in which the letters are practiced, the choice of words, the speed at which the writing is done, the characteristics on which attention is focused, etc. In general, only those letters and words are used in the exercises which have been previously practiced.

A distinctive characteristic of the course is the emphasis which is laid on the adoption of a special set of aims for each grade. This is necessary in order to adapt the work to the capacity of the pupils at different stages of maturity, and in order to build progressively on what has gone before. It is also necessary to provide fresh stimulus and interest to the pupils in a subject which otherwise merely repeats monotonously the same exercises year after year.

The course assumes that the mass of pupils can learn to write in the six years of the coming elementary school. This is done, can be done, and must be done if the teachers of writing are to escape the imputation of gross inefficiency.

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HOW TO TEACH HANDWRITING

PART I

INTRODUCTION — GENERAL PRINCIPLES OF INSTRUCTION IN WRITING

CHAPTER I

THE PLACE OF WRITING IN THE CURRICULUM

The Uses of Handwriting

Writing is important, first, as an instrument in school work. It is of value as a means of keeping a record of the information which the pupil has gained or the judgments which he has formed. It counteracts the forgetfulness which makes us lose the information or ideas which we have once had. The habit of taking notes and of summarizing what is read is a means both to the better recollection of what has been studied and to its preservation in completed form for future reference. To this type of record should be added the record of the results of experimental work.

Writing is useful, in the second place, as a means of organizing thought and making it definite. Francis Bacon referred to this value when he said, "Writing maketh an exact man." One may speak in an indefinite and hazy way and the indefiniteness may not be so clearly noticed as when his thoughts are represented in writing. Writing helps the organization of thought by enabling one to have before him at the same time the different points which he is endeavoring to present. Without the help of writing it is difficult to keep in mind the different aspects of a subject. These two uses appear in the subject of written composition.

The pupil writes compositions in the school largely because the teacher recognizes this as an excellent means of clarifying his thought. This can be done most effectively when the pupil is in the mental situation of addressing an audience.

The most frequent use of writing for communication with others is correspondence, which takes the form of personal or business correspondence. This is one of the earliest and most continuous uses of handwriting and constitutes the best single ultimate motive of universal application. Of a somewhat similar kind is the preparation of written work which is to be handed in to the teacher.

The conservation of the results of experience in records which are

systematically kept and filed in such form as to be readily accessible is one of the most important kinds of technique which the pupil can learn. As the student advances in his school work he will also find it necessary to take notes of spoken lectures. The facility with which he can do this will greatly influence the amount which he is able to gain from such lectures.

In all these cases the degree of the usefulness of the writing will depend very largely upon the ease and fluency with which the pupil can write, as well as upon the legibility of the written record. There is no question that the efficiency of a student is influenced very considerably by the facility with which he can write.

The value of writing to the adult may also be divided into the two aspects of keeping records, and of expressing thoughts to others in correspondence. If the adult has not a thoroughly good mastery of the art of writing, he will avoid the use of writing in keeping records or in correspondence, and when he does write, the difficulty of the process will cause loss of time and the distraction of attention from the thought which he desires to express. Furthermore, the poor quality of the result will make the record difficult to interpret, or will produce an unfavorable reaction in the reader.

When we come to the vocational use of writing, we find it to vary all the way from the infrequent incidental use, such as that to which it is put by the carpenter who keeps a record of his orders and his job, to that of the addressor whose sole business is to write. The vocational use of writing is, of course, being greatly reduced by the typewriter, but there are still numberless commercial employees who use it very frequently. An example of the intermediate use is to be found in the case of the store clerk who is required to make a record of his sales. In this case the ease and legibility of the writing is an important element in individual efficiency. It is not necessary to go into detail to recount the frequency with which writing is required in commercial life. It is an evidence of its importance that it is emphasized in the training of commercial students which is given in commercial courses or in commercial schools. We shall find when we discuss the standards of writing that it is necessary to distinguish between the standards which are desirable for everybody and those which should be set up for the student who is to prepare for a vocation of a commercial type.

Writing Standards — Final Standards

We may distinguish two types of standards in a school subject which is taught throughout the grades. In the first place, we have to consider the standard which the pupil should reach at the end of his school career. In the second place, we should consider the standard which he should attain at each stage in his progress

toward the final goal. We may consider, first, the final standard.

