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Education and Training

POST TRAINING PROGRESS OF MENTALLY HANDICAPPED CHILDREN GIVEN INTENSIVE REMEDIAL READING LESSONS

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FOR the past ten years a program of remedial reading has been in effect at the Wayne County Training School. Several papers (1, 2, 3, 7) describing various aspects of this program have been presented before the American Association on Mental Deficiency. Briefly, the program attempts the re-training of institutionalized high grade mental defectives who have reached adolescence without learning to read beyond a first or second grade level. For practical purposes these children are non-readers. In addition to having failed to learn to read many of them have acquired faulty reading habits which must be unlearned. The method on which the training is based is primarily phonic in character, and the lessons follow the exercises as they appear in the *Hegge-Kirk Remedial Reading Drills*.⁴

Our general results have led us to expect that the majority of these children can be taught to read at a high third or low fourth grade level in a relatively short period of time. The present study is a follow-up of a number of children after their special lessons were discontinued. This problem is interesting from both the practical and theoretical points of view. Prac-

tically, it is important to know whether the rapid progress shown during special training represents a real increase in reading ability, and whether further progress may be expected. Theoretically, such a follow-up study may answer two questions concerning transfer of training—(1) does the child transfer the word-reading skills which are the basis of his remedial training to a situation in which reading for comprehension is the primary goal, and (2) does he continue to progress independently after the stimulus of individual coaching is withdrawn? The data presented will offer at least partial answers to these questions.

During their period of special remedial training children attended the regular academic classes as usual. In some instances reading was excluded from a child's curriculum entirely and in others the time spent with this subject was greatly decreased. Following the special training the children again received the regular classroom instruction, if they were not yet sixteen years old. If above sixteen they received no formal academic instruction. The progress of children under each of these conditions has been followed wherever possible. All reading scores

reported are based on a battery of standard reading tests measuring various aspects of reading.^{1, 2} In recording time intervals, such as number of months trained, no deduction is made for periods of illness, summer vacations, and other absences.

mately six months after special training. Progress curves were drawn and from his curve each child's progress at exactly six and twelve months was determined. These boys and girls had progressed 1.2 grades in reading during a seven month training period in which

TABLE I
CLASSROOM PROGRESS AFTER END OF SPECIAL TRAINING

	N=33	N=21	N=13
Age at beginning of training.....	13-4	13-0	12-7
Average I.Q.	74	75	77
Reading grade at beginning of training...	2.0	2.2	2.2
Number months trained.....	11	7	7
Number of lessons.....	105	72	73
Reading grade at end of training.....	3.6	3.4	3.4
Reading grade six months later.....	3.9*	3.7	3.8
Reading grade one year later.....	..	3.9	4.0
Reading grade eighteen months later.....	4.3
Reading grade two years later.....	4.5

* Average test-retest interval=6.3 months.

Table I shows the progress of children returned to the regular classroom program. The first column presents the data for a group of thirty-three children who were tested between five and eight months after the end of their special lessons. They had received a greater number of lessons over a longer period of months than the groups of the second and third columns, and consequently showed somewhat greater total progress in the training period. Their post-training progress, however, was quite comparable, as their average reading level increased 0.3 grades, from grade 3.6 to grade 3.9, in six months.

The second column shows the progress of twenty-one of the same children, for whom further tests were available. All of these children were tested approximately twelve months after special training was discontinued, and all but one were also tested approxi-

they received seventy-two lessons. One-half hour of instruction is considered one lesson. Most of the children were trained individually, but a few were taught in groups of two or three. When they were returned to the regular classroom program they progressed an additional 0.3 grades in six months and 0.5 grades in one year.

The data of the third column are based on a further study of thirteen of these children whose progress was followed over a period of two years or more. The progress of this group during special training, 1.2 grades in seven months with seventy-three lessons, is quite comparable to that of the larger group. Their subsequent progress in the classroom during the first year is almost identical. They increased 0.4 grades in six months, 0.6 grades in one year, 0.9 grades in eighteen months, and 1.1 grades in two years.

We may now answer several of the

questions raised earlier. Primarily the data demonstrate that the children do continue the process of learning which before special training had failed to take place and during special training occurred at a greatly accelerated rate. It is interesting to compare the rate of progress after return to the regular classroom program, first with the rate of progress during special training, and second with the rate of progress of the average child in the Training School. The group progressed just twenty-five percent as fast as they had done with special training, but their progress was slightly greater than that of the average child in the Training School classrooms. This latter rate, as shown by Samuel A. Kirk⁶ in a survey of one hundred unselected cases, is 0.43 grades per year. The children given special lessons progressed 0.5 grades in one year. Their total school history included a long period of no effective progress in reading, a short period of intensive remedial training, and then a period of progress at the expected rate. The data on the third group indicate that this rate would be maintained over a period of years.

