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Perceptual Motor Therapy Project

(TITLE)

BY

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B.S., Bradley University
M.S., Bradley University

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF

Specialist in Education

IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY
CHARLESTON, ILLINOIS

1968

YEAR

I HEREBY RECOMMEND THIS THESIS BE ACCEPTED AS FULFILLING
THIS PART OF THE GRADUATE DEGREE CITED ABOVE

DATE

ADVISER

1968
DATE

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DEPARTMENT HEAD

PERCEPTUAL MOTOR THERAPY PROJECT

Marshall School District C-2

EDUCATION: 601 - 602

Presented to:

Dr. Robert Shuff

and

Dr. Gerald G. Matzner

By

Dean V. Murphy

June 13, 1968

F O R W A R D

This study was made with the idea that some of the slow learners, underachievers, and mentally retarded children's cases are not as complicated and as hopeless as we had thought.

Many of these are not mentally retarded, but are physically or neurologically uncoordinated. Since there has been good results with therapy for severely brain injured children, we could expect very good results with slightly brain injured children or neurologically disorganized children.

With 200 retarded, Remedial, and underachieving children in Marshall in mind, this project was recommended. As it has shown success in a public school and a home situation, it should lessen the present Remedial Education and Special Education load in Marshall and in other school systems.

ACKNOWLEDGMENTS

We wish to thank the volunteer ladies of the Marshall P.T.A., the ladies of the Marshall Civic Club, the ladies of the Marshall Methodist Church and the other ladies that privately volunteered unselfishly to give their time to help the children in our class. We wish to thank the Marshall Lions Club and The Eastern Illinois Development and Service Unit for their financial aid that made this project possible.

We wish to thank Dr. Robert Shuff and Dr. Gerald G. Matzner of Eastern Illinois University; Dr. Gail Richardson of the Eastern Illinois Development and Service Unit; Mr. C.A. Bush, Superintendent of Schools at Marshall, Illinois; Dr. Paul Dunn of Chicago, Illinois; and Major Mary Morris of the United States army, for their counsel and advice.

I should like to thank Gladys Mitchell, Perceptual teacher; Ruth Kemp, school nurse; Dale Davis, Elementary Supervisor; Special Education teachers (Herman Koerner, Jane Lewellan, Coanne Stephens and Eleanor Taft); Teachers; Teacher's aides; Marion Garner (School Maintenance Man); and parents for their co-operation in making this research project a success.

We should never forget the Members of the Marshall School Board, who's only interest is the total education of our Boys and Girls.

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THE PROPOSAL FOR PERCEPTUAL MOTOR THERAPY TRAINING
MARSHALL SCHOOL DISTRICT C-2

In keeping with The Marshall Schools' tradition of giving the best possible education to all children, we have introduced remedial reading, special classes in health physical education, a guidance program for all children, speech correction, four classes in Special Education and a school health program. Even with these programs, we still have approximately 30 per cent of our school children who read one year or more below grade level. The average reading and achievement of our students score higher than many schools in our locality. We decided to try an experimental program testing the results of a perceptual motor therapy program and its effect on reading problem children and Special Education children. The Marshall program was a combination of the program carried on in the Fitzsimmons General Hospital in Denver, Colorado, and the program of Domann and Delacato in Philadelphia.

SPECIAL EDUCATION TEST RESULTS

When testing the Special Education students attending classes in Marshall it was found: 75 per cent have not established a dominant sightedness in the areas of the hand, foot, eye, and ear; 90 per cent cannot cross pattern creep properly; 25 per cent of these children could not creep at all; 56 per cent cannot follow a moving target with their eyes (or have stepping eyes); 75 per cent do not walk normally, 50 per cent of the students do not have proper hand, arm, or thumb and finger function.

In testing our students in our Remedial Reading classes, it was found that the same results as mentioned above was prominate in the areas of dominance and eye tracking. By comparing this with one of our highest achievement classes, we found that 30 per cent of the students had not established a lateral dominant sightedness and only 4.3 per cent of the students had stepping eyes. We also compared this to an above average class and found that 20 per cent of the class had not established a lateral dominant sightedness and 0 per cent of this particular class had stepping eyes.

SMALL HOME EXPERIMENT

We had a home experiment using four trial students in a home program. The type of program will not be explained here as it will be explained fully later

in this report. The students were two seventh graders, a sixth grader, and one six year old Special Education student. After three of the students had shown immediate improvement, it was decided to make a recommendation for a school program.

RECOMMENDATION

It was recommended that we start a pilot experimental program in the Marshall Schools, using all the Special Education children (three E.M.H. and one T.M.H.), one group of low achieving reading students and if possible, a group of stuttering children.

TRAINING

Gladys Mitchell, who was employed to head this program, the school nurse, and this writer did extensive study of a perceptual program and visited "The Center For The Advancement of Human Potential" in Chicago, Illinois, for a workshop in December. This writer visited the Army Fitzsimmons Hospital in Denver, Colorado, over Christmas vacation. Also, the school nurse and Gladys Mitchell went for one week of intensified training at the "Advancement of Human Potential Center" in Philadelphia, Pennsylvania.

The cost of this program has been paid by the Educational Center at Charleston, Illinois, from Title III funds, donations from the Marshall Lions Club, and by the School District.

In no means do we indicate that Perceptual Motor Therapy training will solve all of our Educational and Reading problems, but it will aid with those that are suffering from Perceptual lag. In testing, and from the many parent conferences we have had this year, we have found that many with reading and learning problems have not gone through the normal childhood activities, such as creeping and crawling.