The final standard in writing has to be determined on the basis of two sets of facts. First, we should consider the demand for writing in the life in the school or in after life, and, second, we should consider the ability of the child and the amount of time and effort which it is necessary to spend in order to reach a given standard. So far as the demand is concerned, we need concern ourselves only with the demands of after life. The demands of the school are not greater than these. We may consider, first, the demands of life upon writing, and, second, the ability of the pupils as shown in surveys of their writing ability.

Some investigation has been made of the demand both of vocational life and of common life upon instruction in writing. A questionnaire [1] sent to fourteen commercial firms in Chicago, which included correspondence schools, department stores, mail-order houses, packing companies, etc., indicated that the writing should be at least as good in form as score 60 on the Ayres Scale. Four of the fourteen demanded a score of from 70 to 90. When asked whether a quality of writing better than that which was considered essential was desirable, all the firms answered in the affirmative. The desirable quality ranged from 70 to 90, eight of the firms specifying the highest quality on the Ayres Scale. In regard to speed, eleven of the fourteen indicated that it was important. One only answered that it was not; two replied that it was moderately important.

The number of employees represented by these firms was seventeen hundred, and the answers may be taken as fairly representative of those firms which employ clerical help. We may summarize the returns by saying that the writing should be at least as good as 60, and that better writing is desirable. With reference to speed the writing should be fluent.

In another study [2] the writing of over a thousand adults was scored in order to find the quality of the writing which adults find necessary or desirable to maintain. The occupations which were represented numbered thirty-four, and may be taken as fairly representative. Among those persons who used writing mainly for correspondence the average of the various groups was somewhat below 60 on the Ayres Scale. Among those who made particular use of writing in their vocation, such as addressors and accountants, the average ranged about 70. The conclusion arrived at in this study

[1] Frank N. Freeman, "Minimum Essentials in Handwriting." *Fourteenth Yearbook of the National Society for the Study of Education*, pp. 72, 73.

[2] L. V. Koos, "The Determination of Ultimate Standards of Quality in Handwriting for the Public Schools," *Elem. Sch. Jour.* 1918, XVIII, 423–46.

was that 60 is an adequate standard for those who use writing for correspondence and other general uses, and that 70 is an adequate standard for those for whom writing is an important function in their vocation.

We have next to consider what standards the child is capable of reaching with an ordinary amount of training. A survey of the writing from schools in over fifty cities [1] reveals the fact that the average quality was 62.8 upon the Ayres Scale, and the average speed 73 letters a minute, at the end of the eighth grade. Under present conditions, therefore, the standard of 60 in quality and 70 in speed is easily obtainable by the end of the elementary school. We shall have to consider in a later section whether a still higher degree of efficiency should be demanded, not by securing a higher degree of excellence, but by securing it at an earlier period in the school. We may anticipate the later discussion here to the extent of saying that it is probably not unreasonable to expect that this standard should be attained by the end of the sixth grade. This grade is coming more and more to be recognized as the culmination of the period of general training which all children have in common. At the beginning of the junior high school there will come a differentiation of the type of work taken by different groups of children. At this point those who are to prepare particularly in commercial work might continue their special practice in writing, while those who are to continue the more general type of training might well discontinue it.

Standards have thus far been spoken of as though they were to be expressed by the average performance of a class. There is an entirely different way of expressing a standard which measures efficiency in a more direct way. We may set up as the goal for attainment in a grade a certain quality and a certain speed, but the attainment of this standard quality and speed is measured not by the average attainment of the class, but by the percentage of the pupils who reach the norm or the standard. This is after all the kind of measure which is most satisfactory. If the average of a class comes up to a certain point, this means that approximately half the class is below the norm. The average is brought up by the superiority of the other half. The efficiency of the lower half of the pupils is not counterbalanced by the superiority of the others, in so far as the needs and demands of the poor writers are concerned.

There has been comparatively little experimentation done by this method of measuring the attainment of a class. We should undoubtedly have to make a lower standard if we insisted that a large proportion, say 80 per cent or more, of the pupils should attain it.

[1] Frank N. Freeman, "Minimum Essentials in Handwriting," *Fourteenth Yearbook of the National Society for the Study of Education*, p. 6.

We might perhaps set 10 points below the average as a minimum standard for all the pupils to attain. In the later section on "Principles of Learning," specimen record forms will be shown on which can be kept the proportion of pupils of a class who attain to a standard. The raising of this percentage ought to be one of the most direct aims of the teacher and of the class.

