

Influence of Remedial Measures on Behavior Management of Children with Learning Disability

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ABSTRACT

The present study was aimed at studying the effect of remedial measures on children with learning difficulty. 38 children (27 boys and 11 girls) form the study sample. Besides demographic variables, details on the child's behavior at home and school, parental support and gadget time were gathered from the parents. The children were assessed by Brigance Comprehensive Inventory of Basic Skills II – Reading, Schonell Spelling test and Test of Written Spelling 2 tools. The analysis showed that 68.42% of children had reading difficulty and 94.7% had writing difficulty. Of them, 71% of children seemed to have an improvement in their academic performance and betterment in their behavior after the remedial education was provided.

Keywords: *Learning disability, Brigance Comprehensive Inventory of Basic Skills II – Reading, Schonell Spelling Test, Test of Written Spelling*

According to IDEA-2004 (Individuals with Disabilities Education Improvement Act), learning disability refers to a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written and which may in turn manifest itself in imperfect ability to listen, think, speak, read, write and spell or to do mathematical calculations. Such term includes conditions such as perceptual disabilities, minimal brain dysfunction, dyslexia, and developmental aphasia. It does not include a learning problem that is primarily the result of visual, hearing or motor disabilities; of mental retardation; of emotional disturbance; or of environmental, cultural or economic disadvantage.

Children with a learning disability can be classified as Specific learning disorder / pure LD, Slow learners with a learning disability, ADHD with a co-morbid learning disability, Gifted learning disability, and Non-verbal learning disability.

Based on the area of disorder, a learning disability can be classified as

1. Dyslexia (Reading disorder)
2. Dysgraphia (Developmental expressive writing disorder)
3. Dyscalculia (Arithmetic disorder)

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4. Dyspraxia (Difficulty in movement and co-ordination)

Children with any form of learning disability are found to have co-morbid behaviour issues such as Attention Deficit Hyperactive Disorder (ADHD), Autistic Spectrum Disorder (ASD), eating and sleeping disorders, school refusal, anxiety, mood swings, temper tantrums, lack of confidence, etc. The learning difficulties and behaviour challenges go hand in hand; hence effective remedial education is provided for academic and behaviour modifications.

Remedial education not only involves teaching children individually in subject-specific areas but also helps in the overall development of the child, especially in modifying maladaptive behaviours. Remedial education is more precisely controlled in pace or rate, intensity, relentlessness, structure, reinforcement, teacher-pupil ratio, curriculum, monitoring or assessment (Kauffman & Hallehan, 2005a). An Individual Education Plan (IEP) is developed for each child based on his/her strengths and needs. An Individual Education Plan is the cornerstone of Special Education. It describes the Special Educational and related services specifically designed to meet the unique educational needs of a student with a disability (Kupper 2000).

There are numerous remedial strategies such as multi-sensory teaching techniques (visual, auditory, tactile and kinaesthetic), The Fernald method, The Orton-Gillingham method, The Wilson Reading system, Reading Recover, physical activities, brain gym exercises, individual attention, positive reinforcement, role-play, time-out, token economy etc. that have been used and are successful in academic and behaviour intervention.

Remedial strategies are followed by both special educators at school and parents at home environment. Researchers have used parents to treat behaviour patterns of their children with autism, aggression, emotional disturbance, hyperactivity, etc. Parents are considered to be the trainers of their children. Whether they tend to or not, they manipulate many conditions of learning that will determine to a large extent the behaviours the child will acquire. So, the aim of this study is to observe the effect of remedial measures on children with a learning disability.

METHODOLOGY

Sample

The sample of the study is 38 school children consisting of 27 boys and 11 girls, from CBSE and Matriculation boards. The children were referred by their class teachers and subject teachers due to their academic difficulty and their maladaptive behaviours. These children were from grades II to V.

Instruments

The children were assessed using the following tools:

1. Brigance Comprehensive Inventory of Basic Skills II – Reading:

This tool is used to identify the current reading level of the children. It consists of words and passages from pre-primer level to grade IX. Each level consists of ten words for reading. The child has to read a word within 3 seconds; a delayed response or a mispronunciation is recorded as an error and the test is stopped when there are more than five errors in a level. The level in which the child can read more than five words correctly is taken as the child's word reading level.

