



1969

Tikvah Institute for Childhood Learning Disabilities: Evaluation of a Curriculum for the Perceptually Handicapped Child

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Recommended Citation

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TIKVAH INSTITUTE FOR CHILDHOOD LEARNING DISABILITIES:
EVALUATION OF A CURRICULUM FOR THE
PERCEPTUALLY HANDICAPPED CHILD

by

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A.A., Jewish University of America, 1962
B.A., Roosevelt University, 1964

A Thesis Submitted to the Faculty of the Graduate School
of Loyola University in Partial Fulfillment of
the Requirements for the Degree of
Master of Arts
February

1969

ACKNOWLEDGEMENTS

It is with gratitude that the author acknowledges the contributions of Miss Judith Bluestone, Mrs. Beverly Williams, and Mrs. Adina Katzoff. These capable members of the Tikvah staff made the school successful and thereby contributed to the purposes of humanity. The author is especially indebted to the Founder and Director of Tikvah Institute, Miss Carolyn Brenner, for her invaluable assistance in every phase of this project. Miss Brenner is credited with the total operation of Tikvah, and her endeavors for the education of children have been an unlimited source of hope and inspiration to all who know her.

This paper is dedicated to my wife, Naomi, whose sacrifice and personal inspiration contributed so much to this effort. Her support and assistance were invaluable in the writing of this work, and her encouragement is deeply appreciated.

A.G.S.

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CHAPTER ONE

INTRODUCTION

In September 1967, a non-sectarian school for perceptually handicapped children opened its doors in Chicago, Illinois. Tikvah¹ Institute for Childhood Learning Disabilities, Inc. opened with two classes of six students each and became a pioneer in this special education field. This thesis will deal with the school and its first year of operation.

Tikvah's founder, Miss Carolyn Brenner, conceived of the school while travelling the country as an actress and spending much time as a hospital volunteer and teacher. After settling in Chicago, she gathered a Board of Directors, planned an educational philosophy, contacted professionals in the field of special education and related disciplines, and hired a staff. Much publicity ensued and led eventually to the long waiting list of students. Since its inception, Tikvah Institute has become known and approved as an educational institution and as an innovator in training the perceptually handicapped child.

Tikvah Institute was designed to serve children who were unable to learn successfully in an ordinary classroom situation, even though they were of

¹Tikvah is the Hebrew name for "Hope" and is the school's motto. Its credo is "It will be, Because it has to be."

normal or of above average intelligence. These children were not retarded nor were they severely emotionally disturbed nor did they appear handicapped except in specific learning situations. They were perceptually handicapped. Their learning disabilities were often the result of limited brain dysfunction, though much of the brain is functioning well. These disabilities were often accompanied by emotional factors and behavior problems due to the child's inability to orient himself to his environment.

It is the purpose of this thesis to delineate the administrative and curricular aspects of the school. An attempt will be made to lay out in detail a curriculum significant in the education of the perceptually handicapped child and to evaluate that curriculum in terms of progress noticed in the children. The various areas of perceptual handicaps will be explored and examples of characteristic behavior will be included for each.

Tikvah devised a curriculum through research and innovation. Careful record was kept as to the nature and technique of all educational activities. This thesis presents the curriculum, in summary, as used at Tikvah Institute. An experimental study was conducted to evaluate the success of this curriculum as determined by the progress noticed in the children. This researcher was testing the following hypothesis:

The instructional program of Tikvah Institute is making strides in the education of perceptually handicapped children which can be expressed by significant progress in academic achievement.

The children were tested at their entrance to the school in all areas of educational achievement. At the conclusion of the school year, re-testing was conducted to conclude the achievement attributable to Tikvah's educational program. This thesis then investigates the significance of the test

results.

In curriculum planning, it is extremely important to keep constantly informed on the effectiveness of the program; even more so when devising an innovative curriculum. The goals of this thesis therefore include the following: 1) the formal exposition of a new approach to special education for the perceptually handicapped child, 2) the evaluation of academic progress of the children undergoing the curriculum, 3) the determination of possible significance of academic progress, and 4) the statement of implications and suggestions deduced from this study.

It is hoped that this study will be of importance to many educational and governmental groups. Besides the validation of the curriculum, the implications in terms of further actions and deeds in the field should offer a formal basis for new and much needed support. It is abundantly clear that there is great need for further investigation and involvement in the field of learning disabilities.

CHAPTER TWO

REVIEW OF LITERATURE

This study lacks background literature in that we are dealing with an infant institution. In this chapter, we present literature relevant to the field of the education of the perceptually handicapped: the history of investigation of the problem, the educational factors and functions involved, and the derivation of the definition used at Tikvah. At the conclusion of this chapter, this literature will be related to the present principles under which Tikvah operates.

HISTORY OF THE CONCEPT

Early literature, prior to 1920, on minimal brain dysfunction is sparse and generally concerned with adults who sustained brain damage. These observations were general and unrelated to the problems of education and classification. Several early references describe "nervous conditions" in children which affect learning and behavior (1).

During the period between the two World Wars, many papers appeared and could be considered the descriptive forerunners of certain aspects of minimal brain dysfunction. The works of Bender (2,3) and Orton (4) are of particular importance. Bender presented considerations of the psychology of organic disturbances of the cerebellum to show the close relationship between physiological and psychological development. He stated the psychiatric implications of organic brain disorders, personality problems of the child with a closed

head injury, and body-image problems of the brain damaged child. A large number of references are devoted to linking specific etiologic agents and the resulting changes in behavior and learning abilities (5,6,7,8,9).

The early work of Gesell and Amatruda (10); Werner and Weid (11); Strauss and Werner (12); and Strauss (13) sets the stage for the concepts of brain dysfunction in children and the child with minimal brain dysfunction as they are presently constituted. The classic work of Strauss and Lehtinen (14) became the first comprehensive presentation on the topic and is a reference frequently cited by later authors. They attempted to delineate disturbances in the brain injured retarded child, and stated that although defects of the neuromotor system may be present or absent, disturbances in perception, thinking, and emotional behavior, singly or in combination, are characteristic. General principles were presented for the education of the brain injured child, including teaching arithmetic, reading and writing, and suggestions were made for modifications of classroom procedures to reduce hyperactivity. As is the case with many early works, this volume represented the essence of twenty years of foregoing study. In the light of the later expansion of concepts, Strauss and Kephart acknowledged the need for alterations in theories and applications as new data accumulated (15).

This volume has been very influential in the production of fresh considerations in the areas of pathology, diagnosis, education, and investigation of children with learning and behavioral disabilities. It focused attention on the neglected area of individual differences among children. It also is an excellent illustration of the usefulness of collaboration on a problem area.

Since 1950, the literature has become increasingly loaded with clinically oriented articles and studies of the disabilities under the general concept of minimal brain dysfunction in children. The recent volume edited by Birch (16); the comprehensive review of mental subnormality by Masland, Sarason, and Gladwin (17); and recent standard texts of child psychology, neurology, pediatrics, and psychiatry present an extensive review of the literature behind the present concept of the perceptually handicapped child. Much of the aforementioned is also referred to in the report by the U.S. Department of Health, Education, and Welfare monograph (18).

EDUCATIONAL FACTORS AND FUNCTIONS

Johnson and Myklebust (19) explain that children learn normally only when certain basic integrities are present and when proper opportunities for learning are present. The primary concern in this discussion is the integrities that must be present for learning to ensue normally when opportunities are optimum or at least average. These integrities were categorized into three types: psychodynamic factors, peripheral nervous system functions, and central nervous system functions.

In the past, it was assumed that a child would learn without difficulty if he had adequate vision and hearing and all of his mental capacities. Then came the era when childhood autism, childhood schizophrenia, psychogenic deafness, emotional autism, and psychogenic reading disabilities were recognized (20, 21, 22, 23). A reconsideration of learning processes became necessary and, as a result, deficiencies in learning had to be appraised in terms of possible psychogenic involvement.

Through the works of Mowrer (24) and Piaget (25) we have begun to

understand the importance of psychodynamic factors in learning such as identification. Studies of language development indicate further that imitation is essential. Brown and Bellugi (26) report that the most basic step is identification and when this occurs normally the child begins to imitate. Through imitation he achieves ability to internalize. As internalization proceeds he begins to assimilate his world. Therefore, it appears that there is a hierarchy of psychic processes requisite to learning normally.

Another requisite for normal learning is intactness of the peripheral nervous system. The child learns by receiving information through his senses and through his input systems. Many years ago educators recognized that integrity of hearing and vision was essential to normal learning. As a result, special education was provided to meet the detrimental effects deriving from these deficiencies. Gradually, as knowledge accrued concerning the ways in which sensory deprivation modified learning processes as found in normal children, a psychology of deafness and blindness developed (27, 28, 29). Through these developments, progress has been made in understanding the role of the senses in learning. Children with dysfunctions of the brain often suffer from overloading; the senses deliver more information than the central nervous system is capable of integrating. Specific educational methods and principles were developed to compensate and remediate these learning deficiencies.

The third requisite for learning normally is integrity of the central nervous system. Until recent years children who presented problems in learning and adjustment were categorized as being mentally retarded, sensorially impaired, emotionally disturbed, or as having motor disorders. Gradually,

researchers became aware that there were children who were unable to learn to comprehend, speak, read, write, tell time, play, calculate, distinguish between right and left, or relate well with others and yet who were not mentally retarded, had no sensory impairments, were not primarily emotionally disturbed, and did not present problems of motor disability. Through the need to find a new, more appropriate and meaningful designation for these children, the concept of minimal brain damage and learning disabilities arose.

DEVIATION OF TERMINOLOGY

One of the early terms for designating children with neurogenic learning and adjustment problems was brain damage. They may be developmental or they may occur on an endogenous basis and be hereditary in nature (30, 31, 32). The term damage assumes that normalcy persisted up to a given point in the life span and was unsuitable for children in whom such circumstances did not pertain. Applying the term minimal only complicates the problem, as indicated by Birch (16) and Myklebust (27). Use of this term arose in attempting to distinguish between children whose involvement was minimal as compared with diffuse.

Stevens and Birch (33) proposed Strauss Syndrome as a way for designating children with learning disabilities, reference being to the significant work of Strauss and Lehtinen (14) which served as an impetus for many investigators. Despite the importance of this work, it is now apparent that their classic description of the brain injured child is not wholly applicable.

A more adequate term, neurophrenia, suggested by Doll (34) is used to mean the "behavior symptoms ensuing from central nervous system impairment." This was unsatisfactory as being too inclusive and lacks specific reference to

the problem.

Among others, Orton (4) proposed specific dyslexia or specific reading disability to refer to children with a disability in learning to read as a result of neurological involvement. This designation has diagnostic and educational value but it cannot be applied to those who have learning disabilities other than dyslexia.