Grade Standards

In addition to a final standard we must also have grade standards for the guidance of teachers throughout the stages before the final grade is reached. The following standards, derived from widespread tests [1] of the writing of children in the elementary school, may be laid down.

Grade Standards in Writing

Grade	Form			Speed
	Ayres Scale	Thorndike Scale	Freeman Scale	Letters per min.
II	35	8.5	11	30
III	39	9.3	12.5	44
IV	46	10.2	14.5	51
V	50	11.0	16	60
VI	57	11.9	18	63
VII	62	12.7	20	68
VIII	66	13.5	21	73

In order to measure the attainment of the pupils for the purpose of comparing it with a standard, careful tests must be made. The methods of making such tests have been worked out by experimentation and are described at the end of the next chapter.

[1] Frank N. Freeman, article in the *Fourteenth Yearbook*, cited above.

CHAPTER II

STANDARD TESTS AND SCALES

Uses of Tests

One of the most useful innovations in the field of handwriting has been the development of methods of measuring the writing by means of which the attainment of different classes and schools can be compared. For the most effective work, a definite aim is necessary. It has been found by experience that an ordinary examination, or the marks which are given to the pupil on the ordinary percentage basis, are exceedingly unreliable. Until the introduction of scales, therefore, the teachers have had no means of finding out in any exact way whether they are attaining a satisfactory standard or not.

The pupil also needs to know whether he is writing as well as he should, and whether he is making satisfactory progress. The score which can be given him as a result of a careful test and the grading of his papers by a scale enables him to trace his progress from time to time, and in this way stimulates and encourages him. The pupils have been found competent to measure their own writing with sufficient exactness to serve as a stimulus and as an index of their progress.

The second value of tests and scales to the teacher is found in the means which they furnish for the comparison of the effectiveness of different methods of teaching or of learning. The same teacher in different years may try somewhat different methods, and may trace the progress of her classes by giving them careful tests and thus comparing the two methods. Broader comparison of the same sort may be made between schools, or groups of schools. In this way we have an instrument for the scientific determination of the comparative values of methods or devices. Some of the methods which are described in this manual were tested in this way.

Still another use can be made of scales when they are so designed that they give not simply a single score, which represents the quality of the pupil's writing as a whole, but when, on the other hand, they analyze the quality into several elements. When this is done we can say what the nature of the pupil's deficiency is, and can direct his effort toward overcoming some special difficulty. For example, it may be found that the slope of his letters is irregular, and that this is his worst fault. If this is the case, he can gain much more from his practice, when he attempts to overcome this particu-

lar fault, than when he works with only a vague general aim in mind.

Kinds of Scales

Various kinds of scales have been devised. These scales may be distinguished, in the first place, according to the element of the writing which they attempt to measure. The Ayres Scale,[1] for example, is designed to measure the legibility of the writing. In order that it may measure this characteristic, the specimens on the scale were chosen by measuring the speed with which they could be read. It is found, however, that the scores which are obtained by the use of the scale depend rather upon the general form of the letters and the words than upon the ease with which they can be read. The Thorndike Scale [2] is based upon beauty, legibility, and character; that is, the judges who picked out the specimens for the scale were instructed to keep in mind these characteristics. Other scales simply attempt to measure general appearance or form.

Some scales have been put upon the market which profess to measure not only the objective characteristics of the writing, but also the means by which the writing was produced, such as the character of the movement, or the position of the hand, or the element of speed. It is unwise to attempt to include such elements as these because they are not a part of the form of the writing itself. They might be measured, but they would have to be measured by observing the pupil rather than by looking at his writing. Speed should be measured as an entirely separate element, and then, if it is desired, the score can later be combined with the score in form.

In the next place, scales may be classified according as they call for judgment which is based upon a general impression, or upon an analysis of the writing. In using the first type of scale one may give the specimen a score by comparing the general impression which the writing makes upon him with the general impression made by the different specimens on the scale. This is a type which is represented by the Ayres Scale and the Thorndike Scale, and the great majority of other scales which have been published. The analytical scale, on the other hand, calls for an examination of different points of excellence in the writing separately. This scale is represented, for example, in the Freeman Scale. One is called upon in using this scale to grade the writing in uniformity of slant, and of the alinement of the top and bottom of the letters, in letter formation, in spacing, and in the quality of the line. Such a scale gives

[1] Leonard P. Ayres, *A Scale for Measuring the Quality of Handwriting of Children*, Russell Sage Foundation, *Division of Education*.