OBJECTIVES

1. Develop good body balance and co-ordination.

A child when first learning to walk gets his balance by holding his arms and hands as a tightrope walker using a pole. Later they develop balance by swinging their arms in a cross-pattern fashion. Seventy-five per cent of Marshall's Special Education children and Remedial Reading children do not swing their arms when walking. After starting first with the simple task and progressing to more complicated tasks, children are taught to cross-pattern walk properly. This can proceed as: crawling, creeping, balance beam, cross-pattern walking, spiral board and

trapezoid. Nothing is to be done to comfort the child by pushing him beyond his capacity.

2. Develop small muscles of the body. Our normal Physical Education program is aimed primarily toward the large muscle areas of the body. The muscular part of reading and writing is a product of the small muscle areas of the body. This includes the muscular development of the eye muscles.

3. Develop eye-hand co-ordination. Fifty-six per cent of our Remedial Reading and Special Education students can not follow a moving target that is held in their own hands. We can contrast that by the results of two upper sections of our eighth grade classes, where we found only one boy who could not perform this task. An interesting fact is, this boy is a stammerer.

4. Try to develop a lateral dominance. Seventy-five per cent of Marshall's students with learning problems and those in Special Education classes have not established a true lateral dominance. This is compared to a top section of Marshall's eighth grade class that has thirty per cent, that have not established a true lateral dominance and twenty per cent of the next to the top section that has not established the same dominancy. There is a strong indication that in some cases this problem causes confusion and a loss

of interest in school work. Only those that show learning problems are encouraged to correct this condition.

5. Develop Near Point Fusion of the eyes. In a few cases, students with Reading problems cannot look cross-eyed as we move a pencil slowly toward their nose. In these cases the child has lost interest in school work because he cannot "fuse" his one^{eye} together with the other, which causes the child (without his knowledge) to see double. This type of student is often said by his teachers to be lazy. The student is most confused and discouraged with school and he may reverse words and letters not seeing them in sequence.

6. Increase self-confidence. These are tasks that our Special Education classes can perform. Thus they succeed with their group. In our home situation that deal with slight reading problems, this program is explained fully to the child and parent. This gives the child renewed confidence and steps are taken, so we will not discourage the child while he is on the program. This will be explained fully later.

7. Develop the child's fullest Potential, both Physically and Mentally. A child can have the mental ability to do good work, but if he does not have the ability to receive a message or the ability to discharge the message, the brain will remain inactive or dormant. The physical areas must be

developed to get the full results of the mental capacity.

8. Develop Closer Parent Relationships: Group conferences and individual conferences makes the parent feel he is a necessary part of the complete educational team. A complete program is explained, but no promises made and this decision of going into a program for reading perceptual motor therapy training will be a decision of the parent. This makes the parent feel he is a necessary part of the educational responsibility. He also sees the school as a friend that has a special interest in his child. All can then work together as a team.

CRAWLING:

The crawling a child does between two and six months is a necessary part of his learning process. Crawling may be described as a child scooting along on his stomach. It may be a necessary part of his perceptual motor training that is not to be omitted. If omitted, (according to the theory of Doman Delacato), it sometimes has the effect of leaving the vision and hearing under-developed. At this time the eyes are in a bi-ocular state. They work independently and do not perceive depth or a third dimension. If the eyes do not develop beyond this state, this condition is later called "Strabismus."

According to the perceptual or Neurological organization theory, crawling may stimulate and help develop the primary strength of the eye sight and hearing. Crawling is done on the stomach and the child extends both left arm and left leg at the same time. He thus "scoots" homo-laterally. He pulls and pushes first on the left side and then on the right. This could be described the same as the motions of a pacing horse.

CREEPING:

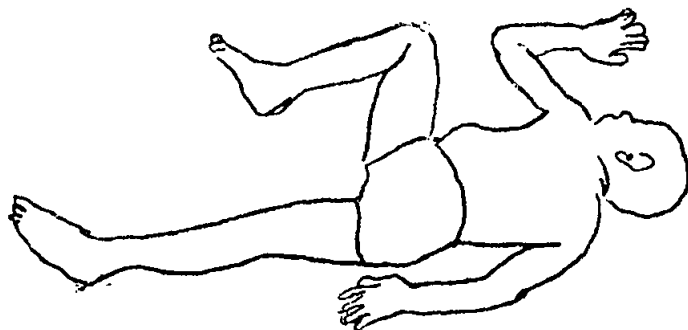
According to this theory, this function helps stimulate and mature the vision into a binocular state. In other words, the eyes begin to work together. This is described as part of the infant's Perceptual-Motor Theory as the eye sight and hearing are further developed. Provided the child has not gone through this during this growth, he may be unable to locate sound in space. When therapy of this type is performed, it is called cross-pattern creeping. In cross-pattern creeping, the child moves the opposite hand and knee at the same time. Each time he turns his head to look at the extended hand. The toes are kept in contact with the floor and dragged forward as he creeps. This should be continued approximately 30 to 45 minutes a day until the child becomes very smooth in this operation.

FLIP-FLOP

The child lies on his stomach with his head turned toward his right hand with the hand held approximately six inches away from his mouth with thumb in sucking position. The right leg is flexed with the thigh approximately 90° or at right angles from the body. The left leg is straight and extended with the left arm against the left side. At a count, this is reversed. If the child can not do this, it must be done for him. This latter operation is called "patterning". See below.

RIGHT HAND SLEEP POSITION

Right hand sleep position: The child lies on his stomach and right side with his left hand in sucking position; held approximately four to six inches away from his mouth. The head is turned looking toward his hand, and the left leg is flexed. The right leg is straight with the right arm straight along the back or side. As:



The opposite is for left hand sleep position.

CROSS PATTERN WALKING

By the age of three or four the child learns to walk in a cross-pattern fashion utilizing both arms and legs for balance. This therapy is an aid in developing many facets of speech, normal adult walking, and balance. Exaggerated cross-pattern walking will help develop these areas that are under-developed. In some cases an extensive creeping and crawling program is performed before cross-pattern walking can be learned.