More recently it has been suggested that children with learning disabilities be categorized as having a minimal cerebral dysfunction syndrome (35). Though this term may at times be useful, it has limitations for general applicability. For some children it is inaccurate and it lacks suitability for needed legislation and for educational classification.

The remaining term is one which has been recognized by the U.S. Department of Health, Education, and Welfare (18) and concurs with the definition officially accepted by Tikvah. Minimal brain dysfunction refers to children of near average, average, or above average general intelligence with certain learning or behavioral disabilities ranging from mild to severe, which are associated with deviations of function of the central nervous system. These deviations may manifest themselves by various combinations of impairment in perception, conceptualization, language, memory, and control of attention, impulse, or motor function. Similar symptoms may or may not complicate the problems of children with cerebral palsy, epilepsy, mental retardation, blindness, or deafness. These aberrations may arise from genetic variations, biochemical irregularities, perinatal brain insults or other illnesses or injuries sustained during the years which are critical for the development and maturation of the central nervous system, or from unknown causes.

CHAPTER THREE

ADMINISTRATIVE ASPECTS OF A NEW SCHOOL

PERSONNEL

This section will describe the various staff positions in Tikvah Institute. Their responsibilities will be explained to give further insight into the administrative framework of the school. At the end of this section, an illustration of the chain-of-command has been included.

The Director and Founder of the school, in the person of Miss Carolyn Brenner, started the school from an idea and has been responsible in major part for the success of the endeavor. She has been in charge of over-all operations and is responsible only to the Boards of Directors and Trustees of which she is also a member. Her work included the areas of fund-raising, parent-school relations, many physical school needs, school planning, and other educational duties.

There are four boards working for Tikvah Institute. The Board of Directors was formed of prominent, interested members of the community in 1966 as the first step toward obtaining a state charter and as the first assurance of financial assistance for the early months. The corporation's officers were chosen from this body and they served the school for the first year. The Board of Trustees was composed of certain members from the Board of Directors chosen on the basis of proven interest, involvement, and ability. This smaller group is the most basic governing group of the school and is responsible for all official school policy. The third board is the

Medical and Professional Advisory Committee. A complete list of all members can be found in the appendix. This board reviews all student applicants, and the various specialists are available for consultations as needed. Excellent professional and medical assistance is available for every area of child care and health. The fourth and last board involves the religious education of the Jewish children. The Rabbinic Advisory Board is composed of local Rabbis, appointed by the various Rabbinic groups, who serve as consultants to the Director of Religious Education and assist with the various religious ceremonies related to the Jewish faith.

The Director of Education is responsible for forming the school curriculum and taking all steps to implement it. She must search out and purchase materials and assure their proper use. It is also her duty to train the teaching aides and prepare them for assisting the perceptually handicapped child. Regular staffings are held with the teachers, the Founder, and the Psychiatric Social Worker, and the Director of Education is responsible for their co-ordination and in-service training. Her direct superior is Tikvah Institute's Founder and Director.

The Director of Religious Education is in charge of the religious education of all Tikvah students and he does the actual teaching of the Jewish students. He will also teach ministers of other religions the methodology of teaching the perceptually handicapped and supervise this instruction. He is responsible for the formation of an individual curriculum for each student and the implementation of this education. The Director must also train aides to assist in this portion of the Tikvah child's complete education.

Every educational institution must presently be involved with

application for outside funds, both private and governmental. Tikvah has a Director of Research, which is now a part time position performed by the Director of Religious Education. The Director of Research is responsible for the searching out and applying for grants, stipends, and other outside financial supports. It is also his duty to conduct various research projects involving the school for purposes of validation of school results and various methods.

The Psychiatric Social Worker is responsible for a vital part of the over-all Tikvah program. It is her duty to screen the parent applicants and conduct twice monthly parent counselling sessions. In most cases, the perceptually handicapped child presents a problem to family stability and adjustment, and it is the duty of the social worker to assist the resolution of these difficult problems and thereby allow the school the possibility of optimum results.

The responsibilities of the Tikvah teacher include those usual for any classroom teacher. However, because of the special techniques involved, the Tikvah teacher must possess a special education and a special personality. She must be familiar with the most current developments in the field and assist in the implementation of the teaching aides into the educational program for the children. Her direct superior is the Director of Education, and the teacher must prepare written reports of pupil progress for the parent conferences held four times a year. She must present a monthly progress report to the Director of Education and to the Founder-Director. Her responsibilities also include participation in monthly staffings held for the entire staff. By definition, the teacher must shoulder a major responsibility

for the pupil at the school.

Auxiliary staff provide many valuable services for Tikvah students. The volunteer aides work in the classroom to support the teacher. They also work on many extra-curricular activities such as trips, special projects, and lunch-time duties. They undergo special training lectures spanning fifteen weeks. The Tikvah Teens is a group of seventy high school students who assist the school by producing educational materials and by raising funds. They also have been supportive in the classroom and become "big brothers and sisters" outside the classroom. The parents also assist in many non-classroom activities and are a valuable source of support.

PUPIL SELECTION

Student selection and admission follows a rigid plan. The first necessary step is for the parent to contact the school. This must be done by the parents and not by any referral agency. Parents have been referred to Tikvah from many sources including the Chicago Public Schools, hospital evaluation and child guidance centers, all religious charities, juvenile courts, private physicians, school psychologists, and Easter Seals Society among others. Parents then must send in all pertinent medical and previous educational reports. These are evaluated by the screening committee and must meet the following criteria for admission.

1. Lack of success in an ordinary classroom situation.
2. Normal or above average intelligence, thereby making him ineligible for existing programs for retarded children.
3. Medical (neurological) evaluation indicating minimal brain damage or dysfunction as a result of congenital or post-natal injury, illness, or possible metabolic dysfunction, etc.

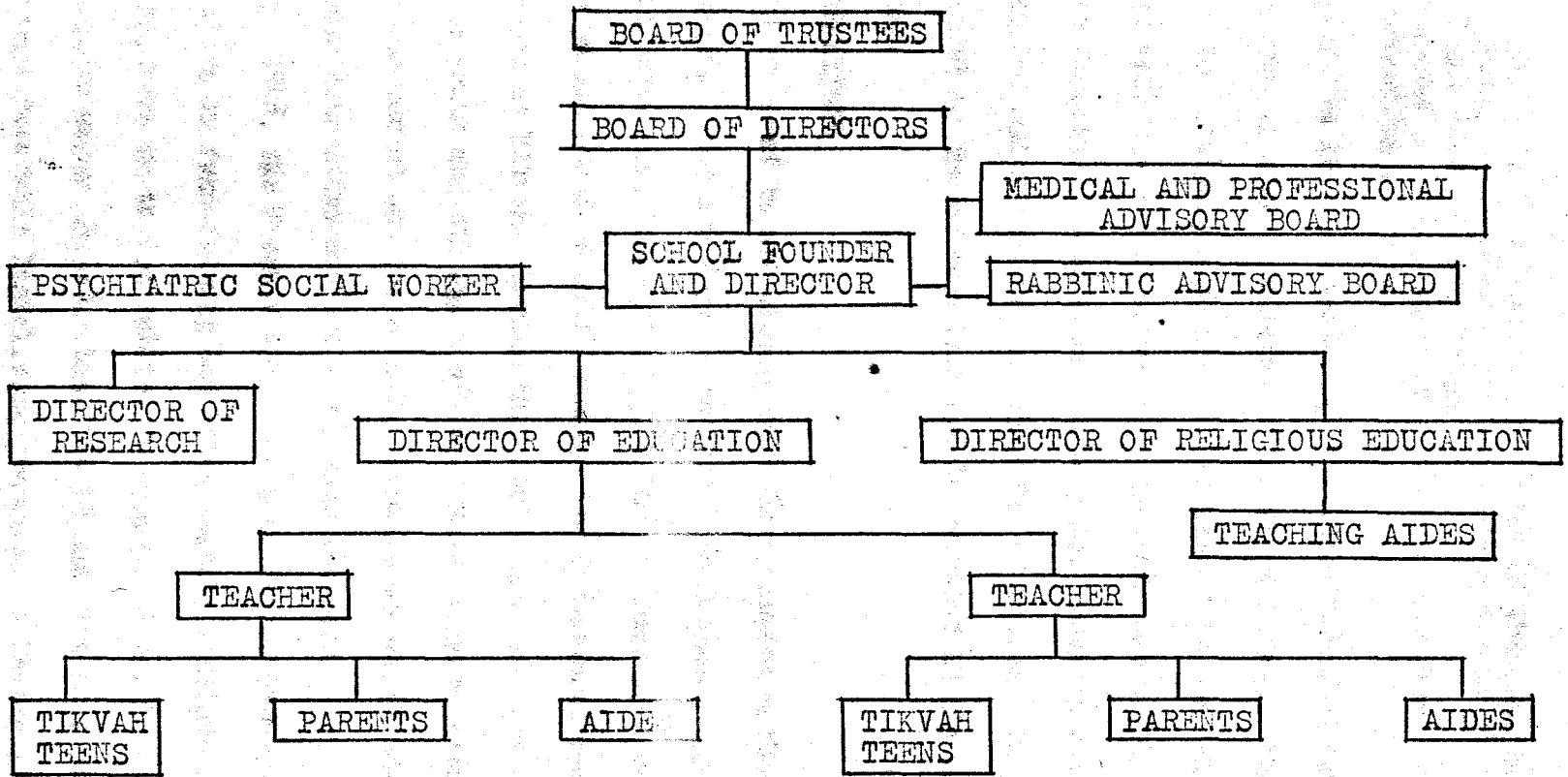


Figure 4.1 Administrative Organization of Tikvah Institute

4. Psychological evaluation indicating an abnormal discrepancy in areas of learning and/or problems in visual motor co-ordination.
5. Consent of both parents to attend regular group counseling sessions.

All student applicants are then tested by Rehabilitation Institute of Chicago, and the Tikvah staff participates in the staffings. When all reports are in, the remaining applicants are screened by the Tikvah staff. The parents meet with the social worker and the child meets the Founder-Director and the Director of Education. After this intake process, the parents are notified and the child qualifies for admission. The student's name is then placed on the waiting list and is enrolled in the school when an opening occurs.

PARENT-SCHOOL RELATIONS

Parents are required to use proper channels to approach the staff on any educational matters. They are free to contact Miss Brenner, the Founder of the school, when necessary, but contact with the teachers is reserved for three quarterly parent meetings which replace the traditional report cards. No marks are issued at Tikvah. During these briefings, parents are free to inquire about the child and air any problems. Miss Brenner serves as the liaison between the parent and the school. Parents do assist the school in many non-classroom activities and are a valuable resource.