[2] E. L. Thorndike, "Handwriting," *Teachers College Record*, March, 1910.

five separate scores, which then may be added to make a combined score.

Another distinction is between the universal scale, which is intended to be used to grade papers from all levels in the schools, and a grade scale, intended to be used only in a particular grade. The universal scale has the advantage that it will show by its scores the comparison in the standing of the pupils all the way up the grades. It is, however, difficult to use a scale which is made up of specimens from the upper grades with the papers of children in the lower grades. Few grade scales have been designed, but there will undoubtedly be further development in this direction in the near future.

Finally, there is a distinction between general scales which are intended to be applied to any locality and local scales which are made from specimens written by the pupils of a given city or locality. The advantage of a local scale is that the type of writing upon the scale is similar to the writing of the children which is to be measured by it. The writing of pupils throughout the cities is coming to be so similar in type, however, that the disadvantage of general scales is not great.

The general impression type of scale is somewhat easier to use than the analytical scale, and for the purpose of a general comparison of the writing of a class or of an individual pupil with the standard, it is a satisfactory instrument. For the further study of the writing of the pupil, with the aim of helping him to see the faults of his writing and to direct his efforts particularly to overcoming those faults, an analytical scale is useful.

In order that the use of a standard test may give reliable results, it is necessary to use care in giving the test and in scoring the papers. The methods of doing this have been carefully worked out, and the teacher may, by a little practice, and with attention to the directions which are given below, secure reasonably accurate results.

Method of Conducting a Handwriting Test

1. Give the pupils some preliminary practice in writing the words which they will write in the test so that they can write them freely from memory. In the second and third grades use some suitable rhyme, as:

> The rain is raining all around,
> It falls on field and tree,
> It rains on the umbrellas here
> And on the ships at sea.

In the fourth to the eighth grades use the names of the numerals (not the figures), one, two, three, etc., practicing up to thirty.

2. Be provided with a stop-watch or watch with a second-hand.

3. See that the pupils are ready with pen and ink (or pencil in the grades in which pens have not been used) and paper.

4. Instruct the pupils substantially as follows:

"We are to have a test (or game) to see how well you can write. To write well means to write rapidly and also to make it look well. We are going to write what we have been practicing. [Make sure the pupils know what this is.] You will start when I say 'Begin' and stop when I say 'Stop.' Be sure to keep writing all the time till I say 'Stop.' [If this is the first test, give a trial or two in starting and stopping on other paper than that which is prepared for the test.] Remember, write well and rapidly and keep on writing until I say 'Stop.'"

5. See that everybody is ready, start the watch, or wait till the second-hand is at zero, and say "Begin."

6. Keep watch of the pupils and start going again any that may stop.

7. Note the watch carefully and say "Stop" exactly at the end of two minutes.

8. Glance about and stop any pupils that may continue.

Scoring the Papers

The speed may be quickly and accurately scored by the following procedure:

1. Make a scoring copy by writing out the text and placing above each word the number of the letters in the text up to the end of that word.

2. Note the last letter the pupil has written and give him provisionally the corresponding score by referring to the scoring copy.

3. Read through the pupil's copy to see that it is correctly written, and add or deduct any letters he has inserted or left out.

4. Divide by two in order to get the score in terms of letters per minute.

The form may be scored by following the directions which accompany the scale which is used. In general, some practice is needed before scoring can be done accurately.

Records of Attainment

The purposes for which any measurement is made are best attained when a permanent record is kept of the measurements. This record serves as a basis of comparison for the attainment of a class at different times, and also for the attainment of the individual pupils. There should, therefore, be records for the class as a whole and records for the attainment of each pupil. Such records as these are more effective stimuli to the pupil than are buttons or certificates, or other evidences of attainment given by an outside author-

ity. The pupil knows definitely the meaning of such records as these. Moreover, by means of them he can trace his progress and not merely know that he has attained a certain level at a given time. The pupil is intensely interested in watching the rise of his progress curve. Record blanks may be prepared by each pupil. This constitutes an excellent exercise and initiates the pupils into the meaning of the graphs. If preferred, the forms may be duplicated and given to the pupils.