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A passage which is one level lower than word reading level is chosen for the child to read. Mispronunciation is recorded as an error; omission, substitution, self-correction and insertion are not considered as errors. The child is asked to re-read the same. The test is stopped when there is more than one error in pre-primer, primer, L-I, and U-I levels; more than two errors in L-II, U-II, L-III, U-III, grades IV and V and more than three errors in levels VI to IX. The preceding level is taken as the reading level of the child.

2. Schonell Spelling Test:

It is used to calculate the spelling age children for up to six years. A dictation method is followed. A word is read twice aloud. An example is given, by using the word in a simple sentence. The test is stopped when there are ten consecutive errors. Spelling age is calculated using the formula $(\text{No. of correctly spelled words} / 10) + 5$.

3. Test of Written Spelling 2:

This tool calculates the percentile of spelling for children above six years. It includes a predictable and unpredictable set of words for dictation. The words are pronounced as given in the test, along with a sentence as an example. The test is stopped when there are five consecutive errors in both the sets. Percentile is calculated for predictable, unpredictable and total scores using the manual.

Procedure

Once the assessment was completed, a detailed case study including birth history, developmental milestones, personal data, etc. was collected from parents and class observation and performance reports were collected from the teachers. Besides demographic variables, details on the child's behaviour at home/school, parental support, and gadget usage were also collected from the parents. After seeking parental consent, remedial measures were administered.

Remedial education was given to each child for a period of one to two years. Also, kinaesthetic and tactile activities, brain gym, breathing exercises, multi-sensory techniques, etc. were taught based on the needs and strengths of the children for learning disability and behaviour modifications. The parents were also suggested to reduce or remove screen time (mobile, TV, iPad, etc.) at home.

Among many other remedial interventions, kinaesthetic and brain gym activities, reduction/removal of screen time, positive reinforcement and parental support were considered for this case study.

Kinaesthetic activities:

These activities involve the movement of the body, whole or partial and they are effective in children with high energy levels. These children generally exhibit patterns of clapping their hands, tapping their feet, squirming in the seat, making sounds on desks, constantly meddling with objects in hand, etc.

The following activities were administered for the children.

- i. Twister games
- ii. Letters were written on the floor and the child was asked to jump on letters to form a word. The word was reinforced by spelling backward as well.
- iii. Letter tiles or flash cards were scattered on the ground. The child had to pick up the cards based on the oral instructions given.

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- iv. Number line was drawn on the ground and Math concepts were taught by jumping along the line.
- v. Letters, numbers, and pictures were displayed on board; the child had to throw a ball on the specified letter/word, based on the instruction.
- vi. Activities like barefoot walking, forward and backward walking on a line, with eyes open and closed, walking on toes, heels and sides, hopping on one foot, walking like animals, etc. were also carried out.
- vii. Crawling on the ground combined with activity on spelling/reading was done.

Brain Gym: Brain gym is a set of movements that assist in brain-body integration. When practiced appropriately, these exercises help in attaining balance, posture, concentration, etc. and also helps in academic improvement. Some of the brain gym exercises that are regularly practiced with children are:

Mid-line crossing: It refers to one's ability to reach across (with both arms and legs) the invisible line we could draw down the centre of the body. The crossing can be top-down, front-back or left-right. It encourages communication between the two hemispheres of the brain and hence improves performance in academics and sports.

Alphabet 8s: This exercise is done by tracing along the 8s starting from the middle, moving towards the left, crossing the middle and finally moving to the right. It helps in letter formation, correcting reversal of letters and numbers, improving handwriting, etc.

Cross crawl: This is done slowly by alternately touching the elbow of one hand to the opposite knee. It helps in bilateral integration, improves postural awareness, proprioception, vestibular balance, etc.

Thinking cap: Fingers are placed on the top of each ear and the curved parts are unrolled at the same time. It improves auditory recognition, discrimination, perception, and memory. There are other brain gym exercises like arm activation, balance buttons, belly breathing, brain buttons, calf pump, earth buttons, the energizer, etc. which can be used based on the needs of the children. These activities can be performed while switching tasks and when the children feel tired and restless during sessions.

Positive reinforcement: Reinforcement is used to increase or to change a target behaviour. By identifying reinforcements that a student wants, teachers construct a reward system that will promote the desired behaviour. Positive and immediate reinforcements are the most effective in fostering the desired behaviour. Stars, stickers, tokens, points, praise, cards, or a simple way of acknowledging the correct behaviour are some of the common reinforcers.