In February, 1968, the Parents and Friends of Tikvah Group was formed. This group is active in fund-raising and holds monthly meetings to which they invite various speakers on topics related to perceptual handicaps. This group not only raises money and educates, but it has also made efforts towards getting more favorable legislation proposed. A letter from a Tikvah

parent telling the Tikvah story and soliciting support is filed in the appendix to this paper. This letter expresses sentiments shared by the other Tikvah parents and symbolizes a major change of attitude on the part of this mother. Similar letters were sent to other public officials and have appeared in various local papers.

CHAPTER FOUR

CREATION OF AN INNOVATIVE CURRICULUM

SCHOOL STRUCTURE

Tikvah Institute was designed to serve children who were unable to learn successfully in an ordinary classroom situation, even though they are of normal or of above average intelligence. These children were not retarded nor were they primarily severely emotionally disturbed nor did they appear handicapped except in specific learning situations. They were perceptually handicapped. Their learning disabilities are often the result of limited brain dysfunction, though much of the brain is functioning well. It is often accompanied by emotional factors and behavior problems due to the child's inability to orient himself to his environment.

Recent studies have revealed that a breakdown may have occurred in these children's learning processes due to deficiencies in auditory and/or visual perception, often accompanied by the lack of motor co-ordination. They may not be able to read, or to understand and integrate what they read; they may read well and be totally unable to work with numbers; they may retain material which they hear but be unable to learn through sight. While able to express themselves well orally, they may be unable to do so in writing; they may recognize similar designs or figures and yet be unable to reproduce them. They may be able to throw a ball, but be unable to judge the position in order to kick it.

Whereas the child's eye and/or ear may be medically perfect, the brain center which interprets the information sent to it may not be functioning adequately. Medical treatment for this brain problem has not yet been perfected, however specialized therapeutic teaching techniques can be employed so as to promote adequate learning. If such special techniques are not employed and adequate learning does not take place, then the effect could become the same as retardation.

The individual teaching methods at Tikvah Institute were directed at strengthening and enhancing the child's strong points and re-training him to compensate for his deficiencies. The needs of each child were determined and the teaching program was established. These methods were designed to be flexible and include established teaching techniques where they were effective. Tikvah employed a multiple sensory approach to learning along with current trends in general brain re-training. The approach of the school was creative and experimental with its aim being the fullest use of each child's potential. The ultimate goal of Tikvah was to return the student to a regular classroom after re-training.¹

To further understand the nature of the curriculum, the perceptual handicap syndrome will be explained. Some of the problems evident in perceptually handicapped children include the following:

1. Learning uneven in various areas
2. Perceptual disability
3. Over or under active
4. Poor co-ordination

¹The above statement of aims and philosophy is from the official Tikvah brochure.

5. Impulsiveness
6. Over emotional-"high-strung," easily panicked
7. Short attention span
8. Soft neurologic signs--small deviations that can be described as "normal"

The Tikvah curriculum was designed to remediate the factors of the individual child's condition, in terms of the above discussion.

Each of the two Tikvah classes was composed of six students, eight to twelve years of age, selected only on the basis of the perceptual handicap. Tikvah took no cognizance of race, creed, sex, or family heritage. There was one teacher and a pool of aides assigned to each class, with the school directors designated for overall supervision.

The school was non-graded in consideration of the many various academic levels of the children. Each child worked on his own level at the rate of instruction appropriate to the individual. Progress at Tikvah could be achieved on any level of the educational ladder. No report cards were issued, and parent briefing sessions were substituted to afford maximum understanding and positive parental co-operation.

CURRICULUM AREAS

The Tikvah curriculum had to be three-fold to achieve the goal of remediating students for return to regular classrooms. The regular subject matter areas were taught in keeping with academic requirements. It was also necessary to include educational methods to re-train the students and equip them for a normal learning situation. Therefore, perceptual training represented an area of major concentration. These two curriculum areas will be discussed in this section and the area of social learning will also be

explained.

DEVELOPMENTAL STAGES OF LEARNING

To place the perceptual training phase of the curriculum in perspective, it is necessary to explain the developmental stages of learning. This will pinpoint the various areas of perceptual training and further designate the point at which the perceptually handicapped child deviates from normal learning patterns.

Six general stages of learning are recognized¹ in sequential order: (1) Gross-Motor Stage, (2) Motor-Perceptual Stage, (3) Perceptual-Motor Stage, (4) Perceptual Stage, (5) Perceptual-Conceptual Stage, and (6) Conceptual Stage. They are hierarchical, building upon themselves in a related series, although it is recognized that there is some overlapping.

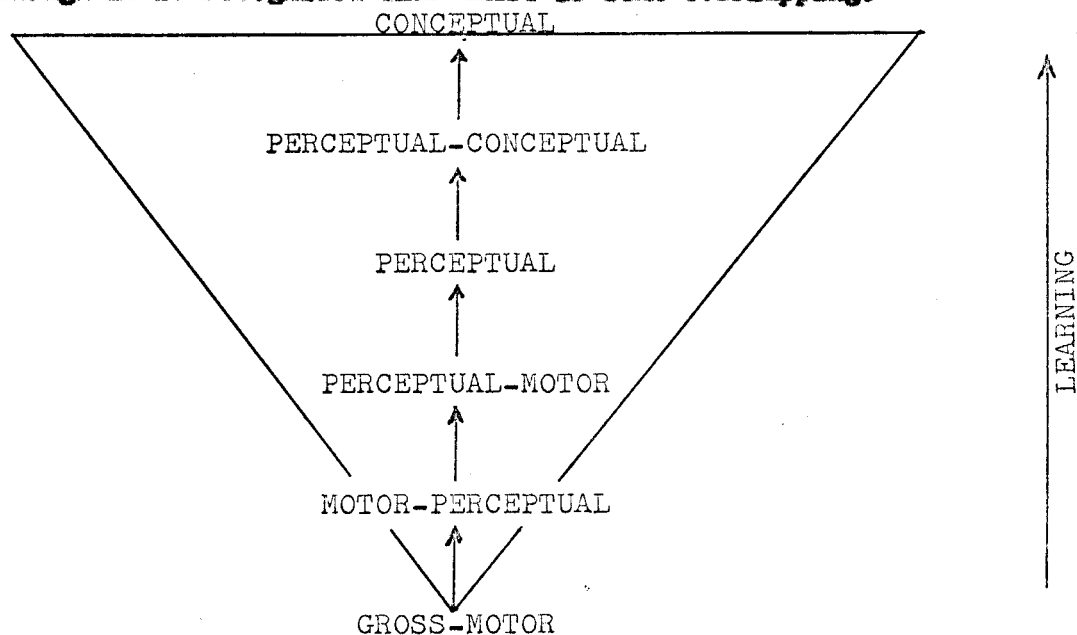


Figure 5.1 The Developmental Stages of Learning

Ebersole, Kephart, and Ebersole. *Steps to Achievement for the Slow Learner*. Merrill Publishing, Columbus, Ohio, 1968.

The first stage is Gross-Motor. The child's first attempts to organize his environment occur as he maneuvers and receives sensory information. Motor control, for example, is important for accurate kinesthetic information. For a large number of children, the learning difficulty begins at this early motor stage. A lack of control causes the child to stumble, to spill things, or to be slow in learning to manipulate his hands. The child learns to use motor responses to accomplish certain goals, but brain damage may prohibit him from expanding motor responses to form the basis of information gathering. He is in trouble because he has not developed a flexible motor interaction with his environment; he is learning a motor skill and not a motor pattern. A motor skill is an act performed with a high degree of precision, and only limited variation is possible. A motor pattern is co-ordinated motor behavior composed of a combination of movements, adapted to serve a purpose. Motor patterns are essential for information gathering at a very basic stage of the child's development. Four educationally significant motor patterns are 1) locomotion-which move the body through space, 2) balance and maintenance of posture- which establish spatial orientation and relationship to gravity, 3) contact - which develop skills needed to manipulate objects, and 4) receipt and propulsion - which investigate movements in space.

Motor explorations are still the controlling aspect of the Motor-Perceptual Stage. However the child begins to move more efficiently by using data he perceives or has perceived, during motor explorations. For example, the child no longer bumps into a wall when he crawls across the room because he sees it is there and interprets what it means.

In the Perceptual-Motor Stage, the child acquires ability to control his

maneuvering in terms of perceptual information. Maneuvering and the perception reinforce each other, enabling the child to stabilize an accurate impression. If this stabilization does not occur, the child lives in two different worlds: 1) the perceptual world in which he sees, hears, tastes, smells, and feels, and 2) a motor world in which he responds. When these two worlds are not matched, the child gains conflicting information and is constantly confused by two sources of information that are not identical.

In the Perceptual Stage, the child manipulates one perception against another, without the necessity of motor intervention. The child notices that objects have perceptual similarities, and is able, for example, to sort cardboard squares, circles, and triangles by simply looking at them; it is not necessary for him to feel them to differentiate. Perceptual discrimination can be practiced and learned. Exercises for auditory discrimination, auditory memory and sequencing, visual discrimination, and visual memory and sequencing are needed to assist in training at this stage.

The fourth stage is Perceptual-Conceptual. As the child deals with perceptual similarities, a concept begins to develop from percepts. For example, the child now knows that a square and a triangle are different because one has four sides and the other has three. This stage overlaps but represents a definite progression in the learning procedure.

In the Conceptual Stage, the child learns to group and to relate perceptual data into meaningful generalizations which he can use in the future. Conceptual thinking may be taught by using concrete perceptual-motor information, but the concern with the conceptual stage is that its development cannot be physically manipulated as easily as in the preceding developmental

stages. The actual relationship of some information requires an element of abstract visualization.

Perceptual Training

At Tikvah Institute, various perceptual training exercises¹ were integrated into the curriculum. The above discussion provides the framework into which these training procedures were set. The perceptual phase of the curriculum will now be explained and in keeping with the scope of this paper, several examples of the many actually used, will be included.

The first perceptual training area was visual discrimination. The following is a list of characteristics which prevail among students with visual perceptual handicaps:

1. Child confuses similar letters or words.
2. Child takes time in discriminating letters or words.
3. Child shows reversal tendencies.
4. Child shows difficulty reading and following directions.
5. Child has poor visual discrimination memory.
6. Child has problems discriminating sizes, shapes, colors, and positions in space.
7. Child has problems retaining visual sequences.
8. Child has difficulty with analysis and synthesis through visual sources.

In consideration of these deficits, the Tikvah curriculum included the following remedial oriented exercises:

¹Extensive use was made of exercises mentioned in Johnson and Myklebust, 1967.

