INFLUENCE OF PLAY THERAPY IN ENHANCING MOTOR SKILLS AMONG CHILDREN WITH MODERATE INTELLECTUAL DISABILITY

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Abstract: The study was conducted to investigate the “Influence of Play therapy in enhancing Motor Skills among Children with Intellectual Disabilities”. The sample consists of children with moderate intellectual disability age ranging from 7-14 years. Size of the sample consist 10 subjects. They were randomly assigned into experimental and control groups. Each group consists of five subjects. For conducting the study, Pre-test Post-test Control Group Design was used. The students in the experimental group were taught Play Therapy with colourful materials and control group were taught through conventional method. The results indicated that there is a significant improvement in enhancing Gross Motor Skills and Fine Motor Skills. In addition, the rate of training among the students in experimental group was higher than the control group. From the results it is evident that the children who were taught through Play Therapy have achieved higher score than the children who were taught through conventional method.

Key words: Play Therapy, Gross Motor, Fine Motor, Moderate Intellectual Disability

Introduction

Play is important for children because it is where they explore, try out new things and build relationships with other children. It acts as a vehicle for nurturing their interest and provides a platform for exploring curiosity and creativity (Canning et al., 2017). Children come with their experiences from home, their family and other interactions that have impacted on their thinking (Keung and Cheung, 2019).

Play allows children to engage in testing out theories, taking risks and problem-solving in a safe space without the fear of failure, allowing for the development of resilience. The importance of resilience cannot be underestimated. Neurological research into the long-term impacts of remaining in high states of anxiety or ‘toxic stress’ have been documented to impact on neural development and have lifelong implications; resilience is a protective factor. Providing opportunities through play for children to engage in and develop self-regulation and problem-solving skills, and a sense of self control supported by positive and caring adult relationships, is a key factor in the development of resilience (Harvard University, 2021). Good experiences and happy events compensate for and balance the stressors and adversities children may face (Rutter, 1985). Play provides the opportunity and safe space to enable the development of these protective factors. (Davies 2022)

According to Moyles, play contributes to the overall development of the child, aiding motor and perceptual development alongside social development as children collaborate with peers in activities. Play is useful for not only normal children but also useful for children with intellectual disability.

Intellectual Disability

Intellectual disability is a condition characterized by significant limitations in both intellectual functioning and adaptive behavior that disability originates before the age of 22 (AAIDD, 2021). Intellectual disability classified into Mild, Moderate, Severe and Profound.
Moderate Intellectual Disability (IQ 35 to IQ 49)

People classified with Moderate Intellectual Disability, because of more evident and consistent delays in their attainment of early developmental milestones, particularly in language facility and social play are likely to be identified during the preschool years. At entry to primary school, these children may communicate through a combination of single words and gestures and evidence self care and motor skills similar to those of average 2 to 3 years olds During primary school, they will develop the use of two to three word phrases to communicate and by age 12 may evidence useful, pragmatic communication skills. Skill development, both academically and adaptively, is delayed during middle school, compared to peers with Mild Intellectual Disability. By the age of 14, they may develop basic self care skills, begin to read, and manifest social interaction skills. They generally have functional language, although their intelligibility may be poor, reading, money and number skills are typically not achieved. Lifestyle supports are usually required for this group. Children with moderate intellectual have difficulty in motor and social skills.

Children with intellectual disability have difficulties motor coordination and eye and coordination compared to their normal counterparts. Therefore, emphasis is given on enhancing motor skills which are required in their day-to-day functioning.

Motor Skills

Motor skills refer to the movement and coordination of one’s muscles and body (Haibach-Beach, Reid, & Collier, 2011). The development of fine and gross motor skills begins during the critical years of early childhood. A young child’s ability to move effectively in space is essential to future complex motor skill development (Bellows et al, 2013).

A motor skill is a function that involves specific movements of the body's muscles to perform a certain task. These tasks could include walking, running, or riding a cycle. Motor skills are movements and actions of the muscles. Motor skills refer to the body's ability to manage the process of movement. To execute motor skills, a person's brain, muscles, and nervous system must all work together. A person's motor coordination is determined by how well he or she is able to perform a desired function when employing these motor skills (Ostrosky-2018).