The results also present evidence concerning the problem of transfer. Phonetic systems of teaching reading have, at various times, been subjected to severe criticism on this point. It is claimed that the phonic training develops isolated skills which it is difficult if not impossible to incorporate successfully into the child's prose reading. Our data indicate little basis for this criticism as it relates to the training of high-grade mentally defective children.

As stated above, the remedial training was basically phonic in its approach while the classroom teaching was not. A child's remedial training was not considered complete, however, until a certain amount of guided transfer had taken place. Kirk, in the *Manual of Directions*⁵ accompanying the *Remedial Reading Drills*, suggests that prose reading be introduced after approximately the thirtieth drill, which would normally be after about the fortieth or fiftieth lesson. The child at that time begins to apply the word-reading skills which he has previously acquired to the process of reading for comprehension. As the training proceeds he becomes more efficient in this application.

The data presented here demonstrate that these children are able to continue independently to make use of their learned skill, and by so doing progress as rapidly as the average member of their class.

The data are also interesting in their indication that the withdrawal of the stimulus and guidance offered by the individual coaching situation did not prevent their continued progress, quite independently of the personal attention which they had received during training.

The second part of this study follows the progress of a number of special reading cases after they had reached the age of sixteen. It is the custom of the Training School, at that time, to remove the child from the school roll, thus discontinuing his formal academic training, and place him on a full time vocational assignment. The group of children studied

includes some who were sixteen or above when they completed their special training and some who continued in the classroom several months before reaching sixteen. In every case the test score at the close of academic instruction, whether of a remedial nature or in the classroom, was used in the statistical treatment.

The problem now assumes a somewhat different aspect. The emphasis must be placed, not on the question of a continued increase in reading ability, but on the retention and use of the skill already acquired. Reading ability per se ceases to be a goal for the child and his skill becomes only a tool to be used in meeting his vocational or recreational problems. If he retains what he has learned, and indicates that his knowledge is useful to him, the remedial training program has served its purpose.

TABLE 2

PROGRESS AFTER THE CLOSE OF ACADEMIC TRAINING

Number of Children=20

Age at beginning of training.....	14-6
Average I.Q.	71
Reading grade at beginning of training..	2.0
Number months trained.....	17
Number of lessons	162
Reading grade at end of special training	3.8
Reading grade at close of academic training	4.0*
Reading grade on retest.....	4.1
Test-retest interval (months).....	16

* Average age at close of academic training=16-6.

Table 2 shows the retention of the group mentioned above during the first year and a third after the end of their academic training. The twenty children had increased their reading ability from grade 2.0 to grade 3.8 in one hundred sixty-two lessons in seventeen

months of special training, and to grade 4.0 at the close of their academic careers. This group includes some children whose training period was extended for research purposes. They were given a number of lessons far in excess of that required for adequate results. These children increase the average number of lessons for this group above the average for the other groups. They were retested between nine and thirty-six months later. After an average test-retest interval of sixteen months the average reading grade of the group was 4.1. Analysis of the individual scores reveals that in nine instances the score had increased, had decreased in nine, and in two had remained constant. In only two instances had the reading score dropped more than 0.2 grades. The data indicate that, in almost every case, the level of reading ability shown at the end of academic training was maintained.

The practical purpose of a program of remedial teaching such as the one described herein for high grade mentally defective children was suggested above—to increase the child's reading ability to a level sufficiently high to serve his vocational and recreational needs. We have, for our purposes, set this goal at a high third or low fourth grade level.

It has been possible for us to talk with a small number of children who have been on parole from the institution for two years or more. These interviews indicate that beyond a cursory reading of certain sections of the newspaper and perhaps *Life* magazine, most of them do very little voluntary reading. They have, however, expressed confidence in their ability to

meet such reading needs as arise in their job or at home. Most of them report that they carry on some personal correspondence.

SUMMARY

We have followed the post-training progress of two groups of children given remedial reading re-training. The children of one group returned to a regular classroom program and those of the other were placed on vocational assignments. The data make possible the following conclusions:

(1) Children returned to the regular classroom program after remedial training progressed as rapidly as their classmates.

(2) This fact indicates that they successfully transferred to a reading-for-comprehension situation the word-reading skills which were the basis of their training.

(3) Children studied after they had discontinued formal academic instruction maintained the level of reading

ability which they had reached at the close of their academic training.

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