1. Teach letter sounds (beginning, ending, and blends).
2. Teach word families (i.e. rat, cat, bat, mat, etc.).
3. Improve memory of letters and words (groupings).
4. Improve shape discrimination (use of geometric figures).
5. Improve visual sequentialization (use of colored beads).
6. Improve word recognition (use of word-picture drawings).
7. Improve rapid visual discrimination (use of exercises to pick out correct word).
8. Improve shape perception (use of puzzles).

The second area was that of spacial organization. Difficulties in this area represent a breakdown occurring in the gross-motor stage of learning development. The following are characteristic of spacial organizational difficulties:

1. Child has poor sense of direction.
2. Child has poor laterality.
3. Child has poor sense of size constancy in motion.
4. Child has poor sense of position in space.

To remediate these deficits, the Tikvah curriculum included exercises which included the following.

1. Improve directionality (use of map work, puzzles).
2. Improve body image (use of games).
3. Improve size-shape concepts (use of Continental Press materials).

Another major area of perceptual training was that of visual-motor.

This area concerns a break in the learning sequence stage of perceptual-motor.

The following are characteristic of a child with these difficulties:

1. Child has poor eye-hand co-ordination.
2. Child has poor balance.
3. Child has poor finger dexterity.
4. Child has poor body position and movements.
5. Child has poor visual-motor memory.

Tikvah included the following exercises and programs in the curriculum to re-train the child to perform successfully in this area:

1. Improve balance (walking boards).
2. Improve body co-ordination (calisthenics).
3. Improve eye movements (chalkboard training exercises).
4. Improve visual perception (use of the following).
 - a. peg board designs
 - b. Frostig Developmental Program
 - c. parquetry block designs
5. Improve writing (use of rhythmic exercises).

The fourth perceptual training area in the Tikvah curriculum was auditory discrimination. Though reading primarily involves visual perceptions, auditory perception plays an essential role in all phases of learning directly or indirectly. Characteristic problems of children with visual perceptual handicaps include the following:

1. Child has inability to hear similarities in the initial and/or final sounds of words.
2. Child has difficulty with auditory analysis and synthesis.
3. Child cannot auditorize or substitute words.
4. Child has disturbance in auditory sequentialization.

5. Child has inconsistent auditory interpretation.

The following is a partial list of training exercises intended to remediate auditory deficiencies:

1. Improving auditory discrimination (matching sounds).
2. Encouraging reauditorization (auditory memory drill).
3. Develop sequentialization (number and order of sounds).
4. Develop sense of rhythm (tapping and drum exercises).
5. Improve auditory-pictorial discrimination (picture recognition from oral instructions).
6. Improve sound discriminations (syllabication and synthesis).
7. Improve auditory memory (comprehension drills, Simon Says).
8. Develop auditory responsiveness (auditory commands).

The area of auditory-visual co-ordination represents the linking of overall skills. The following difficulties are representative of children with deficiencies in this area:

1. Child is unable to associate symbols and sounds.
2. Child cannot retain auditory pattern without seeing visual pattern.
3. Child cannot co-ordinate visual and auditory stimuli.
4. Child cannot comprehend the written word.

Tikvah training procedures include the following drills and exercises:

1. Develop visual-auditory associations (include the following):
 - a. naming body parts
 - b. naming pictures from auditory commands
 - c. using superlatives
2. Develop reading for meaning (comprehension drills, parts of speech).

3. Developing auditory-visual patterns (flashcards with code-like patterns).
4. Develop sentence-sense (read for answers to questions).
5. Develop visual-auditory memory (sentence adding drills).

The last and most sophisticated area was perceptual-conceptual integration. This area represents a breakdown in the conceptual stage of learning. It is the most vital to satisfactory learning and difficult to remediate. Characteristics of this problem include the following difficulties:

1. Child is unable to translate perceptions into concepts.
2. Child misinterprets perceptions.
3. Child has poor word concepts.

The remedial training procedures closely resemble normal teaching topics. Special methods and materials were used to provide optimum results.

1. Develop sense of time (moveable clock).
2. Develop word concepts (translation drills).
3. Develop size concepts (tangible objects of various sizes).
4. Develop location concepts (preposition drill).

Academic Areas

In all the various academic areas taught at Tikvah Institute, there were basic underlying principles applied to the learning situation in consideration of the children's handicaps. Efforts were made to provide an education with less frustration and one which would lead to remediation. The following are a few of these principles.¹

¹Teaching Brain-Injured Children, Board of Education, New York City, 1967

1. Establish a structured daily program. Inform child of schedule and expectations.
2. Eliminate or reduce unnecessary visual and auditory stimuli. (i.e. clothing with wild designs, discussions which lead off on tangents).
3. Reduce environmental space to a minimum.
4. Limit the duration of the learning period; work to the limit of the child on each occasion.
5. Expose to various educational experiences; provide a multi-faceted education.

The first curriculum area was reading-writing. Tikvah children were generally lowest in the reading skills, and this area represented a major section of the curriculum. As in all subjects, each student was taught that material which was appropriate to his level and in a manner appropriate to his handicap. The curriculum accounted for instruction in basic reading readiness skills such as phonics, letter-recognition, word-picture matching, and word meanings. Some students were taught reading techniques and worked for comprehension, vocabulary, and speed. This level would represent the majority of Tikvah students, though there were two, working above grade level, who were on free-reading programs which fostered appreciation of literature and even creative efforts in the field. Because of a variety of motor and perceptual problems, some Tikvah students were instructed in the very basics of cursive and manuscript writing. Many special exercises were included to teach the rudiments of writing and remediate the handicaps and thereby allow normal learning. Tikvah's curriculum is individualized for each child in each subject area. This must be part of any curriculum for the perceptually handicapped.

Language arts included spelling, capitalization, punctuation, and

grammatical usage. Tikvah students were at all levels in this area when entering the school. In keeping with this diversity, the curriculum included class language arts exercises and drills and individual work projects. Some units included exercises involving specific language arts skills (i.e. spelling, capitalization, etc.) and other units integrated all areas (i.e. composition writing, letter writing, newspaper unit, etc.). In the same classroom during one day, various children would work on all levels of language arts in several perceptually orientated methods.

Mathematics is one area which requires a great deal of integration into daily activities. The Tikvah curriculum set up formal learning sessions and drills to teach the tables, functions, and arithmetic facts. In conjunction with these necessary skills, the children used special materials (i.e. structural blocks) and methods. Mathematics must be made applicable to actual life experiences to be meaningful. Towards this end, many special activities and projects were devised to afford the children the opportunity of applying learnings (i.e. counting lunch settings, purchasing school supplies, computing food portions, etc.). Many daily applications were found and these were taken into the classroom and used as part of teaching units. In this area also, the students worked on their own level at their own speed.

To learn more about their environment, Tikvah students were taught subjects in social studies. Many units were taught including the planets, Chicago, the continents, and the United States. Using special workbooks which integrated many subject areas, the student was instructed in the world around him; its character, environment, measurement, and political-social nature. Of course the depth of study depended on the ability of the student,

but all students were involved in these units of instruction. Many field trips and outside speakers were scheduled to cement classroom learnings. The students were prepared in the classroom for the trips to encourage optimum learning. Another activity was a unit on the upcoming political elections, and students researched the candidates and issues and then made choices on the basis of their studies. In general, every opportunity was seized, when it presented itself, to provide the children with rich, meaningful experiences.

Though no science laboratory was provided for Tikvah students, the study of science was planned in the curriculum. Through many resources, both personnell and material, units on plants, animals, the body, the planets, and foods were planned and taught. The children were informed about their world to prepare them for future life. Units in this area very much represented the integrated plan of study. Many questions arose in this area of instruction, and the students were encouraged to research and investigate for answers. The use of student-made notebooks encouraged the students to become involved and developed pride in self-achievement.

Physical activities played a dual role at Tikvah. The curriculum included this area to provide training in sports activities which would improve the body and teach the value of exercise. In addition to these physical benefits, the perceptually handicapped child also benefited in that the curriculum was carefully planned to include specific physical exercises intended to assist remediation. Many finger and limb activities were planned for those who require strengthening or co-ordinating work. In general, physical education included learning the restrictions of the body, using the body for play and work, and remedial training of specific handicaps.

Tikvah planned a music program to foster music appreciation and offer training to those with auditory perceptual handicaps. Recordings were secured to teach, to provide a pleasant classroom environment, and to encourage a love of music. Piano lessons were provided for students, and many learned the rudiments of the instrument and musical competence. The child was to benefit psychologically, educationally, and perceptually. The training was geared to the individual child to afford remediation (i.e. finger manipulation).

In teaching art, the Tikvah curriculum provided a variety of kinesthetic experiences. The child was given an opportunity to express himself and learn skills for the improvement of his present abilities. Many of the art activities actually resembled visual-perceptual training exercises. The use of stencils was also included in the perceptual phases of the curriculum. Tikvah students were given clay, fingerpaints, paper mache, and differently textured fabrics to use in projects for art appreciation, enjoyment, gifts, and remedial training. These experiences aided tactile discrimination, realization of size and space, and skills in manipulation. The usual art materials were included, but stress was placed on new and more supervised use of them to assist the perceptually handicapped.

Social Training

Throughout the year, events and units were planned to afford the children many social learning experiences. Discussions were held to acquaint the children with inter personal relationships and the conduct appropriate to various situations. A student court was established where the children would discipline themselves in some situations. The children were aware of their

problems and why they need the help Tikvah could offer. Special units were conducted to give the children accurate information on their problem, position in the class, and possible future success. Many unwarranted fears were eased, and many productive, acceptable conduct patterns arose as a result. Manners in the school and the home were studied, and a luncheon was held as the culminating event. Every effort was made to educate the "total child" - - - one who could learn and conduct himself in socially acceptable ways.

CHAPTER FIVE

EVALUATION OF ACADEMIC ACHIEVEMENT

EXPLANATION OF STUDY

The experimental phase of this paper involved the evaluation of the curriculum employed at Tikvah Institute for Childhood Learning Disabilities.

The goal of the study was to test the following hypothesis:

The instructional program of Tikvah Institute made strides in the education of perceptually handicapped children which was expressed by significant progress in academic achievement.

There were various types of notable progresses, but this experiment dealt solely with the academic achievement. For this project, the two six-member classes of Tikvah were used. The classes were randomly composed as far as religion, national origin, social status, wealth, etc. however by definition of the school, all students have perceptual handicaps. Since these students were selected by the school, the researcher had to accept in-tact groups for this research.

