A PILOT STUDY OF SMALL GROUP TREATMENT OF MENTALLY RETARDED BRAIN INJURED CHILDREN IN THE PUBLIC SCHOOL

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Although they are relatively few in number, extremely hyperactive brain injured children often create such a severe problem in the classroom for both the teacher and the other children that there has been some doubt in our school system as to whether they should remain in the public school. This pilot study was set up to determine if children of this type could benefit more from specialized instruction in a very small group than in the larger classes of the educable mentally handicapped. Because of the small number of subjects concerned, and because it was mainly a preliminary search for criteria, instruments, and variables, this is not primarily a statistical design. The pilot study was financed completely by county funds. This factor also operated to keep the study small and to limit the groups. The model and methods used were roughly equivalent to those of Cruickshank (1) in his study of brain injured and hyperactive children in Montgomery County, Maryland. In this study the two groups were smaller with lower I.Q.'s and M.A.'s. Different instruments were used. The teachers of the control group were unaware of the experiment and did not know which children were controls. In addition, group counseling on a semi-monthly basis was conducted with the parents of the experimental group. Individual counseling was available on request. The pilot study was conducted in the Broward County Public Schools by the supervisor of Special Education and the School Psychologist for a period of eight months from October, 1962, to June, 1963.

Method and Procedure

The two groups consisted of five children each, matched on the basis of Stanford-Binet, Form L-M I.Q., M.A., C.A., clinical diagnosis, and observed hyperactive behavior in the classroom. The subjects of the control group were selected, one from each of the five younger Educable Mentally Handicapped classes in the south of the county. There are from 12 to 14 pupils in these classrooms. The five subjects of the experimental group were chosen from Educable Mentally Handicapped classes in the north of the county and placed in one class by themselves.

Table 1

Matching Criteria for the Two Groups

Group	Average CA	Average MA	Stanford-Binet Average IQ
Experimental	8-9	5-4	60.4
Control	8-4	5-2	62.0

Table 2

Range in Matching Criteria for the Two Groups

Group	CA (Inclusive)		MA (Inclusive)		IQ (Inclusive)	
Experimental	7-9	9-9	4-5	6-0	57	62
Control	7-4	9-1	4-9	6-1	52	68

Table 3

Experimental and Control Subjects' CA - MA - IQ

	Experimental				Control		
	CA	MA	IQ		CA	MA	IQ
E-1	9-5	5-7	59	C-1	8-0	5-1	64
E-2	7-9	4-5	57	C-2	7-5	5-1	68
E-3	9-5	5-10	62	C-3	8-8	5-2	59
E-4	9-9	6-0	62	C-4	7-4	4-9	52
E-5	8-5	5-3	62	C-5	9-1	6-1	67

The mean I.Q. of the Control Group was 62.0, with a range from 52 to 68. The mean I.Q. of the Experimental Group was 60.4, with a range from 57 to 62. C.A. mean of the Control Group was 8-4 years, with a range from 7-4 years to 9-1 years. C.A. mean of the Experimental Group was 8-9 years with a range from 7-9 to 9-9 years. The mean M.A. of the Control Group was 5-2 years, with a range from 4-9 years to 6-1 years. For the Experimental Group the mean M.A. was 5-4 years, with a range from 4-5 years to 6-0 years. No statistically significant differences exist in any of these items. Developmental histories were available for all of the subjects.

The classrooms in which the control children were placed were the standard size with the usual environmental stimuli in the form of bulletin boards, pictures, etc. These teachers were unaware of which children were controls, and the usual instructional methods were used. The teacher of the Experimental Group was given special instructions as to teaching procedures recommended by Cruickshank for this type of child. She was furnished with special equipment and teaching materials. The classroom was a small cottage on the grounds of the elementary school with the recommended cubicles or "offices" and minimum environmental stimuli. The children participated in music, physical education, assembly activities, and ate with the other children in the school. Daily anecdotal records were kept.

The class was observed regularly by the Supervisor and the School Psychologist, who were available at all times for consultation with the classroom teacher of the Experimental Group. The other classes in which the Control Group children were placed were also observed on a regular basis and behavioral notes were kept. The parents of the Experimental Group were seen in group counseling to determine their reactions to this type of class and attitudinal changes, if any.

The children were rated by the teachers on Strauss' Diagnostic Behavior Rating Scale of Personality in Mentally Deficient Children (5) at the beginning of the experiment in October and at the end in June. This is a forced choice scale consisting of 52 items of paired extremes of the type of behavior, both physical and emotional, which Strauss felt was typical of brain-injured children. The Frostig Developmental Test of Visual Perception (2) was also administered. This consists of five different subtests dealing with perceptual and motor abilities from which test ages and a Perceptual Quotient can be derived.

