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Wilhelmine Koerth

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The problem now remains to find out which of the tests best serves the purpose and to substitute other tests for those which do not serve so well. This done, the aim will then be to standardize the test for use in the eighth grade to assist the vocational guidance of those pupils who expect to elect the commercial course in high school.

A MEASURE OF CAPACITY FOR ACQUIRING SKILL IN COÖRDINATION OF EYE AND HAND

WILHELMINE KOERTH

Because success in many industries and activities depends to a large extent on ability to acquire skill in coördination of eye and hand, a measure of this capacity would prove very serviceable in both vocational guidance and selection. We are now trying to determine whether an apparatus providing a moving target of known size, following a constant predictable path at a uniform rate of speed will give an index of such capacity. This index is to be found by measuring the observer's ability to hold a ringed, metallic pointer on the moving target.

The apparatus consists of a circular target, 1.9 cm. in diameter, mounted flush with the surface of a wooden disc large enough to permit the target to describe a circle 16 cm. in diameter as it revolves. The target is electrically connected with a commutator on the edge of the disc, which records on a Veeder counter the time the observer is able to hold the pointer on the revolving target. The disc is revolved on an ordinary phonograph at the rate of one revolution per second, thereby providing a constant, uniform rate of speed and recording the time in tenths of a second.

After measuring 140 men and women, principally from the sophomore class, the following things were noted: that observers fall into four groups; i.e., those who start low and end low, those who start low and end high, those who start high and end higher, and those who start high and end practically on the same level, that the curve of distribution tends to be normal with the mode at forty and the extremes at five and eighty. The averages of twenty trials for each person were used to establish this curve. The curve for each observer is a typical learning curve, and with continued practice the typical plateaus of organization are well marked. In a ten day practice period the curve

of the best observers tends to become a straight line and that of the others tends to remain broken.

As a check on the value of the measure, ten men from the Engineering shops were measured. Each man was given twenty-five trials and the results compared with the rating on mechanical ability given by their instructors. In six cases the two ratings were near enough to be significant, but the other four showed considerable discrepancy. The one case where the difference was most marked was rated by the instructors as being mentally unable to make good in a machine shop. As this measure is not a measure of mental ability the discrepancy is not as alarming as it at first appears.

On the whole, while the results of this investigation are somewhat negative, they are still sufficiently encouraging to continue the work, which is as yet scarcely well started, until a measure of a person's ability to acquire skill in the coördination of eye and hand is eventually evolved.

A STANDARDIZED MEASURE OF MOTILITY

MERRILL J. REAM

In any survey of the fundamental capacities of motor control the factor of speed of simple movement is obvious as one of the basic essentials which underlie all the developed complexities of movement. This fundamental capacity for speed in a simple repeated movement we call motility, and the motion selected is an easy movement of the forearm in which the finger taps a telegraph key. This type of movement is selected because it is one of the most rapid of the voluntary movements; it is clearly developed, is very simple, and requires no learning. It is assumed that the ability shown in this movement is, in general, indicative of corresponding ability in other parts of the body.

The investigation of motility has resulted thus far in a standardized apparatus and method for conducting the test. It was discovered that for most people voluntary movement can not be maintained at its maximum rate for more than five seconds. To measure accurately and easily this short interval of time, an apparatus was devised which eliminates the reaction time of the experimenter and the observer. The apparatus, in addition to the telegraph key, consists of a metronome, a specially reliable electric counter, and a double action shunt key. The metronome is ac-