DESCRIPTION OF STUDENTS AT ENTRY TO TIKVAH

Stuart was a twelve year old boy who was unable to maintain passing grades in reading, mathematics and writing while in his public school class. He was three years behind his peers even with benefit of tutoring for the same period. His mother took him to a psychologist at Northwestern University, who referred him to Tikvah. In 1964, Stuart sustained an

electro-encephalogram and his EEG indicated seizure activity. His psychologist recognized a need for work on memory, co-ordination, vocabulary, and reading. He expressed emotional and intellectual immaturity and childhood adjustment problems. Physically, he showed signs of exogenous obesity. Causes of his learning problems were attributed to a psycho-neurological learning disorder and a central nervous disfunction. Stuart was the youngest of four siblings in a middle class Jewish family with a deceased father. The Tikvah social worker noted many family upsets and pathologic signs.

Reuben was referred to Tikvah by Mr. Elmer Smith of the Chicago Board of Education after school problems with an average grade of F. The Metropolitan Achievement Series showed him to be three years behind in reading skills and language arts. When examined at Michael Reese Evaluation Center, Reuben showed an abnormal EEG with a normal intelligence rating. His eyes and ears were deemed normal and he did not require any aid. He showed signs of perseveration and possessed many fears and emotional problems. Reuben is the second of three siblings in a lower-middle class Jewish family. The oldest son was severely retarded and resided at Little City. Reuben's mother suffered a deprived childhood and had been extremely violent towards him, resorting to beatings about his body with a shoe.

Tim was the oldest of four children in an upper-lower class Catholic family. The mother was a cancer patient and much pressure had been applied to the child as a result of the condition of the family and its dire financial status. Children's Memorial Hospital's Child Guidance Clinic felt Tim was nervous, insightful, and sensitive and recommended a special school for learning disabilities. He was referred to Tikvah by the Chicago Public

School system. Though Tim has an IQ of 135, he could not function in a normal classroom, showing a major weakness in math. He is creative in many areas including poetry, but disruptive in the classroom and shows marked visual motor coordination problems. Tim had been seen by the Chicago Center for Achievement of Human Potential (Doman-Delacato) but they acknowledged little success and notified Tikvah of their failure.

Preston was the eleven year old product of an Italian Catholic family with three other children. The father was deceased and the family resided with the paternal grandmother. Preston had a poor attitude toward and strongly disliked his grandmother. While attending a Catholic parochial school, he failed third grade as a non-reader even though he participated in a tutoring program. His EEG was normal (this is not unusual or significant for the perceptually handicapped child) and the primary neurological problem was visual-perceptual resulting from brain damage. Preston seldom cooperated and as a result scored only 85 on the WISC full scale intelligence test.

Darryl was a warm, polite ten and one-half year old member of a Negro, Catholic family. The educated parents were financially secure and contacted Tikvah after reading a newspaper article. The mother has a pathologic social problem of being too close to the only child. In 1966, at the University of Mississippi, Darryl showed indications of brain damage on the "Draw-a-Man" test. He had immature visual motor development, short attention span, and many inappropriate responses. Because of a visual discrimination defect, he had much trouble seeing sizes and shapes. Darryl had no sense of phonics discrimination and would often perseverate.

Marvin was referred to Tikvah by a therapist at Children's Memorial Hospital and by a psychologist at the Chicago Public Schools. He was an eight year old with a full-scale IQ of 115 but had no number sense and was a non-reader. Making no progress in his public school class, he had much anxiety about his perceptual handicap. He scored normal on the "Draw-a-Man" and the EEG (which often occurs). He was diagnosed as having dyslexia and mild visuo-motor disorders. Neurologically, he has a minimal brain dysfunction and ritalin had been prescribed. The family was lower-middle class Jewish, and Marvin's mother was intellectually limited and regarded as somewhat infantile. The father abandoned the family and maintains contact only once yearly. The other two siblings in the family had metabolic disfunctions, which probably resulted from the mother. Marvin was referred to as an "unwanted" child.

Dan was the nine year old son of a white, middle class, Protestant family with one younger daughter. He was referred to Tikvah when he was dropped from a special public school class because of disruptive, hyperactive conduct. He had a borderline EEG with a diffused brain syndrome. He showed signs of perseveration, cerebral dysfunction, and visual perceptual problems. Other conditions such as poor laterality, complicated the emotional problems evident in this student. Medication had been applied for a sedative. There was a history of difficult marital problems. Dan had a history of many physical problems such as head bangings and severe ear aches.

Frieda was an eleven year old girl from a lower-middle class Jewish family, born with a club foot, which was corrected after repeated operations. The parents were depressed because of their own unsatisfactory childhood and

they resented the child's problems. When examined at Michael Reese Evaluation Center, Frieda performed at the low-normal level but expressed a much higher potential. She seemed emotionally immature, erratic, impulsive, and frustrated. She tested three years below her age group and was referred to Tikvah by her public school and synagogue. She was not socially accepted by her peers and expressed little self-control. Academically, Frieda showed the effects of perceptual handicaps.

Jean had school-phobia and feigned stomach aches to avoid a very unsuccessful and unhappy school experience. She had a neurological deficiency which was not understood by her classroom teacher, and she sustained unfair and harsh treatment daily. She failed all subjects in school and worked many months at home. It was recommended by Bobs Roberts Hospital where she had been taken for testing, that she be sent to a special school, and she was referred to Tikvah by the Chicago School Board. She had been diagnosed as dyslexiac and showed disorientation. Testing by the University of Chicago indicated a normal IQ on the WISC and also on a fully scale instrument. Jean was the fourth of five children from a middle class Catholic family and was ten and one-half at entry. Her mother had a difficult pregnancy and Jean was born prematurely. This child preceded by only eleven months another child and this situation caused many family problems of stability due to the mother's illness and absences.

Phil was a referral from the Chicago Board of Education. The youngest of two adopted children in an upper class Jewish family, he was listless, heavy-set, organically handicapped, and possessed emotional handicaps. His parents would berate him and set over-optimistic goals, ashamed at his lack of

success. Tested by the University of Chicago, Phil showed impairment in perceptual motor areas and difficulty in sensory motor coordinations. He had congenital dystrophy which affected the pelvic girdle and the quadriceps of the thighs and hands. His IQ tested normal, but he performed at a level substantially below his potential due to perceptual handicaps.

Ken was a ten year old Negro boy who had many fears and a very withdrawn, reticent attitude. He was detached from the family. His actions were controlled and conversation was sparse. The parents were unable to cope with the situation which produced inner fears and problems of adjustment. This middle class Protestant family heard about Tikvah through Ken's public school teacher who had a sister that attended a meeting at which Miss Brenner spoke. Ken was tested by Michael Reese Evaluation Center and they found major reading difficulties resulting from chronic brain dysfunction. His IQ and EEG were both normal and no impairment of gross motor activities was noted, though minor facial paresis was present. The Center diagnosed severe visual perceptual handicaps and poor integration of knowledge and recommended a curriculum be used which was geared for the perceptually handicapped.

Kerry was referred to Tikvah by Children's Memorial Hospital and by a Sister from Visitation School. He was the second of our children in a lower-middle class Irish Catholic family. Three of the four children, including Kerry, were born with a PKU¹ condition. He had been hyperactive since birth, and sustained a tracheotomy when younger. Now nine years old, Kerry has had

¹Phenylketomuria is an over abundance of amino acids in the system.

educational problems, and special education was recommended since the third grade. Children's Memorial noted a deficit in abstract reasoning and strength in vocabulary. He had many perceptual handicaps including visual motor and was a non-reader at entry. Kerry was over three years behind his peers.

EXPLANATION OF TESTING

At entry to Tikvah, each student was given the SRA Achievement Test Series in conjunction with a complete series of examinations for IQ, ability, diagnosis of problem, and physical and mental handicaps. During this past year, these children underwent intensive specialized instruction, employing the new methods explained earlier in this paper. This curriculum conformed to the latest research in the field and was intended to assist re-training of the student so that he could eventually return to a regular classroom.

At the conclusion of the year, each student again sustained the SRA Achievement Series. All testing was administered in the classroom by this researcher and assisted by the staff. All test sections were given individually or in small groups, during several sessions. Though every effort was made to provide a favorable testing environment, it must be noted that the heat was very oppressive the week of testing and the children were under stress as a result of an unpopular substitute teacher in class the preceding few days.

Special notice should be made that the test instrument used was not designed specifically for perceptually handicapped children and that they were necessarily at a disadvantage. For purposes of this study, the researcher

compared their progress with the national averages for "normal" students under "normal" conditions. It is Tikvah's goal to replace its students in a regular classroom where they will meet much competition and therefore must be prepared to also meet the same standards.

The results of the pre-and post-testing are presented in Figure 6.1, the SRA Achievement Series, Class Record Form. This illustration shows each student's achievement score on the two times the tests were given. Each pupil sustained the sections appropriate to his particular stage of learning.

The test sections were as follows:

Verbal-Pictorial Association---matching words with pictures, primary battery only.

Language Perception---recognizing similar sounds, recognizing similar words and parts of words (written), primary battery only.

Reading Comprehension---reading for meaning and deriving meanings of words from usage, includes speed element.

Reading Vocabulary---multiple choice definition choices of words used in given stories.

Capitalization and Punctuation---adding capitals and punctuation marks to stories at given points.

Grammatical Usage---determining correct word choices to be grammatically correct in sentences.

Spelling---oral spelling on primary levels, written responses on elementary levels and higher, consists of traditional spelling tests.

Arithmetic Concepts---choosing correct multiple choice answers showing abilities to function with concepts on various levels such as time, counting units, etc.

Arithmetic Reasoning---choosing correct answers on word problems and figuring answers from paragraphs.

Arithmetic Computation computing answers to test items on scratch paper and placing answers on test form, many items of varying complexity.

Children with perceptual handicaps exhibit learning disabilities which limit success on many test sections. Perceptual handicaps can affect the ability to hear sounds, to recognize written letters of similar form, to visualize words, to reason out problems, to associate pictures with word equivalents, and other skills needed for efficient and accurate learning. The effects of these learning handicaps made the testing results all the more significant and reflects the re-training received at Tikvah.

As mentioned above, the pre-and post-testing was administered using the same instrument. The sample size of this experiment was twelve and the intact group was semi randomly composed. Figure 6.2 shows the achievement progress of the individual Tikvah students in years. The progress in each applicable area is shown and both the student and class averages are given. It was recorded that the class improved an average of 1.5 academic years. This is noteworthy for students who had made no significant progress in other school experiences.