All of the pupils in the classes having control group children were given the Frostig Developmental Test of Visual Perception and the Strauss Diagnostic Behavior Rating Scales of Personality in Mentally Deficient Children. This was done to prevent teacher bias.

Academic achievement tests were not used because the low mental age of the group precluded academic achievement of any measureable degree at the beginning of the experiment.

Results and Discussion

There were no statistically significant changes in behavior in either the Experimental or Control Group as indicated by pre-and post-testing on the Behavior Rating Scales. In some cases in both groups a child was perceived as more "brain injured" at the end of the experiment than at the beginning. This may have resulted from increased teacher awareness of such characteristics rather than from deterioration of the individual subject. The scale itself appears to be too subjective an instrument to use in controlled research. A five-point scale has been developed by the writer which should be more objective and concise; it is improbable that observer subjectivity can be completely eliminated. Strauss' scale did prove useful, however, in giving a clue to teachers' attitudes towards pupils. There seemed to be little correlation between subjective teacher and observer judgment, and behavior as indicated by the Behavior Rating Scales.

The results of the Frostig Developmental test seemed to indicate the possibility of increased perceptual skills in the Experimental Group. Although trends toward growth were present there was no statistically significant difference in the number of points of growth in the Perceptual Quotient of the two groups. The growth in the Experimental Group might be due, in part, to the special teaching methods employed and the nature of the classroom environment. (See Table 4)

Table 4

Perceptual Quotient - Frostig Developmental Test of Visual Perception

	Experimental			Control	
	Pre	Post		Pre	Post
E-1	56	78	C-1	58	62
E-2	52	60	C-2	62	68
E-3	54	60	C-3	60	62
E-4	60	55	C-4	50	47
E-5	58	66	C-5	68	74

On the basis of observation and notes made by the Supervisor of Special Education and the School Psychologist, there appeared to be some overt behavioral change in the children of the Experimental Group with little or no change in the children of the Control Group. Attention span increased noticeably; there were fewer "catastrophic reactions;" emotional and behavioral controls improved; socialization was better,with more cooperation and sharing and less arguing. The Experimental subjects were now able to work in a group as contrasted to the previous need for individual instruction. The children got along better with children in regular classes in the school and in the lunchroom. Other teachers in the school and the principal also observed more socially acceptable behavior. Motor coordination and skills seemed improved as demonstrated in playground activity and games. Progress seemed to have been achieved in areas not measurable by objective psychological instruments. If this was due to maturation factors alone, similar improvement would be expected in the Control Group children. As based on observation, the improvement in social judgment found in the Experimental Group was not evidenced by the Controls.

The daily anecdotal records of the teacher of the Experimental Group confirm the above observations.

There was no objective measurement of changes in parental attitudes toward the special program and/or their children. An average of 75 percent of the parents of the Experimental Group were present at each group counseling session. At first they appeared to have little or no understanding of the child's problem and to be somewhat rejecting of both the child and the class. They could not comprehend the emphasis on development of social, motor, and visual perceptual skills instead of on academic achievement. During the last two months of the program the teacher was instructed to have the children take home samples of their work and also "homework". A marked change in parental attitudes toward both the child and the program was observed. Apparently, these parents had a need to see concrete evidence of accomplishment before they could begin to accept either the educational program or their child. This seemed to bring about greater changes in their attitudes than did any of the previous counseling.

Summary

Two groups of 5 each of brain-injured children matched on the basis of I.Q., C.A., M.A., clinical diagnosis, and observed hyperactive classroom behavior were compared in a pilot study to determine the effect of specialized teaching procedures, non-stimulating environment, parent counseling, and small group instruction. Both groups were selected from Educable Mentally Handicapped classes in the public schools.

Measurable results were inconclusive, partially due to the inadequacy of the instruments used and the small N. As judged by the observers, there were indications of improvement in motor skills and socialization. The results of the Frostig Developmental Test indicated the possibility of increased perceptual skills in the Experimental Group.

The pilot study points out a need for further research in this field, using the same variables with a more tightly designed study, a larger N, and less subjective instruments, particularly insofar as measurement of behavior and social adjustment is concerned. A more diagnostic instrument, such as the Illinois Test of Psycholinquistic Abilities (4), to identify specific areas of learning deficit might also be used with instructional procedures adapted to overcoming the deficit. The research period should be longer. If parent counseling is included, the Vineland or similar attitude scale should be used to measure changes, if any. A group with a higher mental age would permit measurement and evaluation of the variable of academic achievement.

One of the interesting by-products of this pilot study was that the classes from which the Experimental Group children were removed seemed to function better and were more easily controlled after these children left.

The tentative results of this pilot study do not clearly demonstrate that it is economically sound to provide specialized instruction and environment for this small a group. The improvement in the subjects of the Experimental Group did not appear to be sufficient to make such programs feasible. Perhaps the most valid rationale for this type of special class is the improved functioning of the classes from which the Experimental subjects were removed.

References

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