After each test, each pupil should indicate his scores by short marks on the appropriate vertical lines on the individual record blanks for speed and form. The percentage of pupils who have reached or exceeded the norm for the grade should also be indicated on the class record blanks, the first indicating the percentage of the children who reach the norm in speed, the second indicating the percentage who reach it in form, and the third indicating the percentage who reach it in both form and speed.

The units for scoring on the record blank for form correspond to the units of the Ayres Handwriting Scale (Russell Sage Foundation). If some other scale is used, the units which it employs should be substituted. The units of the speed record are letters per minute.

In order that the pupils may have a record of the particular features in which their writing is strong or weak, directions are given in this manual for grading by the analytical scale.

CHAPTER III

PRINCIPLES OF LEARNING

Position of the Body and Arms

Certain positions in writing are better than others, because they are more favorable to good writing, to easy and fluent movement, and also because they are better for the health of the child. Studies of physiology and of hygiene have indicated that a position which compels the child to sit habitually in a bad posture produces curvature of the spine, congestion of the blood in the lower part of the trunk, and other physical defects. Such a position is also bad for the eyes. There is not space in a manual of this sort to give the reasons for all the directions which are presented. These reasons are described in more detail in other writings.[1] The directions for good position will be given here without any attempt to justify them in detail by reference to their scientific evidence.

The writer should sit facing the desk squarely. His seat should be of such height that his feet may rest flat on the floor and the thighs be parallel to the surface of the seat. The desk should be of such a height that when the child is sitting erect and the arms rest on the desk, the elbows will be two or three inches from the body. The feet should project under the desk slightly in order that the child may sit back in the seat without being compelled to lean forward in order to rest his arms upon the desk. The child should sit back in the seat and should sit reasonably erect. The head should be held reasonably erect and not inclined much to the one side or the other. Slight variations in position are to be admitted since entirely unvarying posture is very hard for the child to maintain, but he should not maintain any habitual posture which is markedly different from the one which has been described.

The arms should rest easily on the desk, but should not support the weight of the body to any great extent. The forearms should be inclined toward one another so that the hands are near together. The left hand should be used to hold the paper, and to move it either upward or to the side when the adjustment of its position is necessary.

The paper should be situated directly in front of the child and so inclined that the bottom edge makes an angle of about thirty de-

[1] Frank N. Freeman, "Principles of Method in Teaching Writing Derived from Scientific Investigation," *Eighteenth Yearbook of the National Society for the Study of Education*, part II, 1919, pp. 11–25.

grees with the edge of the desk. This brings the line of writing nearly parallel to a diagonal line from the lower left-hand corner of the ordinary school desk to the upper right-hand corner. It may be desirable to draw this diagonal with chalk in order to help the child to keep his paper in the proper position until he has formed the habit.

With the paper and arm in the position described, the sideward movement of the forearm will carry the pen along the line of writing without any shifting backward and forward. This movement is then made by the rotation of the forearm about the elbow, or about the point on which the forearm rests on the desk. This sideward movement is one of the most important in the entire activity of writing, and it should be very easily and readily made.

The forearm should rest about three quarters of its length on the desk. As the pupil writes down the page, it will be necessary, in order to avoid having the forearm project too far off the desk, to move the paper upward every few lines of writing. This may be readily done with the left hand without much loss of time.

Position in Left-Handed Writing

A word may be said at this point in regard to left-handed writing. There is a certain small but definite proportion of people who are strongly left-handed. For such persons to write with the right hand is much more difficult than to write with the left hand, and there is a good deal of scientific evidence to indicate that, for such persons, writing with the right hand frequently produces difficulties or defects in speech. If a pupil is strongly left-handed, therefore, he should be allowed to write with his left hand.

The reason that left-handed pupils have so much difficulty in writing is that they are given no help in adapting conditions to their peculiar needs. When a left-handed pupil attempts to write with the paper in the position for the right hand, as he ordinarily does, the situation is very awkward for him. If we apply the same principles that have been laid down for the right-handed pupil, we will place the paper so that it tilts thirty degrees to the right rather than to the left. This will put it in such a position that the left hand will move along the line of writing when the left arm is turned about the elbow. We shall touch upon the modification to be made in the slope of left-handed writing in discussing the topic of slant below.

Hand Position and Pen-Holding

The hand should be held with the palm turned down until the wrist is not far from level. It may deviate as far as forty-five degrees without prejudicing the writing, but with children it is well to