To aid in this development, it is sometimes necessary to eliminate music from the daily routine.

After the child has progressed with the above described, very primary physical education program, we will proceed with more difficult therapy to improve balance and co-ordination. The balance beam can be used 10 minutes per day to replace 10 minutes of creeping.

Later the balance board and trampoline will be used; this type of therapy is most beneficial for co-ordination and balance. The trampoline serves a dual purpose as the eyes must be focused on some point. Learning to bounce on the trampoline is an excellent eye-focusing exercise as well as an aid to improve co-ordination.

In some cases, where speech correction has not been successful for stutters, the child or adult has responded to a perceptual-motor therapy program. An under-developed neuro-motor area may cause stuttering

in the eyes and nervous system as well as in the voice. This type of therapy should not be overlooked for students who have not responded to the present speech correction program. This is not to be used in place of speech correction program, but in addition to the present speech program.

EYE EXERCISE

Fifty-six per cent of our Special Education and Remedial Reading students do not have proper control of their eyes. Therefore, eye-hand co-ordination; eye exercises and eye focusing exercises will be a very important part of the perceptual-motor therapy program. Also, the child that does not have the proper dominant eye will go through a daily reading program with the dominant eye filtered by a red lens. While the reading material is covered by a green piece of acetate. Thus, filtering the vision of the dominant eye and the sub-dominant eye will be trained to become dominant. The stereo-reader is an instrument that can also be used in this training program.

Provided the eye does not change dominance in six weeks time, a program of rifle sighting with the right or left eye and a program of holding a 3/4" circular tube to the eye and extending it at arms length looking at a distance point. Then bring it back to the same eye you wish to become dominant.

If you loose the object, close the other eye until you are sighting through the tube again and slowly bring it back to the eye you are training. Be sure both eyes are open when doing this exercise. Eye exercise should not last more than two minutes without a rest period. Hold a target (pen or pencil) approximately 1½ feet in front of the child's nose. The target is then moved horizontally back and forth in front of the child. The head should not be turned, just the eyes. The target should move so the eyes turn to their extreme limits. Follow this with vertical motions. Then with circular or elliptic motions. Always include a 45° motion or a diagonal motion as this is the most difficult motion to follow. The head of the child should be turned so the dominant eye is encouraged to be the lead eye in the exercise.

While an instructor holds the pencil approximately 1½ feet from the child's nose, he moves it slowly toward his nose. If the child does not look cross-eyed as the pencil moves closer, it indicates that a problem of near-point focusing exists. If this problem exists, try to get the child to look cross-eyed two or three times during each eye exercise.

The program should be continued for two weeks after the eyes work smoothly. It should be remembered that this should first start with the child holding his own target and then progress to the swinging ball or the partner holding the target.

You can use a swinging ball on a string for this exercise with the small children if they lose interest in the target that is held in the hand.

EYE FOCUS EXERCISE

The child should focus on a distant object at his extreme right; then one at the extreme left; then extreme vertical objects; then continue this with different objects at different angles and distances for one minute. The head should not be turned when doing this exercise.

BALANCE BEAMS

Balance beams will be used in the school program. In the home a 1½" to 2" wide board may be laid on the floor and used as a "tight rope walker" uses the high wire. The arms and hands should be held out horizontally to give balance.

BALANCE BOARD

A balance board may be used in the home as it encourages balance in all direction

RESULTS OF READING TESTS

CASE S:

This twelve year old girl had an I.Q. of 120, but had never worked up to this potential and was considered "lazy" by her elementary teachers. This girl while a baby spent much time in a play pen during the winter months. When tested she had a left dominant eye, but had a right dominance in the areas of hand and foot and had a severe stepping eye.

Program:

This girl was put on a program of reading or watching black and white T.V. with her left eye filtered with a red lens and the page or T.V. screen covered with a thin piece of green plastic; thus, training the right eye to become dominant; She did the "flip flop" five-minutes per day, crept twenty minutes per day, walked a balance beam five minutes per day, and did two periods of eye exercises per day and was dropped from music lessons and music class from the start of the third week until the dominance had changed. Dominance was changed after five weeks and she was re-entered into the music classes after the sixth week.

RESULTS:

This girl did not like the program, but after a lateral dominance was established and the eyes started working smoothly, a noticeable improvement

was noted in school work and in her attitude toward school. She was moved from a low section to a higher section and improved her grade point average .7 of a full point. According to Achievement Test Scores, the girl showed a .8 of a year gain over her previous test results in areas of Reading, Language, and Arithmetic.

CASE D:

This twelve year old boy's I.Q. ^{dropped} from 114 in the third grade to 98 three years later. The father "a professional man" was concerned and agreed to carry a perceptual program in the home. This boy had not established a dominance in the area of the eyes. When testing, one eye would show dominant at one time, but the next time the other eye would test dominant. The right hand was dominant, but he was ambidextrous in the areas of the legs and feet. As a result of the eye continually changing dominance, they moved in a most "jerky" manner and he could not look cross-eyed.

A program was set up to filter the left eye 45 minutes per day, 10 minutes of creeping, 5 minutes of elephant walk, 2-2minutes eye exercise periods, and 5 minutes of cross-pattern walking.

It was felt that music would not have to be eliminated, but after one month music was eliminated, since there had been no improvement. After four additional weeks the right eye had established its dominance. The boy was encouraged to use the right

foot when kicking a football and etc. After lateral dominance was established the program was decreased to only include the eye exercise; and two months later the eye motion was fairly smooth. This boy was not faithful with the program which is probably why it was necessary to carry it on for four months. On the basis of an achievement test, the pre-test showed the boy to be one tenth of a year behind the average in Reading, Language, and Spelling. After four months the post-test showed the boy to be one year and one tenth ahead of his class in the same areas. Due to time the post test was not given in the area of arithmetic. This is really no great accomplishment due to the fatigue this boy would have developed as a result of his trying to read at the time of the pre-test. It is hoped his growth will continue and next year he will continue to develop better study habits.

