

(a) There should be moderate and even spaces between the words of a sentence (at least $\frac{1}{16}$ inch, but not exceeding $\frac{5}{16}$ inch) and between the letters in a word (at least $\frac{1}{16}$ inch, but not exceeding $\frac{1}{8}$ inch.) The words of a sentence should not be connected by strokes; the letters of a word should usually be connected by strokes, although it is not necessary to labour this point. (No adult connects all the letters in a word when writing naturally.)

(b) The lines should be spaced so as to prevent the intersection of loops and tails. The younger the children the wider apart the lines need to be. With adults at least $\frac{1}{4}$ inch spacing should be used.

(c) The writing should be in straight lines, running parallel with the top of the page; the characters should be of moderate and even size; flourishes and superfluous strokes should be avoided; and the slope from the vertical should be even and should not exceed thirty degrees.

By insisting that adequate spaces should be left between words and between lines the teacher can improve a pupil's really bad writing by 30% within a month.

2. SPEED.—The speed of handwriting largely depends upon the number of muscular co-ordinations of the arm and of the hand which have been made. Judd discovered that in the ordinary method of handwriting (a) the fine formative movements are executed by the fingers; (b) the movement which carries the fingers forward is executed by the hand or arm; (c) the pauses between the groups of letters are utilised for longer forward arm movements which bring the hand back into an easy working position; and (d) each individual has his own peculiar combination of arm and hand and finger movements, and that forms of co-ordination are as numerous and varied as are the individuals who write.

But Judd leaves us uncertain as to the particular co-ordinations which produce the speediest writing. Woodworth helps us here. He found that a forearm movement with the elbow resting on the desk (a peculiar 'waggle' of the wrist) was to be preferred either to the whole arm movement as advocated by certain exponents of writing, or to the restricted movement of the fingers. This method of writing is somewhat more difficult to learn, especially for young children, but in the long run it produces the best results both in speed and legibility.

Is upright writing, or writing which slants forward, or writing which slants backward the quickest? McAllister found that most of the movements used in writing followed the radii of the first and third quadrants (see a treatise on trigonometry for definitions of terms), that those of the third quadrant were quickest, and that those of the second and fourth were both slowest and least numerous. These results indi-