Types of Motor Skills:

Motor skills are typically divided into gross and fine motor abilities. Gross motor skills require coordination of an individual’s arms, legs, and other large body parts for actions such as running, jumping, and throwing. Motor skills is often broadly divided into two categorized as fine motor skills and gross motor skills. Development of various fine and gross motor skills begins in infancy, and throughout childhood, individuals experience tremendous physical and developmental growth that typically progresses in a predictable sequence as such, tracking of developmental milestones allows for assessment of a child’s developmental functioning, and monitoring of motor skills development in children is important for identifying children who may be at risk for various developmental delays.

Gross Motor Skills

Gross motor skills require coordination of an individual’s arms, legs, and other large body parts for actions such as running, jumping, and throwing. Because these skills incorporate larger body parts and movements, the development of gross motor skills is necessary for proprioception, core stabilization, and body control (Piek, Dawson, Smith, & Gasson, 2008).

Fine Motor Skills

Fine motor skills require coordination of smaller movements between the fingers, hands, and feet for actions such as picking up and grasping small objects (e.g., pincer grasp; Piek, Dawson, Smith, & Gasson, 2008). These actions involve dexterity in order to manipulate smaller movements and objects. Gross motor and fine motor skills are importance for not only for normal counterparts but also children with intellectual disability to do their day today functioning.

Importance of Gross Motor Skill:

Gross motor skills play an important part in a child's development, and these abilities tend to build upon each other progressively. Gross motor skills are important for your child’s physical development and overall, well-being. They are used in every type of environment, and as we grow into adults, we continue to use them in our schools, homes, work and leisure.

Learning to walk, allows children to develop more advanced skills such as running and jumping. Gross motor skills help us to maintain good posture. We coordinate these large muscle groups for movements like crawling, walking and running.
Importance of Fine Motor Skills

Hand functioning skills plays a vital role in child's interaction with the environment. Functional performance of daily life skills requires object handling, object manipulating and almost all of which is accomplished with hand functioning skills. Usually hand functioning skills are needed for the child to develop daily life skills.

Eating skills rely on refinement of the abilities to use forearm control with a variety of grasp pattern and tools. The ability to use both hands together effectively is necessary for spreading and cutting with knife opening all types of containers, pouring liquids and preparing food.

Jean Piaget (1962) proposed that play bridges the gap between concrete experience and abstract thought. That is, in play, a child deals in a sensory-motor way with objects as symbols of something else abstract in the child’s experience. Children, who are developmentally not yet able to engage fully in abstract reasoning until approximately age eleven (Landreth, 2002), express themselves more freely and directly through self-initiated, spontaneous play. A child may scribble furiously with sharp quick movements to express anger or frustration, or sing quietly while sitting with a doll to express contentment. A fearful child is likely to refrain from play, and a confused child may not be able to settle into one play activity for an extended time.

Landreth (2012) further outlined that play provides a means through which feelings can be communicated. Instead of verbalizing particular situations, thoughts or emotions, a child may use toys to communicate – e.g. shooting a dragon, locking up the bad guys, or punishing the doll that represents a younger sibling. For many, this type of play is an example of how children attempt to organize their experiences at a developmentally appropriate level, and gain a sense of mastery and control in their life.

Stagnitti and Cooper (2009) explained that elements of play which include storytelling and imagination are known precursors to language development and other functional skills such as understanding context, narrative, predicting, and planning. Further, play is a child’s introduction to formal education, as children familiarise themselves with shapes, colours, numbers, letters, and words.

Play Therapy

Play therapy is a therapeutic modality wherein play is the principle therapeutic factor. Because play is a child’s natural medium of communication, play therapy is an ideal modality in which to allow children to express their feelings and deal with their emotional problems Landreth (2012).