CASE R:

This eleven year old girl also had a history of spending much of her time in a play pen while a baby. She had gradually continued to fall farther behind in her class. She was tested to have an I.Q. of 130 in the first grade, 129 in the third grade, 119 in the sixth grade. The mother stressed Reading and homework. All the other children

were honor students. She was sure this girl could also achieve this success. The girl was tested and could cross-pattern, creep, and walk properly; had a right lateral dominancy and only a slight stepping eye. This girl was very faithful with her program which was the same as "boy D" excluding the filtering. After two months she showed no growth beyond what she would have normally achieved, eventhough her eyes now worked very smoothly. This girl was again tested after four months, but she was still found to be approximately .5 or .6 of a year behind her class in the areas of Reading and Language. No improvement was found with this girl even though the interest of the girl and the parents was excellent and the program was carried on faithfully.

The three cases and one student in an elementary class were the first four home experiments in Marshall. After these results, we moved to enlarge the perceptual program.

CASES B AND L:

The parents were asked to come for a conference regarding B's (age 13) progress in school. This appointment had been tentative in that the parents had called previously concerning this boy's poor grades. Both boys had been adopted when small children and B had repeated the second grade.

Although B's I.Q. scores had shown a gradual increase (first grade- 83, third grade - 86, and seventh grade - 90) and his achievement test results had shown some improvement, he was receiving poorer grades each year. The parents were most interested in B's progress and had reading and arithmetic records for additional homework for summers, weekends, and nights when they did not have school homework and etc. They were most interested in the Perceptual program and asked if the younger brother (L, age 11, who was also have learning problems) could be included in this program. Since both were adopted no background was known when they were small babies. L's I.Q. had decreased from the first grade 100 to 90 at the third grade level. Both boys had a right lateral dominance but had stepping eyes. Both boys were asked to attempt a right hand sleep pattern, two minutes of eye exercises, ten minutes of creeping, and five minutes of cross-pattern walking in the home. B was given a 45 minute program in school with a Special Education class that stressed the Perceptual Exercises. (Described later). B also received two minutes of eye exercising in his Remedial Reading class. Both boys were excused from reading aloud in class, but to take part in all other classwork and discussion, silent reading, and

study periods. B showed only two tenths of a years growth in four months time. Where as, L showed seven tenths of a year's growth in the reading areas in the four months time. Both boys had developed smooth operating eyes.

CASES J AND L:

This case is somewhat similar to the last in that the parents requested J to be included with her older sister.

When first tested L, (age 12) was right eyed, left handed, and right footed. Before the program was initiated there was an accident which resulted in a slight concussion to this girl. When re-tested the left eye had become dominant which was surely the result of the concussion. In the third grade L's I.Q. was 119, but in the seventh grade her I.Q. test score was only 89. During the first and second year her achievement test scores were above or approximately at grade level, but in the sixth grade her achievement test scores showed her to be approximately two years below grade level in all areas. J (age 10) had a left dominant eye and all other areas being right. Both girls had stepping eyes, but L's was severe, where J's was only slight. Both girls were given their respective sleep pattern, twenty minutes of creeping, five

minutes of cross-pattern walking, two-two minute eye exercises; J was given a 45 minute filtering program to change dominance with music omitted during the third, fourth, and fifth weeks. Dominancy changed after five weeks of the program in J's case. L was given a game to play with her left foot to encourage left footed dominance. L was excused from reading aloud in class while the program was in effect. L's test in reading and Language averaged 4.9 grade equivalency in January, but when re-tested in May this area scored 6.25 grade equivalency. J, a fifth grader, tested 3.4 during her mid-year achievement test, but 5.55 at the end of the year.

CASE J. AGE 12

When J started to school, he was considered to be average in intelligence. J continued to fall farther behind in his achievement test scores until in the seventh grade he tested 134th in a class of 134. This boy was a very good athlete and as a seventh grader had been a member of a state champion baseball team and a member of a state basketball team. His I.Q. test scores had decreased from 101 to 90. His mother was a college graduate and stressed education most highly. She helped J with his homework and gave him extra reading. This boy was given an appropriate perceptual program as the last

case and filtered the left eye to change him to a right lateral dominance. His eyes had a most severe stepping motion. His parents saw that J worked a 100 per cent with the P.M.E. program and the father stressed that this "could also help his batting average." Eye dominance changed at six weeks and his eyes began to work much more smoothly. One test showed J having an achievement growth of 2.2 years during the complete school year and a 1.3 years growth was four months after the program was started.

The first part of the summer baseball season, J is having trouble hitting the ball.

CASE TABLE 12

This boy had dropped from an I.Q. of 115 in the first grade to 102 in the third grade and to 77 in the seventh grade. J was a very slow reader and some days could not read at all. By listening to tapes of his reading and by having him read single spaced lines of letter (typing in no definite order) it was found that he reversed letters. On one day he might reverse letters in one pattern as reversing letters four spaces apart on the same line. Or another day interchanging letters or groups of letters from the line below and over three or four spaces. J had not crept as a baby and had

had a brain injury before starting to school. T was put on a 45 minute program with a Special Education class in school the last eight weeks of the school term. He had a home program of 10 minutes of creeping, 2 - 2minutes of eye exercises per day, 5 minutes of cross-pattern walking exercises and the teachers were asked not to have him read aloud in school. One of the exercise programs was to be with one eye at a time and not to have them work together. We repeatedly tested his eyes and after six to eight weeks they did not show any indication of reversing or crossing letters or words. T has shown only a five tenths of a years growth during this complete school year. This gives him an achievement test score of 3.5 grade equivalency for a seventh grader. Eventhough he may have been put on the program too late to show much improvement, it is hoped that in another year he will show some improvement.