In reviewing individual progresses, this researcher noticed good results even for Marvin, Stuart, and Darryl who entered the school late in the year. Of the six students on the primary reading level in September, four achieved the rudiments of reading, with Preston averaging three and a quarter years progress. Only Frieda and Reuben performed at the same reading levels in September and June. Other than these two students, reading achievement scores were improved from nine-tenths of a year for Stuart to four and a half for Jean. The areas of language arts, other than spelling, pertain only to the

Date Tested Sept. 1967 - June 1968

Teacher Tikvah Institute

Form: G D
(circle one)

Grade: Ungraded

Student: 1 + 2
(circle one)

ACHIEVEMENT SERIES CLASS RECORD FORM

KEY: U indicates unable to perform test
N indicates test not needed
-- indicates test category not in battery
L indicates late entry into school

PUPIL'S NAME	READING														Capitalization and Punctuation		
	Verbal-Pictorial Association (1-2 battery only)			Language Perception (1-2 battery only)			Comprehension			Vocabulary			Total Reading				
	RS	GE	%ile	RS	GE	%ile	RS	GE	%ile	RS	GE	%ile	RS	GE		%ile	RS
<u>NORTH</u> Marvin (L) 5/25/68	Primary			77	1-		U		U		Primary						
Post Test	Primary			103	2.5		U		U		Primary						
Reuben							26	2.7	19	2.9	45	2.9	36	2.8			
Post Test							24	2.5	22	3.6	45	2.9	46	4.1			
Tim							37	11.8	43	12.1	80	12.0	49	5.1			
Post Test							N		N		N		53	6-			
Preston	Primary			96	2.1		U		U		Primary						
Post Test	37	4-		105	2.7		30	4-	25	3.2	197	3.3					
Stuart (L) 3/22/68							33	4.1	16	2.6	49	3.2	34	2.5			
Post Test							32	3.7	25	4.3	57	4.1	47	4.2			
Darryl (L) 4/22/68	Primary			Primary			U		U		Primary						
Post Test	Primary			70	1-		U		U		Primary						
<u>SOUTH</u> Ken	Primary			92	1.8		U		U		Primary						
Post Test	12	1.4		105	2.7		Reading Readiness										
Don							U		U		Primary						
Post Test	6	1-		79	1-		Reading Readiness										
Priscilla							32	3.7	24	4.1	56	3.9	39	3.2			
Post Test							33	4.1	23	3.8	56	3.9	47	4.2			
Phil							27	2.8	19	2.9	46	2.9	24	1.3			
Post Test							37	6-	26	4.5	63	5.1	49	5.1			
Jean							17	4.7	21	5.6	38	5.2	49	5.1			
Post Test							32	9.1	41	10.4	73	9.7	57	6-			
Kerry	Primary			Primary			U		U		Primary						
Post Test	11	1.3		106	2.8		Reading Readiness										

PUPIL'S NAME	LANGUAGE ARTS (2-4 battery only)										ARITHMETIC									
	Grammatical Usage			Spelling			Total Language Arts	Concepts			Reasoning			Computation			Total Arithmetic			
	RS	GE	%ile	RS	GE	%ile		GE	%ile	RS	GE	%ile	RS	GE	%ile	RS	GE	%ile	RS	GE
Marvin				Oral	Primary	Primary	U		U		U						Primary			
Post Test				Oral	Primary	Primary	U		U		U						Primary			
Reuben	28	3.4		14	4.1	78	3.3		28	4.1	10	2.5	29	4.3	63	3.8				
Post Test	30	3.8		14	4.1	90	3.9		36	6-	17	3.6	45	5.8	98	5.5				
Tim	38	6-		24	6-	111	6-		29	3.1	21	7.1	9	5.1	59	6.6				
Post Test	40	6-		23	6-	116	6-		31	5.8	23	7.7	30	7.9	84	8.2				
Preston				Oral	Primary	Primary	29	4.3	19	4.1	24	3.9	72	4.1						
Post Test				5	2.4	Primary	33	5.4	20	4.3	26	4.1	79	4.4						
Stuart	18	1.9		6	2.6	68	2.8		27	3.8	16	3.4	26	4.1	69	3.9				
Post Test	26	3.1		13	3.9	86	3.7		31	4.7	21	4.6	38	4.9	90	4.8				
Darryl				Oral	Primary	Primary	U		U		U						Primary			
Post Test				Oral	Primary	Primary	U		U		U						Primary			
Ken				Oral	Primary	Primary	13	2.1	14	3.1	8	2.4	35	2.5						
Post Test				1	1.1	Primary	14	2.2	20	4.3	26	4.1	60	3.6						
Don				Oral	Primary	Primary	U		U		U						Primary			
Post Test				5	2.4	Primary	32	3.4	15	1.2	27	1.7	74	1.9						
Priscilla	22	2.5		17	4.6	78	3.3		24	3.3	8	2.3	17	3.4	49	3.1				
Post Test	30	3.8		21	6-	98	4.6		30	4.5	17	3.6	41	5.3	88	4.7				
Phil	14	1.1		2	1.5	40	1.2		U		U		U				Primary			
Post Test	29	3.6		11	3.6	89	3.9		28	2.7	41	4-	45	2.8	114	3.2				
Jean	34	4.7		16	4.4	99	4.7		30	4.5	23	6-	41	5.3	94	5.2				
Post Test	39	6-		20	6-	116	6-		36	6-	24	6-	47	6-	107	6-				
Kerry				Oral	Primary	Primary	21	1.9	22	1.8	23	1.6	66	1.7						
Post Test				4	2.1	Primary	28	2.7	28	2.4	33	2.1	89	2.3						

STUDENT	VERBAL PICTORIAL	LANGUAGE PERCEPTION	READING	COMBINED LANGUAGE ARTS	LANG. ARTS SPELLING ONLY	ARITHMETIC	OVERALL AVERAGE RESULTS
Marvin ¹ (L)	---	1.5	---	---	---	1.5	
Reuben	---	---	0.0	.6	---	1.7	.8
Tim	---	---	N ³	N	---	1.6	1.6
Preston	4.0	.6	3.3	---	2.4	.3	2.1
Stuart (L)	---	---	.9	.9	---	.9	.9
Darryl (L)	---	1.0	---	---	---	---	1.0
Ken	1.5	.9	---	---	1.1	1.1	1.0
Dan	1.0	1.0	---	---	2.4	1.9	1.0
Frieda	---	---	0.0	1.3	---	1.6	1.0
Phil	---	---	2.2	2.7	---	3.2	2.7
Jean	---	---	4.5	1.3	---	.8	2.2
Kerry	1.3	2.8	---	---	2.1	.6	1.7
						OVERALL STUDENT AVERAGE RESULT	1.5

1) L indicates late entry into school
 2) dash indicates test area not in battery
 3) N indicates testing not required due to previous high level

Figure 6.2 ACHIEVEMENT PROGRESS OF TIKVAH STUDENTS, IN YEARS

students performing at second grade level or over. In combined language arts achievement score progress, the range was from six-tenths of a year for Reuben to two and seven-tenths for Phil. All but Reuben and Tim progressed in spelling. Four students progressed from the oral spelling stage to the written stage and showed the first signs of understanding language they ever expressed in any school. All students progressed in arithmetic scores. Dan and Phil were unable to perform at any level on the test in September, but progressed one and nine-tenths years and three and two-tenths years respectively in June. Figure 6.2 summarizes the progresses stated in Figure 6.1. The overall student average progress was computed to be one and one-half years.

TEST OF HYPOTHESIS

This study was to determine the significance of the progress of Tikvah students. For purposes of this study, we worked with the following null-hypothesis.

The instructional program of Tikvah Institute is NOT making strides in the education of perceptually handicapped children which can be expressed by significant progress in academic achievement.

We applied the t-test to determine whether the average Tikvah increase was significant when compared to the national average increase. We accepted the critical t value of .05 with eleven degrees of freedom (n-1). With these circumstances, we found it would be necessary to reject the null-hypothesis if t was more than 2.201 and to accept it if t was less than 2.201. The sample mean was 1.54 and the population mean was 1.00 (average student making one year's progress in one year). Figure 6.3 provides a complete listing of statistical procedures.

NULL-HYPOTHESIS: The instructional program of Tikvah Institute is NOT making strides in the education of perceptually handi-capped children which can be expressed by significant progress in academic achievement.

PROGRESS FREQUENCY CHART

X	f	X	fx	fx ²
2.7	1	27	27	729
2.6				
2.5				
2.4				
2.3				
2.2	1	22	22	484
2.1	1	21	21	441
2.0				
1.9				
1.8				
1.7	1	17	17	289
1.6	2	16	32	512
1.5	1	15	15	225
1.4	1	14	14	196
1.3				
1.2				
1.1				
1.0	2	10	20	200
.9	1	9	9	81
.8	1	8	8	64
.7				
.6				
.5				
.4				
.3				
.2				
.1				
0.0				
	12		185	3,221

Range .8 - 2.7

Population mean = 1.00
(normal children in normal classroom progress academically 1.0 year each school year)

Sample mean = 1.54
(average progress of Tikvah students)

df = (n-1) = 11

Critical value of
t = 2.201

∴ Accept null-hypothesis
if t < 2.201

Reject null-hypothesis
if t > 2.201

$$\sum x^2 = \left[\sum fx^2 - \frac{(\sum fx)^2}{N} \right] \cdot 1^2 = \left[3221 - \frac{(185)^2}{12} \right] \cdot 1^2 = 3.69$$

$$s = \sqrt{\frac{\sum x^2}{N-1}} = \sqrt{\frac{3.69}{11}} = \sqrt{.335} = .579$$

$$t = \frac{\mu - M}{\frac{s}{\sqrt{N}}} = \frac{1 - 1.54}{\frac{.579}{\sqrt{12}}} = \frac{.54}{.167} = 3.23$$

Since t = 3.23 we reject the null-hypothesis.

Statistically, this researcher derived a standard deviation of .579 using the Tikvah increase scores. Therefore, t was determined to be 3.23. This, then, called for rejection of the null hypothesis. Since we rejected the null hypothesis, we accepted the hypothesis as follows:

The instructional program of Tikvah Institute is making strides in the education of perceptually handicapped children which can be expressed by significant progress in academic achievement.

GENERAL RESULTS

The parents usually present a major problem when dealing with "special" children. At Tikvah all parents underwent counselling with a psychiatric social worker on a twice monthly basis. It was as a result of these sessions that the families involved came to know and understand their child. In several cases, the family made such complete reversals from previous attitudes, that they are now a major positive contributing factor in the education of their children rather than a liability. Often suspicious, non-supportive, depressed parents became ardent believers capable of helping their children and themselves. As the year progressed, the staff could sense the new attitudes of the parents. Parents who cared very little about the child, except that he was now in Tikvah, began to take an active interest in the education of the child and the perpetuation of the school. It was felt that the parent progress represented a very significant phase of the Tikvah achievement.

