

A Mixed-Technique Method in the Training of Children's Learning Disabilities

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Abstract

It is more than a century that children with learning disability have been studied by educational experts, and this topic has been studied as a new branch. Learning disability is a kind of disorder which affects all aspects of the child's life. Children suffering from this disability have some disorders in their visual, auditory and touch perception.

These perceptual problems cause limitations in understanding social issues, and some problems in communicating with other people and peers. The training methods which have so far been used for learning disability have focused only on one aspect of the disease and have improved only sensory, perceptual or motor aspects. This study aims at providing a new restorative method in which all the three, i.e. sensory, perceptual and motor aspects, are taken into consideration. In this method that we introduced in this article, after evaluating children by means of mixed methods we try to develop the child's sensory perceptive physical skills. After the training sessions, the children can be re-tested and the results can be compared.

Keywords: Learning disability, Perceptual problems, Skills

1. Introduction

Investigations in the field of learning disability began in the 1960s. Before that, the authority of doing such research was in the hands of physicians and psychologists. But their authority was taken away by federal law and this field was transferred from clinics into classes and schools. (Lerner, 1997).

1.1 Definition of learning disability:

So far, many definitions have been provided for learning disability. These definitions were mostly due to various types of problematizing the issue and basic factors which are dependent on different theories (Tabrizi, 2001). The most important definition is based on the definition of the Federal government and the forth revision of diagnostic and statistical manual of mental disorder. Federal government has defined learning disability as a kind of disorder in one or more of the basic psychological processes involved in understanding or using language, spoken or written, that may manifest itself in the form of an imperfect ability to speak, listen, write, read and spell or do mathematical calculations including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia and developmental aphasia. The term does not include learning problems that are primarily the result of visual, hearing or motor disabilities, of mental retardation, emotional disturbance or of environmental, cultural or economic disadvantage (Lerner, 1997).

1.2 Definitions of sensory, perceptual – motor activities

Defining sensory perceptual and motor activities and determining their role in the learning process is of great importance. Firstly, stimulus or stimuli are provided to the senses (sight, hearing, smell, taste and touch) in order to stimulate them. This process is called message receiving or encoding process. After stimulation, the message is sent to the brain through afferent nerves. This process is called "input" process. When the message is received by the brain or cerebral cortex, an organizing or unifying process will occur. The received message will be combined with the previous information and experiences and the required decisions for action will be made. The decisions will be transferred into the operating organs and response mechanisms through the efferent nerves. This process is called "output". Finally, the response will be shown as a verbal expression (writing, saying) or motor reaction (running). Now, if the response is correct, the brain will store this information for the subsequent uses and if it is incorrect, a substitutional response will be created & provided for correcting the previous response (Verner, 1991).

Since sensory – perceptual and motor actions are interdependent, developing a sufficient system of sensory – perceptual a motor processing in children with learning disability, by using a restorative method, for successful performance of each task is of great importance.

(Some theories of learning disability have focused on the sensory – perceptual & motor development and concluded that, as each stage in different sensory – perceptual & motor phases is completed the child is also prepared for the next development stage (Rakhshan, 1990).

1.3 History of restorative approaches

Early in 19th century restorative education was developed in France by John, mouk Gasper Itard. He was a French physician who had attempted to teach a wild little boy found in Arirson jungle in 1799. He believed that by using restorative education it was possible to correct crippling and psychological effects resulted from the child's extraordinary deprivation. And he tried to make the child interested in social life and to awaken his nervous sensitivity and to develop his / her scope of thoughts and beliefs, and to develop his speech through imitation.

Edward Seguin, also, developed a sensory – motor restorative approach. His view was based on psychological and neurological theories. After him, Maria Monte Suri 1932 did some research in this respect. Her method was based on auto – education and self – teaching.

In early 1920s, a psychologist called Fernale, developed a sensory – muscular restorative method in which the child used touching and motion of his muscles to learn vocabulary and sentences.