CASE K AGE 12

K has maintained an average I.Q. during his seven years of school. The I.Q. has run from 96 to 104 during this time. He is shown to have a left dominant eye which has a slight stepping condition. His parents stated that as a baby he started to be left handed, but they had made him change. He was put on an appropriate program for

the last eight weeks of school. His eyes seemed to be at a point of changing dominance, but had not done so at the end of the school year. He was given additional programs such as; sighting a rifle with his right eye and a program of sighting through a tube which is to be carried on with the filtering program for an additional month when he will again be tested. K has shown no growth during the last eight weeks, even though his eyes now work much more smoothly. This may correspond with Doman Delacato's theory that as dominance changes there may be a slight regression in the test scores for a period of about two or three weeks then we will start showing a gradual improvement.

CASE DL, age 13:

This girl has maintained an average I.Q. during her first three I.Q. tests ranging from 99 to 107. This girl had a left dominant eye and a slight stepping condition. She was put on a filtering program. This is a most unique case as her dominance changed in only two weeks time. She was tested after two additional weeks, but it only showed .25 years growth in this time.

CASE SD, AGE 14:

This boy has shown a decrease in his three successive I.Q. scores. First grade 106, third grade 95, sixth grade 88. This boy, even though being interested in school, has shown an increase in "laziness" trends. This has been the statement of some of his past teachers. It seems that even though he was interested, he could just not force himself to do school work. His grades would fall very low and he would work to bring them up some. After testing, it was found that he had a lateral right dominance and fairly smooth operating eyes, but could not look cross-eyed, no matter how hard he tried. The father took this boy to a ophthalmologist who stated, after being asked the specific question, that the boy saw everything such as his printed word and all close work double. This seems to be an inability of close area fusion of the eyes. The boy was given a program of elephant walk and repeated eye exercise. After working very hard for a period of two months, he is now able to bring his eyes together while he is holding the target. It is recommended that this boy continue his eye exercises for a total period of five-minutes per day, creeping, a swimming program, and as soon as he can

bring his eyes together more easily start his eye exercise with someone else holding the target. Even though this boy has not shown any extra ordinary improvement, it is hoped that he may do so in the future eventhough he is fourteen years of age.

CASE DS

This thirteen year old girl has maintained an I.Q. of +100. She had a right lateral dominance, the only problem being a slight stepping eye. She was selected for this program because her achievement had been progressingly dropping a little lower each year. She was put on a program of ten minutes of creeping, right-handed sleep pattern, and eye exercises two times a day. Her eyes soon smoothed out and she showed a 1.7 year achievement improvement in Reading in four months time.

CASE ML AGE 14:

This is an adopted girl whose I.Q. has ranged between 80 and 90. She had a stepping eye and was left handed, except a right-handed eye. She was put on a program to make her left eye dominant. This was accomplished the week

before school was dismissed for summer vacation. She was also most faithful in her creeping, cross-pattern walking and etc. This girl has been functioning approximately three years behind grade level. Although she did not make a fast spurt, at the end of the year her over-all improvement was 1.6 for the complete year. This cannot be contributed to the Perceptual Program, but to a very understanding Remedial Reading teacher. Provided this improvement continues, now that her dominancy has changed and the eyes work much more smoothly, I feel the program will be a great aid to this girl.

CASE MM

This boy was tested at the first grade and found to have an I.Q. of 99. When this boy entered our school, in the later part of the sixth grade, he had foster parents as his mother had died of cancer and the father was unable to keep the large family together. Since he was considered by his teacher to be a non-reader, we had him tested by a psychologist so he could be entered in a Special Education class. The psychologist found him to have an I.Q. of 88 to 89 points, so he was not eligible for an EMH class. MM was a severely disturbed boy, but could do well answering oral questions in class. When it came to the printed word, he was able to do very little in class.

His foster mother came in and was most concerned with MM, as he was unable to read or write. We had had MM in a Remedial Reading class for approximately one and half years, but even with this, there had been very little improvement, although he did fairly well in class discussions. MM was tested and found to have a left dominant eye and was put on an appropriate program as has been described and a right handed sleep pattern encouraged. MM after two months changed his dominant eye and his eyes became smoother (MM's eyes were jerky) and they improved over a period of time. The foster mother was giving him additional reading practice at home. We started getting reports from teachers that MM was beginning to learn to read. Since improvement had been shown, we asked the Special Education teacher to meet with MM one period a day to teach him to write. MM showed growth during the program, but due to the age of the boy, the growth may not continue.

CASE JB

This twelve year old girl had just moved from South Carolina and we were unable to get any school record from this state. She was tested and found to have to have an I.Q. of 88. Her mother stated that she had not crept as a baby. She was found to have a jerking eye and a left dominant eye.

A program of filtering was initiated, but at the end of school, dominance had not been changed. The program will be extended for one month in hopes that the dominance will be changed at that time. The girl, even though the dominance had not been changed, showed a .2 of a years growth during the program.

CASE T AGE 12

The mother stated that this girl had not crept as a baby and was having extreme learning problems. Her I.Q. had decreased from 113 in the first grade to 91 in the seventh grade. The girl had a lateral dominance, but had very severe stepping eyes. Her achievement was two years behind and due to personal problems, the girl was extremely nervous. This girl when regiven the perceptual test after six weeks showed no improvement. After questioning, she said she was only carrying on the program approximately one time a week. Since she was on the program approximately six weeks before the end of school and her eyes had not improved at all (of course she had not been faithful) she was encouraged to carry on the program during the summer. According to her test, there was no improvement. We will check the girl again after one month.