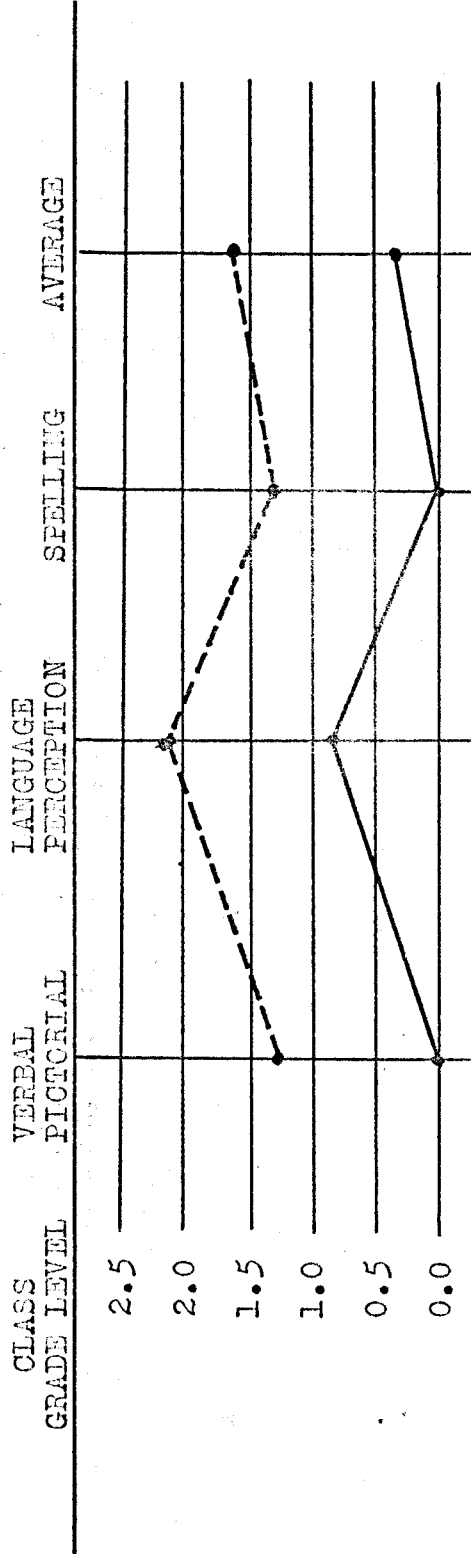
Another noticeable result of the Tikvah program has been community awareness and education. Tikvah conducted a seminar and lecture series open to the community, which was well attended. Through the seminar and

numerous speaking engagements, the general public came to know more about the field of perceptual handicaps in general and about Tikvah in particular. Its prestige publicity and its listing in professional and lay publications resulted in increased public recognition. No institution can long survive within itself. If it is to prosper and achieve notable success, it must by necessity educate the public. The results of Tikvah's endeavors in this field have been of value to the school and the community.

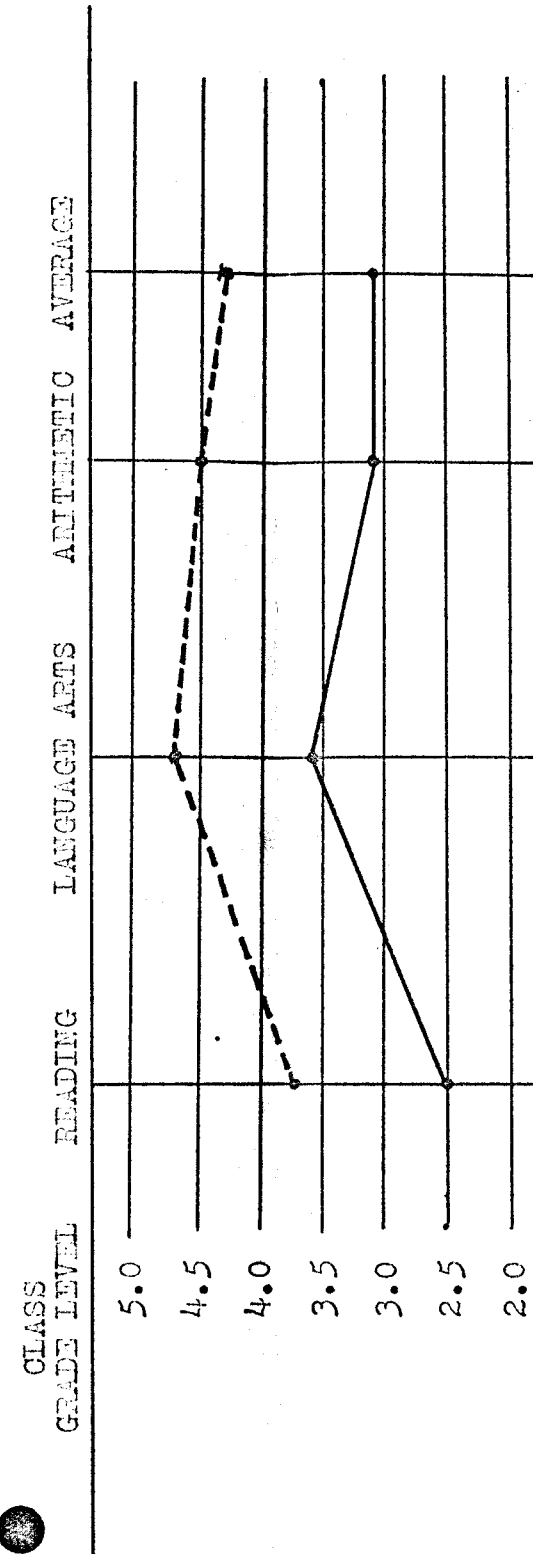
Naturally, academic progress is the major goal of the school. Figure 6.2 showed the improvement of each student in each test area. In all but two cases, improvement was verified, and the class as a whole made progress in every area. Figure 6.4 expresses the difference between the class average grade level in September, 1967 and June, 1968 in each scholastic area. Separate sections deal with the primary and multi-level batteries.

The aforementioned figures state the specific student progresses in the various areas. The progress in reading seemed even more impressive when it is realized that four of the students learned to read and progressed more at Tikvah in one year than they had done in the previous three years in other schools. There were other outstanding results during the first year. Of the six students who could not perform in spelling at the beginning of the year, four made progress of two years or better. This is very significant when viewed as a newly achieved ability to sound out words and read. There was much noteworthy progress in arithmetic. Two students went from a primary level to second and third grade levels respectively. There is now data to indicate that Tikvah students made significant progress in academic areas even when compared to students of regular classrooms. Achievement was

PRIMARY TEST BATTERY



MULTI-LEVEL BATTERIES



----- indicates class grade level June 1968
 _____ indicates class grade level September 1967

Figure 6.4 Tilvch Class Average Grade Levels on Achievement Tests

remarkable when the handicap and past educational progresses are considered.

During the school year, the Tikvah staff estimated that Jean would be prepared to return to her regular classroom by the end of the term. Towards that end, she began preparation for re-entry and her receiving school was contacted. They were notified of the situation and arrangements were made to best facilitate her efficient transfer. Jean had increased four and one-half years in reading skills, one and a third in language arts, and almost one year in arithmetic and was now at grade level in all areas. At her entry into the school, she had an abhorance of writing (i.e. penmanship) and spelling. In view of this, it was all the more remarkable that by the end of the year, she had shown a distinct flair for creative writing and composition. Rather than expressing the previous school phobia and conveying a very depressed self-esteem, Jean now loved school, presumed a cheerful and optimistic self-impression, and often expressed a desire to remain in school for extra periods. She became the first Tikvah graduate, and will undergo counselling by Tikvah for one year to assure maximum adjustment in her new educational environment.

The results in emotional and psychological progress are difficult to describe and impossible to document in this paper. One of the most notable achievements was a luncheon given by Miss Brenner for the Tikvah students. There the children conducted themselves like ladies and gentlemen. The group included several who, at the beginning of the year, could not sit at a table the length of a meal. Table manners were perfect, conversation was abundant, and one of the students even made a toast. Another occasion for the students to show their social learnings was the graduation luncheon given

for Jean which was attended by students, parents, and friends. The Tikvah students not only conducted themselves admirably, but they delivered speeches, served as hosts, presented a play, and took general charge. There had been much social learning at Tikvah, and the majority had made giant strides in self-control.

The attention span is a measure of educational potential which is of concern to the Tikvah staff. An increase by four or five times the span was not unusual. Frieda, who could only sit for ten to fifteen minutes at the beginning of the school year, was able to perform without extreme frustration for over an hour by April. Other similar results indicated significant breakthroughs.

RESULTS IN RELIGIOUS STUDIES

The five Jewish students were released from their classroom to study subjects pertinent to the Jewish religion. This involved learning a foreign language which employs a foreign symbol alphabet. There was also the reversal problem, since Hebrew is read and written from right to left. Educators do not generally recommend Hebrew for children with learning problems; however Tikvah believed no child should be denied his religious heritage. The Director of Religious Education devised the religious curriculum and taught the students in a separate classroom.

There was no standardized tests¹ to check progress nor specific data to

¹The need was seen for such tests in this field and is now being developed under the Tikvah Director of Research.

offer, but the facts remain that all Tikvah Jewish students did learn to read and write Hebrew with varying proficiency. All of them studied Jewish history and Jewish holidays including relevant laws and customs. They were taught Hebrew prayers in class and many began to use them in their daily life. The oldest girl and boy began preparation for Bar and Bas Mitzvah,¹ something for which the parents had not dared to hope.

In two cases, where the student had a reading disability, the staff noted that the learning of the Hebrew language had a carry-over effect and helped them in their English reading. This breakthrough occurred almost simultaneously. The systematic approach to a new language helped them learn to read and to build vocabulary by connecting words with meanings. The staff was gratified by this result.

It was clear that much progress was made in the achievement of the religious education program, in general. This writer felt that a most notable result of it was the moral outcome. Not one student in all Tikvah was unaffected. It was most evident after meals when every student prayed, each in the way usual to his own religion, with understanding and respect. The parents noticed this attitude carry into the home when one student began to say evening prayers and gain strength from them. One Jewish child encouraged his parents to institute religious practices in the home, and the parents

¹Bar Mitzvah is a Jewish confirmation performed when a boy is thirteen. Bas Mitzvah is the equivalent for a Jewish girl.

began to see a new aspect of their home as they practiced the customs with their child.

CHAPTER SIX

IMPLICATIONS RESULTING FROM THE STUDY

This chapter will detail several of the implications resulting from the planning and conducting of this study. Though this list is not exhaustive, it does represent the major suggestions and problems realized through research and study on this project.

FOR THE SCHOOL

- 1) There is such a thing as perceptual handicaps.
- 2) Perceptually handicapped children can be re-trained and subsequently returned to a "regular classroom.
- 3) Tikvah Institute is making significant strides in the education of perceptually handicapped children.
- 4) Special programs are needed which are flexible in structure and geared for "special children."
- 5) Schools need constant research to determine progress and needs to ascertain future directions.
- 6) Special teachers are required which possess emotional involvement in addition to special training and certification.
- 7) Schools need and must seek community support and assistance.