This method was used for those students who had normal intelligence but suffered from some serious learning problems. The results were satisfactory (Krek, 1988).

In 1932 Maria Monte Suri introduced a restorative program for omitting the errors and mistakes of the children suffering from learning disability. This program was known as "Reading Restorative programs" (Rumsey; 1997). In 1973, Orton & Gelingham had used a multi – sensory approach, called "alphabetic method" for reading, writing and spelling. The reason the method came to be called as such was that the training focus of this method was on acquiring proficiency in alphabetic units and consequently on putting these units together to form words and sentences (Lerner, 1977).

Anyway, learning disability has been the center of attention and it must be noted that those children who suffer from this disability lack some skills which are among the most important abilities in acquiring information and knowledge from the outside world. This may cause some problems in social, family and economic areas. On the other hand, these children have many other problems like low self – esteem, aggressiveness, sabotage and stress (Naderi & Naraghi; 2000).

Regarding these descriptions, using appropriate curative methods to help this group of society is an undeniably valuable arena to do research. Therefore, this research, by introducing a new mixed method, has attempted to take a step in that direction. Children suffering from learning disabilities have some specific disorders in perceptual – visual areas such as in reversing the letters (letter reversals) and words (word reversal) and in letter sequencing. They have also problems of word omission and word repetition. And also they have specific problems in auditory perception which include received sounds and slow information processing. Further, there are some disabilities like integrated sensory disability and perceptual-social problems. Integrated sensory disability includes touch sensitiveness, problems in keeping their balance, jumping, running, tying and zipping. And perceptual – social problems include wrong perception of social signs, etc. In this study, it has been attempted to provide a new restorative-educational method which is a mixture of sensory-perceptual and motor education this method deals with training learning disability.

2. Methodology

In this study, after evaluating the child by using sensory, perceptual motor methods including frastig method (motor- visual harmony, spatial connection, ...), Verner's & Reings method (direction finding, strengthening gross motor, and balance), Tabrizi's method (Lip-reading, eye-following , letter recognition, ...), Veksler's number memory test, and some other methods adopted by the researcher like increasing social perception (social games, story telling, ...) and increasing sensory perception (and playing), we dealt with increasing sensory, perceptual and motor abilities in children with learning disability.

The duration of the training period lasts ten session with every session lasting one 1 hour. This method is applied to individual child, but, according to time, place and the condition, the number of children, the number of sessions and the duration of each session can increase.

The best age for this method to be applied to, is primary school age in which the flexibility of child is high and restoration and improvement is possible. But if the learning disability is diagnosed in child of less than school age or out of school, it is again possible to use this method.

At the beginning of each session the child is tested in order that his / her level be determined. This test can include intelligence test or any other test of standard progress evaluation.

2.1 First session

In the first session, after getting some information about the child and taking intelligence test or any other standard educational progress test, the number of sessions and the duration of each one will be said to the family of the child.

2.2 Second to Fifth session

Aim: increasing visual- motor perception skill, increasing direction – finding speed, increasing short – term memory and the ability of comprehending two or more successive sentences.

Program: In order to increase the visual – motor perception skill and eye – hand coordination, frastig test and concerned exercises are used. Frastig test (developing visual perception) is said to facilitate the detection of impairment in visual perception, as well as the rate and treatment of and even preventing it. This test will determine the child's disability in the following cases: eye visual – motor perception (for fluent reading in primary school) the power of fine and gross muscles of hand (to remedy illegibility and dysgraphia in primary school) Technical responses of body organism (to increase the speed of writing and fluent reading) eye – hand coordination (for dysgraphia).

At first, very simple short and thin mazes are given to the child, like example 1 which is a short and direct path. It is predictable that the child has difficulty in doing such a simple exercise (See figure 1 in the appendix section)

After some sessions and doing some exercises and after the child shows some progress in drawing simple maze, then the curved and angled lines are given to him / her. But even in this case the beginning and ending boundaries of the maze is made clear for the child (see Figure 2).