CASE DM

This twelve year old boy has had an average I.Q. ranging someplace between 110 and 94 since he had started to school. This boy was most immature and liked to play more than do school work. This boy had a left dominant eye, other areas having a right dominancy. After being put on a program, his father and he were most faithful in getting the daily program completed. His dominancy changed in only three weeks. We had an opportunity to have the results of two achievement tests in this boy's case; they showed an average of 2.6 growth in four months.

CASE JW

This boy has an I.Q. of 99 to 104 and is working at approximately one and a half years below grade level. A great interest in this boy was that he has stuttered eventhough he has had continous speech therapy since being in school. The boy had a left dominant eye and had jumping eyes. At the end of school his eyes were somewhat smoother, but the dominancy has not completely changed. Additional therapy was prescribed and we planned to test him again after one month of summer's vacation. One most encouraging note in this case is that his teacher commented that he stutters less than he did before. It has been noticed in the Junior High office that he has less

problems with his speech than he had before. Even though dominance has not completely changed, the achievement tests show a 1.7 improvement in the last four months.

CASE RD:

This twelve year old girl has had approximately an I.Q. of 100 since she has been in school. She had a stepping eye and an extreme dominance, even though her eyes tested equal by the school nurse. An appropriate program was set up. The smoothness in the operation of the eye was much improved, the eye dominance gave no indication of changing. An additional program of tube sighting was started to aid the filtering program. She was also given another eye exam by the school nurse and each tested equal. At the end of school the dominance was not as strong as before. We will test again to see if dominance has changed after one month.

Case RD showed an improvement in reading achievement of .5 of a year in four months, even though dominance has not completely changed.

We have had some of our Remedial Reading students on a home perceptual motor therapy program. The longest one student was on the program was four months; the shortest time being three weeks before the regular post-test was taken in Remedial Reading. The average

time that students had been on the program was six weeks. Four of the students had not corrected their perceptual or neurological re-organization problems when the test was taken, but they were counted in the results. Only two that were on the perceptual program showed a loss between the pre and post test and one of these students will probably have to continue for approximately four months before his perceptual problem will be corrected. The results of this test show that with all Remedial Reading students the average growth between the pre and post test was .8 of a year. Of course the 13 students that were in perceptual therapy training were also included with this group of 69 remedial reading students. By figuring the 13 remedial reading students that also had a perceptual motor therapy training program for an average of six weeks before the post test was taken, the growth was 1.7 of a year or twice as much as the average growth of all remedial reading students. The test that we are talking about here was the SRA Reading Test that is given to all of our remedial reading students at the first part of the school year and two weeks before the end of school each school year.

We are not saying that the Perceptual motor therapy training program was responsible for all this growth. It is just part of the total educational picture. Another item to be considered in this success story is surely the parent as we had group conferences with the

parents, also individual conferences, and the parent became a most important part (in some cases) of the educational team. It seems as though in some cases when there was very little parent interest, the results were small. These students were selected and invitations were sent to parents for a school conference. If we did not hear from the parent, the student was omitted from the program.

ELEMENTARY E. M. H. CLASS

This class had a regular period devoted to perceptual motor therapy training each day. The program consisted of: one minute masking, five minutes of flip-flop, ten minutes of creeping, five minutes of cross-pattern walking, one minute of eye exercises, ten minutes of creeping, five minutes on the balance beam, two minutes of eye exercises, and one minute of masking.

The above was only a general program as some students needed individual help and training in learning how to do the flip-flop, or needed additional creeping before they learned how to cross-pattern walk, or could not walk the balance beam. Very much individual attention was given to each child by the teacher, teacher's aid, physical therapist, or school nurse. The teacher's

end of the year comments regarding the program was, "That it was very good in that the eye exercise was a very good readiness program for school work, was good physical activity, it improved co-ordination and physical control; it was good in teaching responsibilities, improved student initiative, and was an aid in improving student behavior. After we started the program, we sent invitations to parents to attend group or individual meetings, but we received only about a third participation from our Special Education parents. Parents were asked to carry on the program in the home which showed an improvement in the child's co-ordination and behavior. The classroom teacher listed a weakness of the program being that we should have had more parent contacts and parent participation. I agree with this in that we took only the students in the Junior High School whose parents attended a group or individual meeting.

We used a pre and post readiness test for those students that did not have the ability to take an achievement test. A first grade pre and post Metropolitan Achievement Test was given to those students who could take the test. Test results are as follows:

TWELVE EMH STUDENTS BETWEEN THE AGES OF SIX AND TEN YEARS OF AGE:

Pre Test given January 15, 1968

Post Test given May 6, 1968

Girl's age	Word Knowledge		Word Description		Reading		Arithmetic	
	Jan 15	May 6	Jan. 15	May 6	Jan 15	M.6	Ja.15	M-6
6	1.3	1.5	1.3	1.7	1.3	1.5	0	1.2
Boy's Age								
9	1.9	3.2	2.1	2.4	1.7	2.2	1.7	1.7
Boy's age								
9	1.8	2.0	2.0	2.4	1.8	2.1	1.5	1.6

Average improvement in 3½ months time equal .4 of a year in grade equivalency.

READINESS TEST THAT ARE GIVEN TO OUR KINDERGARTEN CHILDREN AT THE END OF THE SCHOOL YEAR:

Numbers indicate percentile ranks:

	Pre Test January 15	Post Test May 6
Boy's age 7	69	70
Girl's age 8	73	92
Boy's age 10	61	73
Girl's age 10	44	57
Boy's age 10	42	46
Boy's age 10	14	17

	Pre Test January 15	Post Test May 6
Boy's age 6	23	27
Boy's age 6	10	10

SUMMARY:

Two students showed no improvement; three students very little improvement; six students had significant improvement; below is a summary of the improvements noted as a result of a parent questionnaire: Eight parents indicated a significant improvement in speech or that their children was carrying on conversations with members of the family that they had not been doing previous to the program. Two parents indicated that the children would now read books in the home that they had not done previously; one parent indicated that their child had stopped bedwetting; three parents stated that their children were sleeping better; five parents indicated that the child's behavior was more acceptable in the home; one parent indicated that as a result of the program the child did not have emotional problems on school days, but that he would not do the program at home because his mother was not Mrs. Mitchell. This child's only interest, according to the mother, was going to school where he could take part in this program with the group. One parent indicated that

One parent indicated that their child was much stronger and did not complain of being so tired after school.