It is also critical to help students maintain the desired behaviour without being dependent on the reinforcers over a period of time (Kohn 1995). This can be achieved by the following steps:

1. Start with the reinforcer that will increase the desired behaviour that is most natural.
2. Once the behaviour is securely established, begin to withdraw the reinforcer on a careful schedule of use and non-use.
3. Include the student in the revision of the reinforcement schedule, making sure they understand the benefits of the desired behaviour.

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Reduction/Removal of screen time: Many types of research have shown that prolonged exposure to screens like TV, iPad, mobile, etc. cause fatigue, weakening of eye muscles, disturbed sleep patterns, etc. The most significant impact on children is that it causes ocular lock (staring), wherein the child is unable to remove his/her focus from the screen and respond to other stimuli in the environment. Increased exposure to screen time affects learning in children. Hence parents were requested to minimize or remove the usage of mobiles or tv, depending on the time span and replace them with other activities. A strict time schedule was followed wherein the screen time was reduced gradually and it was replaced with other reinforcements appropriate to the children.

Parental support: Parents of children with learning disability could act successfully as behaviour therapists in helping their own children to overcome their difficulties, provided they have standard procedures to follow under supervision (David Ryback, Arthur W. Staats). When parents follow the same process of kinaesthetic activities, positive reinforcement, reduction of screen time, etc., the children tend to show improvement at a faster pace. Parents' support holds a very important place in the modification of behaviour along with academic improvement. The motivation given by the parents creates a strong desire for children to perform better.

Parental meetings were held regularly ranging from once in a week to twice a month, depending on the needs of the children. Inputs were shared by both special educators and parents and the concerns were addressed. Support from class teachers and management were also availed whenever necessary. This process was carried out for a period of one to two years, with constant review and revision of IEPs when needed.

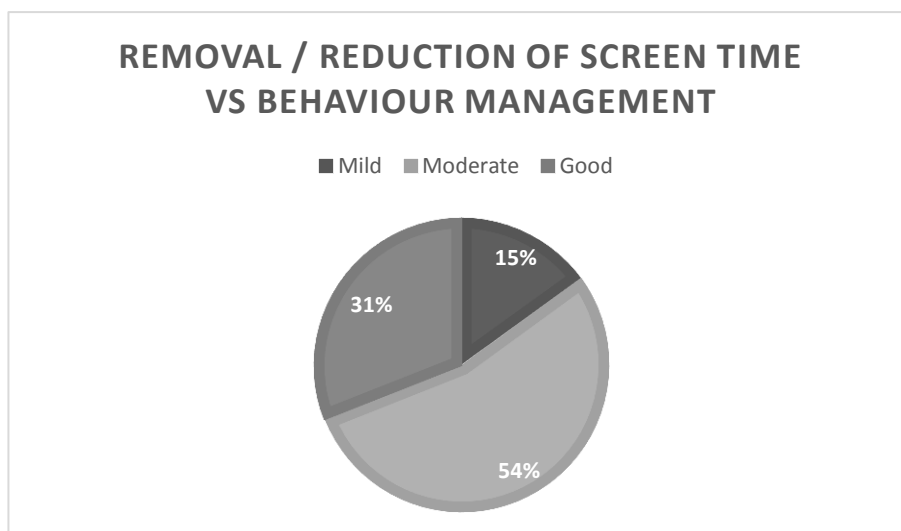
At the end of the remedial intervention, assessments were conducted and the improvement in children was recorded as no improvement or mild improvement (less than 50%), moderate improvement (50%-75%) and good improvement (greater than 75%), for each strategy that was used through the remediation process.