After the fifth session the child can draw the line in a maze without boundary, without using pencil.

It is expected that he / she can also draw the reversed path (see Figure 3).

Exercises relating to eye – following:

The child is asked, to follow slowly the object which is moved from left to right with his / her eyes and without moving his/ her head. Then movement is done in up – down and circle direction. This exercise is done once every session and lasts 1 minute (in this exercise 5 delicate muscles of eye are strengthened)

Increasing direction – finding speed

At first, the large arrows are used and the student is asked to say toward which direction each arrow is (see Figure 4).

After some sessions the sizes of arrows lessen and their distance decrease (see Figure 5).

Increasing short – term memory: (direct and reversed)

In this exercise the test of numbers short – term memory is used.

The ability of auditory perception of 2 or more successive sentences:

In order to increase this ability the student is asked to perform a 1- sentence instruction (for example: pick up the pen from the table). Then the exercise is changed into a two – sentence instruction, for example (pick up the pen

from the table) after picking up (now put the pen on the bag).

After increasing the child's ability, the exercise is changed into successive sentences for example: pick up the pen from the table and put it on the bag. At the end of the session the child can follow a 4- sentence instruction.

2.3 Sixth to ninth session

Aim: increasing social perception – strengthening gross motor and balance, letter recognition, increasing sensory perception, increasing spatial perception.

Increasing social perception skill:

1. Story – telling: the students are asked to tell a story about a certain topic. It is expected this exercise to be really difficult and unbearable for the child and sometimes he / she can not talk more than one sentence about that topic. During some sessions they are taught to talk about different topics and the researcher retells them different stories. At the end of the sessions students can tell a one – minute story, but some of them have still problem in how to end the story.

Choosing topic for the story:

In this exercise the therapist retell a story for the children and at the end they are asked to choose a topic and an appropriate name (title) for the story. This exercise is very difficult and at the end of the session the student can do the exercise only by the help of the researcher. This disability is because of the limited vocabulary and lack of general knowledge in children with learning disability. In order to solve this problem, story books appropriate for the child's age group are introduced to the family and they are asked every night, before the child go to the bed, to read a short story to him / her and to discuss about the topic of the story, its characters and the events of it.

Strengthening gross motor and balance:

In order to strengthen the gross motor exercises like walking at the kerbside, standing on one foot, playing the game "I crack the walnut", walking backward, throwing and getting ball are done. Also, families are given a program in which the child has to do rhythmic movements accompanied by music, 15 minutes a day.

Strengthening visual ability and visual discrimination:

Letter recognition: In order to strengthen visual ability & visual discrimination in child, the exercise of recognizing letters in word and words in sentence is used. In such cases, some words are written on a piece of paper and then the child is asked to find certain letters in the words and circle them (For example finding "B" in these examples).

(Baby)-(Book)-(ban)...

Lip – reading: The aim of this exercise is increasing the child's precision and concentration in looking at things. The researcher sits exactly face to face with the child and moves his lips as he's saying the word, but no sound coming from his mouth. The child should understand what the researcher is saying by watching the way his lips move.

Increasing sensory perception:

Sand playing: In this exercise some objects like cube, spoon, & small ball are hidden in a sand container, and at first, the child is asked to find the objects and without looking at them, just by touching them, guess what the object is. In the final session many more objects are hidden and they also become very similar in volume, shape and size. The child can also be asked to draw some drawings on the sand with his / her finger.

Air writing: with the aim of increasing the ability of spatial perception in the children, they are asked to write some letters in the air with their index finger. Increasing the ability of spatial perception, with the aim of increasing space estimation and imagery which play a basic role in the child's movement and playing, is essential.

2.4 Tenth session

The end of the training period:

Evaluating the child and examining the results of training sessions.

Taking another intelligence test or any other standard progress measurement test with the aim of comparison.