The teacher indicated that four children had improved significantly in speech. Seven had improved in reading, three had improved in that their behavior was more acceptable than it had been previously to the program.

T. M. H. CLASS

This class is made up of 10 children that have I.Q.'s that are less than 50. These children are all between the ages of 6 and 12. Three boys were not put in the program (mongoloid) because it was felt they would benefit more in other individual instructional areas. One little girl became more hypertensive, which probably increased her seizures and was dropped from the program. We used volunteers from the P.T.A., Church groups, Woman's Civic Club, and etc. to aid in patterning the children for three months. After three months, all children could do the flip-flop themselves so the classroom teacher, teacher's aid, and Mrs. Mitchell, who is the perceptual motor therapy instructor, was all that was needed.

In this class we needed special crawl boxes, a patterning table, floor mats, and knee pads. The crawl boxes and tables were made and upholstered by

our school maintenance department. Therefore the cost was very slight. At the start of the program a student would be patterned for 2 - 5 minute periods each day; he then crawled and crept in the crawl boxes for 2- 10 minute periods and was masked 2 times daily. As they graduated in their ability to do things they entered into the following program: 1 minute of masking, 5 minutes of flip-flop, 10 minutes of creeping, 5 minutes on the balance beam, 5 minutes of cross-pattern walking, 5 minutes of crawling, 10 minutes of creeping, 2 minutes of eye exercise, and 1 minute of masking. After looking over the questionnaires that was answered and submitted by the parents of the trainable children and by the regular class room teacher. It was decided that the evaluation would be made strictly from their comments and questionnaires; not from the teacher or anyone connected with the perceptual program.

B AGE 6

This mother drove 43 miles one way each day to bring her son to Marshall so he could take part in the TMH program. The following will be her statements or what she submitted on the questionnaire.

"Our son will now watch T.V., play with his brothers and sisters, talk to me and his father where previously he would not sit still long enough to get

interested. He has calmed down considerably and talks much more. I'm happy he had an opportunity to take part in this program and feel that if this program had been over a longer period of time much more improvement would have been accomplished. We are, now, not ashamed to take him to family dinners. This program was over a four months period of time (this boy will be in an EMH program in another school next year because of the change in the family situation).

Only one sentence will be taken from the T.M.H. teacher's report which is: "I think words are almost impossible to use in describing the change in B."

W AGE 11

"I did not attend the school meeting, but we soon noticed W stood up straighter and was able to pick up his feet when he walked. W will play outside with other children, acts more mature, and will do and complete small tasks we ask him to do in the home. W has more stamina, seems better co-ordinated and I think the program has been beneficial for W. The teacher's comments are the same with W except she commented on speech improvement, interest span, and his ability to recognize letters in the alphabet. "Posture is the big improvement."

R AGE 10

"R doesn't stutter like he used to, does more work around the house (burns trash, dries dishes, helps clean up his room, makes his bed, and will wash cabinets and refrigerator). R's behavior is much better. The teacher agreed regarding the stuttering improvement and commented on the attention span increase, increase of maturity, will now help look after small children, now knows the names of his classmates, is a little better co-ordinated, and his drooling has lessened.

C AGE 7

C eats much better and has gained weight.

The teacher says C's attention span has increased, her speech has improved, seems more alert, occasionally recognizes letters and her name, and has become a little more responsible for herself.

G AGE '8 (brother of C)

G talks more and will watch T.V. for a longer period of time. He talks much plainer and will sleep all night without awakening.

The teacher's comments were: "G will now recognize the letters of the alphabet, enjoys looking at books, his speech has improved, attention span has improved some, has matured some, is more

concerned for others, his co-ordination is better and he now enjoys running and playing with his classmates on the playground. He can now tell the names of people and animals after a story has been read to him in class.

INTERMEDIATE E. M. H. CLASS:

This class consisted of 12 students between the ages of 10 and 13. One student moved out of the school district after the program started, and three students moved in after the program started and will not be included in the pre-test, post-test summaries. There is approximately three and a half months between the two tests.

Average Achievement test growth per student for three and a half months for eight intermediate EMH children:

Word Knowledge:	Word Discrimination:	Reading:	Spelling:	Arith:
0	.14	.3	0	.35

Two students showed .4 of a year's growth in Reading.

Two students showed .5 of a year's growth in Reading.

One student showed .7 of a year's growth in Reading.

It seems the advantages to this group academically

have not been significant when taking the group as a whole. There was some progress in some cases. It seems that for this age group we should test and carry on the program in an individual situation, rather than the group as a whole. In this class five had a mixed dominancy and we attempted to change the master eye. We were successful with two students, but with three we were not.

Two members of this class are eligible to return to a regular class situation next year.

JUNIOR HIGH SCHOOL E.M.H. CLASS:

This program was started with a group of seven E.M.H. children between the ages of 13 to 15 years of age. Since the program started we had one girl move away, and another girl was dropped from school as she could not be controlled in the classroom or on the school bus.

The greatest improvement in this class has been physical. To see this group walk, previous to the program, they would stand out in a group as all but one walked in a very stiff manner, not swinging their arms at all. All five students walk in a more relaxed manner and are swinging their arms for balance.