FOR THE PARENTS

- 1) Parents need to become more involved than simple membership in a parents group.
- 2) Special counselling is required for all parents to assist life in the home as well as the school.
- 3) Parents deserve the same consideration as parents of "normal" children to a public education.

- 4) Parents must shoulder the responsibility for the education of their children and seek proper and adequate schools.
- 5) Parents must remember at all times that the future of their children depends on education, and that must have priority.
- 6) Parents have a voice in the community and they must use it.

FOR EDUCATION IN GENERAL

- 1) Educators must devise new, appropriate teaching materials, methods, and principles.
- 2) The Tikvah curriculum provides principles of education helpful for the education of all children.
- 3) The community needs and seeks education and this training would provide aides and informed citizens.
- 4) Educators must translate research results into applicable programs.
- 5) Educational institutions must actively seek out research projects which would further the field, and consequently publicize the results to those involved.
- 6) All educators must be more aware of and look for perceptually handicapped children to locate the problems early enough to remediate effectively.
- 7) Higher learning institutions must develop programs to provide the vast number of special education teachers required.
- 8) Development must begin for perceptually handicapped children past the age of twelve. This could be in the form of vocational rehabilitation or new programs.

FOR FUTURE GOVERNMENTAL ACTIONS

- 1) Government on all levels needs to make the same commitment to perceptually handicapped children that it has made to "normal" children.
- 2) Government needs to devise new methods to provide funds to support parents forced to seek private education for their children because of learning handicaps. It must require other existing institutions to assist where needed (i.e. Mental Health Departments, rehabilitation institutions, etc.).

- 3) Facilities must be provided for the perceptually handicapped as now done for the emotionally disturbed, mentally retarded, and physically handicapped.
- 4) Government should provide public facilities, share existing facilities with private institutions, or provide support for private, not-for profit institutions.

FOR RELIGIOUS EDUCATION

- 1) Perceptually handicapped children can and should be taught religious subjects. Tikvah had great success in teaching Jewish studies including the Hebrew language.
- 2) "Special children" need not be denied their religious heritage. They react favorably to the addition of religious topics.
- 3) Parents must support their children and carry religious attitudes and practices into the home.
- 4) Synagogues and churches must become involved and open the door of education to all children, regardless of handicap. Teachers of religion must prepare themselves for this special training challenge.
- 5) Religious institutions must devise programs and actively recruit students for special classes. They must become involved totally with the religious needs of all the family.

The most important implication is the very name of the school. There is now Tikvah (Hope) for children with learning disabilities. Tikvah has shown that perceptually handicapped children can be and were educated---with one student already returned to a "regular" classroom so far. With much assistance from the community, government, higher learning institutions, and existing institutions, schools like Tikvah Institute will be able to accept and educate more of the waiting list students. Above all, there is now Tikvah - - - Hope.

APPENDIX

MEDICAL AND PROFESSIONAL ADVISORY COMMITTEE OF
TIKVAH INSTITUTE FOR CHILDHOOD LEARNING DISABILITIES, INC.

Dr. Robert S. Mandelsohn, Chairman

Pediatric Consultant, Virginia Frank Child Development Center
Consultant, Elgin & Dixon State Hospitals, State Dept. of Mental
Health Medical Director, Operation Headstart, Cook County OEO
Chairman, Committee on Religion and Medicine, Ill. State Medical
Society

Dr. Herman Weiss, Director, Brain Damage Unit, and Chief of Children's
Section, Rehabilitation Institute of Chicago.

Dr. Arthur O. Stein, Director, Pediatric Mental Development Clinic, Lt.
Joseph P. Kennedy, Jr. Mental Retardation Research Center, University of
Chicago Hospitals.

Mr. Elmer Smith, Supervisor, Program for Brain Injured Children, Chicago Board
of Education.

Dr. Herbert Goldstein, Professor and Chairman, Department of Special Education,
Ferkau Graduate School, Yeshiva University, New York City.

Dr. Sidney Shankman, Director, The Alexandria Mental Hygiene Clinic,
Alexandria, Va.

Dr. M. A. Perlstein, Chief, Children's Neurology Service, Cook County
Hospital, Chgo.

Dr. Irving Rozenfeld, Pediatric Neurologist, Michael Reese Hospital, Chicago;
Clinical Associate Professor, Chicago Medical School.

Dr. Bernard Aronov, Psychologist and Special Education Consultant, Illinois
Teachers College, Chicago North.

Dr. Sue Warren, Chief Psychologist, Illinois State Pediatric Institute.

Dr. William Gellman, Psychologist, Jewish Vocational Service, Chicago.

Dr. Irving White, Psychologist; President, Creative Research Associates, Inc.

Miss Ann Shlensky, Speech Therapist and Audiologist, Presbyterian-St. Luke's
Hospital, Chicago.

Dr. Harry Sirota, Optometrist and Consultant on Child Vision Care.

Dr. Ira Tresley, Plastic Surgeon, Chicago Wesley Memorial Hospital; Associate Professor of Otolaryngology, Northwestern University.

Mrs. Leonard Bressler, R.N.

Dr. Mark Mendelsohn, D.D.S.

Mrs. Marilee Shapiro, Sculptress, Art Therapist; Consultant, The Alexandria Mental Hygiene Clinic.

Rabbi Shlomo Carlebach, Music consultant and composer of special Sabbath service for Tikvah students.

Dr. David Weinstein, President, College of Jewish Studies.

Dr. Simon G. Kramer, President, Hebrew Theological College, Skokie, Illinois.

Major Richard J. Daley
City Hall
Chicago, Illinois

Dear Mayor Daley:

We are a property and federal income tax paying family. Why must we educate our son ourselves?

The Chicago Board of Education is unable to provide the education our Perceptually Handicapped son requires. The Board knows of 9,000 children with this problem and provides classrooms for 78.

Actually our son was one of the so called "lucky ones in that for one year he was one of the 78. We were called at the end of the year and told that his space must be given to another child who would otherwise end up on the "garbage heap." I asked if removing my son from the class would mean that he would then end up on the "garbage heap" and I was told that someone had to end up there. Dan had not achieved in the classroom I was told.

Our son now attends Tikvah Institute for Childhood Learning Disabilities. Not only is he achieving here (1 1/2 years progress in arithmetic, reading, and spelling in one year) but one of his classmates is being returned to regular school after only one year. Tikvah is certified by the Cook County Superintendent of Public Instruction.

We have been told of a new bill which will guarantee every child a public education in January of 1969. I know of a parent who recently called the Board of Education and asked to have her six year old's name put on the list for the special education class for Perceptually Handicapped children. She was told not to bother putting her name on the list as it would not come to the top for at least three years and by then she would be too old. This would mean in 1972 so their plans for 1969 are just dreams.

Tikvah is the only school of its kind in Chicago. They are told they are too small (12 children with 188 on the waiting list) or too new (opened in September, 1967) or some other reason why they can not get help except from friends and relatives. The only thing this school is doing is helping children to learn, some of whom would otherwise, I am sure, end up on public aid the rest of their lives.

Tikvah has not received one dollar in federal or state aid. Why can't we get the help we so desperately need? We are not asking for free lunches or breakfasts. We would be grateful for an education.

Sincerely yours,

CC: Miss Carolyn Brenner
Senator Saperstein

Name Withheld
Mother with Tikvah

SOCIAL
CHICAGO

Teacher A Persuasive Talker

By Kathy O'Brien

Carolyn Brenner is a teacher who doesn't spend hours in a classroom. Most of her time is spent talking to adults, persuading other educators, parents and friends to listen to her problem and to support her work.

Miss Brenner is the director, founder and chief cheerleader of Tikvah; Institute for Childhood Learning Disabilities. Tikvah, the Hebrew word for hope, teaches children with damaged brains. They are of all denominations. These children are not retarded, nor are they mentally or emotionally ill.

"THEY CAN LEARN the things any normal child can," stressed Miss Brenner, "but they just don't perceive things the way other children do. They have to learn how to learn so they can avoid their particular problem areas."

The story of these children is a sad one. Because of the individual nature of their problems, they are often shuttled from school to school, are constantly being reprimanded and called lazy or stupid and are generally met with resentment and hostility due to a lack of understanding.

"They usually fall into three categories in the schools," said Miss Brenner. "Either they are expelled from their schools because their teachers think they are rebellious and won't learn or they are promoted from grade to grade without ever learning much of consequence just to get them out of the teachers' hair or they are held back year after year. I don't know which of these is the worst."

MISS BRENNER'S INTEREST in children and their problems came about in a rather different way. She taught high school after attending Northwestern University, where she concentrated on speech therapy. After a few years she went into acting. "I was an understudy in a show and we were on the road a lot. I knew the lead would never be sick and that I'd better find something else to keep myself busy."

In each town they played, Miss Brenner spent three days a week working in hospitals. "I tried Jewish, Protestant and Catholic hospitals," she said. At each she worked in pediatrics and everywhere met the problem of children who were not sick enough to be hospitalized but who were constantly being tested to determine what was wrong with them. She looked into the education of these children and was appalled to find little being done.

"THE REAL BEGINNING was in Washington," she said. "The cast was at a cocktail party somewhere and I asked another guest where I could find out how to start a school for the perceptually impaired child. She gave me the names of some people to call. They turned out to be an executive in the Health, Education and Welfare Department and the chief psychiatrist at one of the hospitals in Washington. That was the beginning."

She chose Chicago because she likes it, because of the medical facilities here and because of the real need in this city. Her two schools opened in September—one on the North Side and one on the South Side. Each school has six pupils with a teacher and usually five aides in the classroom. The schools are accredited and teach the children the subjects they would be taught in a public school. But they are instructed individually and with patience and understanding.

TIKVAH OFFICIAL TRADEMARK



The Rubins Figure

This is a reversible figure in which either a vase or two full profiles can be seen. Some of our students with perceptual difficulties have to be trained in order to see both figures and to shift from one to another. Your contribution to this not-for-profit school is helping us to help them return to a normal classroom situation.

TIKVAH INSTITUTE
FOR
CHILDHOOD LEARNING DISABILITIES
616 N. RUSH STREET
CHICAGO, ILLINOIS 60611

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APPROVAL SHEET

The thesis submitted by Alan Gordon Spector has been read and approved by the director of the thesis. Furthermore, the final copies have been examined by the director and the signature which appears below verifies the fact that any necessary changes have been incorporated, and that the thesis is now given final approval with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Arts.

Nov 23, 1968

Date

Joseph J. Calanca

Signature of Adviser