RESULTS AND DISCUSSION

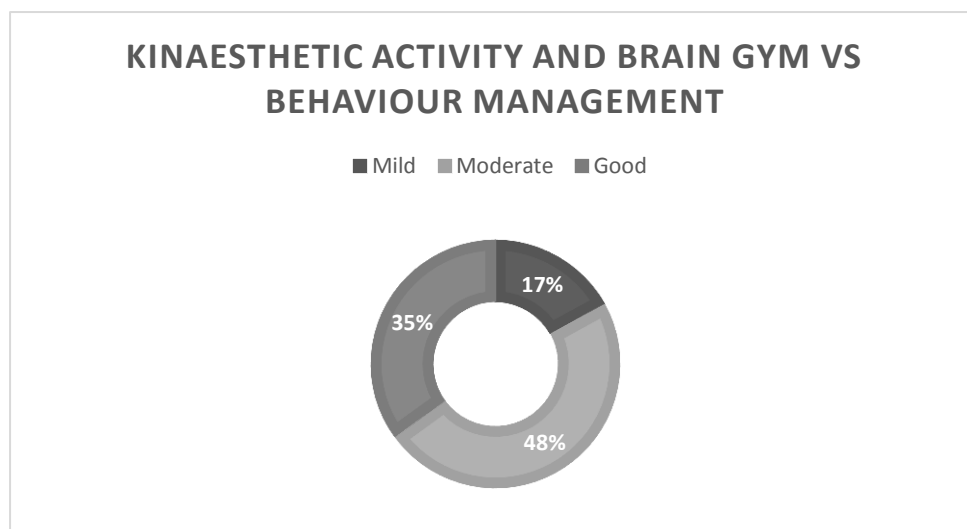
The data were analysed using McNemar's statistical test. The sample showed that 68.42% of children had reading difficulty and 94.7% of children had writing difficulty.

Based on the analysis, when screen time was reduced or removed, 15% of children showed mild improvement, 54% showed moderate improvement and 31% showed good improvement in behaviour. The children became more attentive and were able to listen and comprehend tasks and activities.

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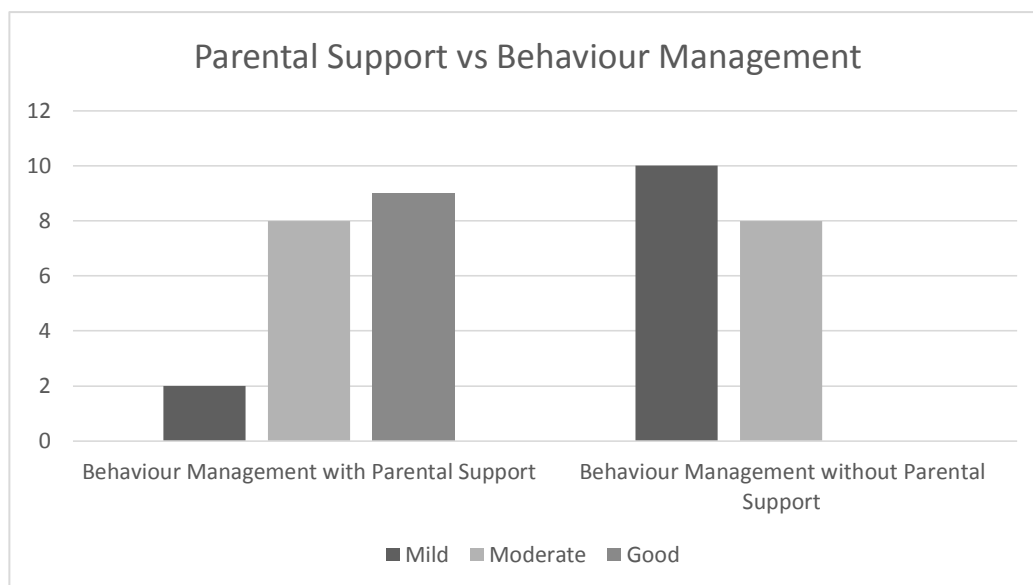


Kinaesthetic and brain gym exercises resulted in 17% mild improvement, 48% moderate improvement and 35% good improvement in behaviour. The activities improved left and right co-ordination among children; they were able to perform the physical activities without difficulty when they practiced regularly. Improvement was also seen in their handwriting. Kinaesthetic activities included in learning tapped the energy levels of the children. They were able to concentrate better and began to participate willingly in class activities.



A good improvement in behaviour is observed with parents' support when compared with the lack of parents' support. This proves that parents' involvement and support aided the behaviour modification of the child to a great extent.

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It was also observed that when the level of positive reinforcement increases, the level of behaviour modification also increases. When the children were motivated with positive words of encouragement and appropriate reinforcers, they improved in confidence level and began to participate in class activities without inhibition. After remedial teaching, there was 66.67% improvement in boys and 81.82% improvement in girls.

CONCLUSION

Remedial measures such as kinaesthetic activity, brain gym exercises, positive reinforcement and removal of excessive screen time, along with the parental support showed an overall improvement of 71 percent in both academics and in the behaviour of the children. Therefore, the results show that working as a team of special educators, parents and other support systems, based on the strengths and needs of the child would help in effective academic and behaviour management.

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Conflict of Interest

The authors carefully declare this paper to bear not a conflict of interests

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