R has probably received more benefit from this program than all the other children. When the program stated his eyes were fixed and almost considered

immobile. His mouth was always drawn down at the corners in a very fixed, drawn manner. You could hardly understand R when he spoke. These conditions could have all been a result of extreme emotion, nervousness, and hypertension. R soon became more relaxed, his eye tracking ability improved, and in about two months increased his reading from a first grade level to a third grade level. But since this time, there has been very little improvement. His greatest benefit of the program has been in his appearance and in the fact that he is now accepted by the other children of the class.

In one half of the school year test results indicate the following improvements: reading - .4 of one year; word knowledge - .35 of one year; arithmetic - .38 of one year. I am disappointed in these test results, even though it would be somewhat higher than their average growth for the same period previous to this time.

TWO FIRST GRADERS:

One of our first grade teachers had two first graders that did not fit into the classroom situation. Both had low ability, behavior was such that they did not fit into first grade routine, short attention span, were unable to read and the girl had very poor

writing. The teacher recommended that this boy and girl have one period of perceptual training each day. Each day they joined a Special Education class for 45 minutes of the perceptual program. Eventhough they were only in the program two months, the teacher thought that it had helped both children. The girl became part of the classroom routine before the end of school. Both students improved in behavior and seemed to mature. The mother of the little girl listed these points of improvement: sleeps better at night, plays with other children, improved posture, improved walking, and that her reading ability had improved.

TWENTY - EIGHT MONTH OLD BABY:

This mother contacted me regarding her child that he could not lift or turn his head, could not roll over in bed, would not watch anyone as they moved about the room; but the mother thought he could see. This baby could kick his legs about the same as a one month old baby, but there was no purpose or meaning in the very little arm movement. The mother had heard about the perceptual program and wished to inquire if it might give hope for her child. After the pediatrician's approval the child was put on the following program: pattern 4 times daily for 5 minutes each time, masked for 1 minute each hour of the day when the baby was

awake; put on his stomach, on the floor, after each patterning. After two weeks of this program a crawl box was made. The box might resemble a sliding board more than a box in that it had an adjustable end that would hold one end higher than the other so the baby could crawl or slide down. By putting cornstarch on the upholstery plastic surface so that he could slide easier and with much help from the mother, he learned that he could get to the other end by kicking his feet. By this time it was obvious that he could see and he would work to get to the bottom of the crawl box to receive the *much deserved* praise of his mother. After two months he would laugh; could recognize his father, mother and sisters; he has been able to lift and turn his head for over a month; and could roll over in bed. It was estimated that he had developed approximately six weeks to two months in this two months time. The only bleak area was in his arms and hands. If placed in a position he would use the arms to push and would grip your finger very slightly. The program was changed somewhat after two months in that his hands and arms were massaged approximately six times each day with a piece of corduroy or carpeting and his eyes were exercised each day with a pen type flashlight. This has been added to his program approximately three weeks and his arm movements seem to be progressing.

We have been taking a movie record of the baby since the program started, so we can have some definite method of evaluation.

The child's problem apparently was the result of only partial blood circulation to the brain before birth.

MASKING: This is a procedure of having the child inhale for one minute in a plastic or paper bag. He rebreathes his own carbon dioxide. This stimulates the blood flow and increases the lung capacity.

STUDENTS NOT READING ALOUD: The reasons for this was taken from a Philadelphia Study that was written up by Dr. Carl H. Delacato in his book, The Treatment and Prevention of Reading Problems. Stepping eyes are partially a result of a nervous condition; poor readers that are asked to read aloud before a class will become more intensified. After their eye co-ordination has improved and they have received some self-confidence in their reading ability and the child can again be permitted to read aloud in class.

"LAZINESS:" I agree with the theory that many students that are called lazy by their teachers have some physical problem, such as, poor eyesight, stepping eyes or a mixed dominancy, which will cause eye or mental fatigue. Most of these "lazy" students we have checked have perceptual lag or perceptual disorganization.

OMIT MUSIC: It is a theory that the subdominate side of the brain is the tonal side. Eye dominance cannot be changed if music is not kept to a minimum. We found that it was almost impossible to change the master eye if music was not omitted.

SUMMARY:

In Marshall's Perceptual Program 59 per cent showed significant growth that could be evaluated by physical improvement, or measured by academic test results over what they would have normally accomplished. Nineteen per cent showed very little academic growth or physical improvement over what they would have normally accomplished. The remaining 24 per cent showed no significant improvement or seemed to regress. Some of these had not corrected their perceptual condition and their program is being continued during the summer months. The children in the Elementary E.M.H. and T.M.H. classes showed more improvement than the Special Education classes of Intermediate and Junior High age. In our junior high school program for reading problem children, we had three requirements: (1) Children that had continued to show less than one years growth each year after the first grade. These children had been above average in intelligence and achievement in the first grade. (2) Children that had a definite perceptual problem. (3) We took only

those children whose parents showed an interest in the program. For the most part, the home program was most worthwhile with immediate results.

FUTURE RECOMMENDATION:

We should start a program in kindergarten that will take care of the perceptual lag or perceptual problems before the student becomes discouraged with school work. The child that can't focus his eyes on the printed word, cannot follow the printed line, or is confused because of mixed dominancy will soon lose interest in school. We should also encourage parent participation in this program.

We should be selective with the same type of program as kindergarten for the children in our first and second grades.

From the third grade through the eighth grade we should make perceptual evaluation tests of all students that are reading below grade level and the "laggy" students that are working to apparent capacity. The parents of these children that have been selected will be contacted and the program explained to them. A definite planned program would be sent home with each parent that is interested in his child taking part in the perceptual program. The perceptual teacher and the school nurse would re-test, re-evaluate and keep adjusting the child's program according to his needs. With a good kindergarten program and a

selective program for first grade children, the need for home programs in later grades will gradually be eliminated.

Continue a perceptual program in the Elementary E.M.H. and T.E.H. classes and be selective according to the needs of the older children in the Intermediate and Junior High classes.

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