3. Conclusion

Note first that required a child with learning disabilities, not only in learning but also in all aspects of development, including sensory aspects - understanding - and even social movement disorder and research is difficult and based on all the old methods in the treatment of learning disorders only improve and develop an aspect of individual

development will pay its researchers to combine sensory techniques - understanding all aspects of child development and motor learning with dysfunction and improve on previous studies of any similar research in this area and this was found. Because of its innovative and new research topic is to be expected and not far from some of the research hypotheses, the number is less consistent. We can conclude that these children with learning disabilities, children are part of futurism and the most problems as they related to this topic More training is included in the 10 training sessions on this issue was emphasized that children learn in addition to details on the entire note is also the cause to help students be fluent reading and exercises as told Kpart move on to reading education and affect. According to the theory of limited time, attention and focus on the children in care and attention and senses are in trouble and their development in this field is interrupted and no doubt very seriously any action to require the ability to exercise objective and that is performed in 10 sessions, all the emphasis on increased attention has not so far from the Wechsler test score at posttest the experimental group significantly increased compared to control group may have. Thus this hypothesis with research, Cratty (1999), Assadi doost (2008) is consistent.

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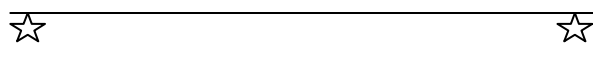


Figure 1.

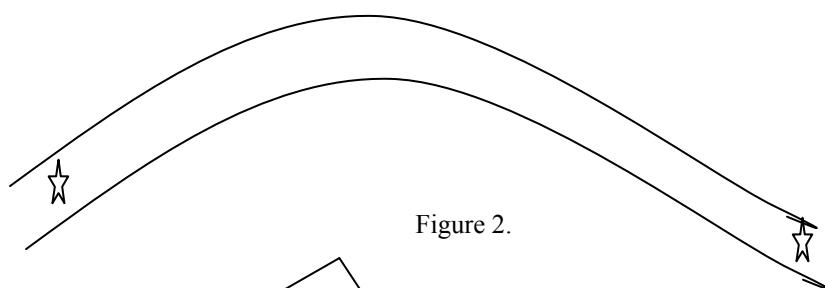


Figure 2.

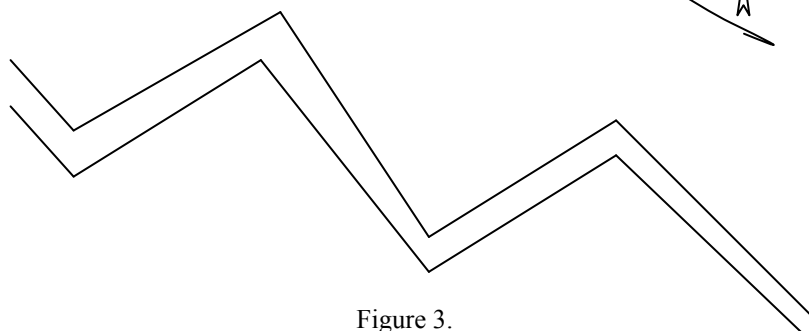


Figure 3.

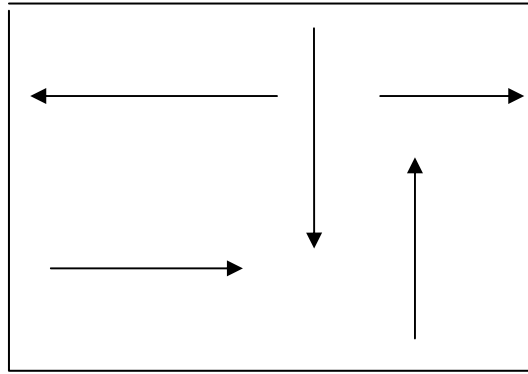


Figure 4.

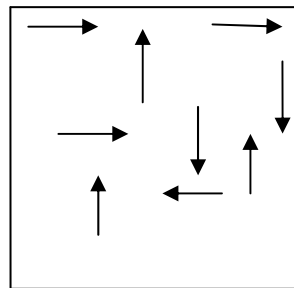


Figure 5.