In essence, play therapy is for children what ‘talk therapy’ or counselling is for adults. Landreth (2012, p. 11) defines play therapy as: “A dynamic interpersonal relationship between a child (or person of any age) and a therapist…who provides selected play materials and facilitates the development of a safe relationship for the child, to fully express and explore self (feelings, thoughts, experiences, and behaviors) through play, the child’s natural medium of communication, for optimal growth and development.”

Play therapy provides the child with a consistent and predictable therapeutic relationship and environment in which to explore their fears, difficulties, struggles and pain, as well as hopes, dreams and fantasies. The underpinning assumption of play therapy is that, given this relationship and environment, the child has the inner resources to bring about growth and change in their own lives.

Play therapy is an emerging tool for therapists forging significant headway in the treatment of children with intellectual disabilities. The Association for Play Therapy describes the process of play therapy as “the systematic use of a theoretical model to establish an interpersonal process wherein trained play therapists use the therapeutic powers of play to help clients prevent or resolve psychosocial difficulties and achieve optimal growth and development.”

Significance and Scope of the Study

Play is a key medium through which they express themselves. Play Therapy is a popular way to teach children with moderate intellectual disability how to connect better with other children and peer groups. It will show them new ways of playing with their toys, materials, teach them problem solving skills and expand their languages, communication, and social skills.

Play Therapy for children with moderate intellectual disability help them to realize more fully. It helps them to stay physical. Play Therapy can enhance children with moderate intellectual disabilities such as fine motor skill and gross motor skills.

Fine motor skills and Gross motor skills are necessary for daily living activities and establishing quality of life. We do physical activities such as playing like catching, kicking, and throwing. The present an attempt has been made to find the effect of play therapy in enhancing motor skills such as fine motor skills and gross motor skills among children with moderate intellectual disabilities at primary level and secondary level.
Objectives of the Study

- To find the effect of play therapy in enhancing fine motor skills and gross motor skills Children with Moderate Intellectual Disability.
- To find level of fine motor skills and gross motor skills among the Children with Moderate Intellectual Disability as a result of Play Therapy (Experimental Group)
- To find level of fine motor skills and gross motor skills among the Children with Moderate Intellectual Disability as a result of Conventional Method (Control Group).
- To compare the post achievement scores of fine motor skills and gross motor skills among the Children with Moderate Intellectual Disability through Play Therapy (Experimental Group) compared to Conventional Method (Control Group).

Hypothesis

- There will be significant difference between pre-test and post-test scores of fine motor skills through play therapy (Experimental Group).
- There will be significant difference between pre-test and post-test scores of fine motor skills through Conventional method (Control Group).
- There will be significant difference between pre-test and post-test scores of gross motor skills through play therapy (Experimental Group).
- There will be significant difference between pre-test and post-test scores of gross motor skills through Conventional method (Control Group).
- There will be significant difference between Experimental Group and Control Group of post-test achievement scores of fine motor skills, gross motor skills and social skills.

Research Design:

In the present, pre-test and post-test control group design was used to carry out the study. This design was used because combination of random assignment and the presence of a pretest and a control group serve to control for all sources of internal validity.

Sample:

The sample consists of children with moderate intellectual disability. Size of the sample was 10 Children with Moderate Intellectual disability age ranging from 7 to 14 years.

Random sampling technique was used for drawing out the sample from special school, Secunderabad. Ten selected students were randomly grouped into control and experimental group. Each group consists of 5 students.

Tools used in the Study:

For the purpose of collecting data the researcher had prepared the following checklist.

1. Fine motor skill assessment checklist
2. Gross motor skill assessment checklist

The items in the checklist were arranged sequentially in each domain of the checklist from simple to complex. The scoring codes were (0) Dependent, (1) Physical Prompt, (2) Modeling prompt, (3) Verbal Prompt and (4) Independent.

For the purpose of validation, the checklist was given to 12 professional working in the Intellectual Disability. The response of the experts was collected as an appropriate or inappropriate for each domain. A separate column was given for suggestions each item. Modifications were done in the final checklists.

Procedure:

Prior to the study written permission was obtained from the Principal of the school. Ten students from different classes of special school, Secunderabad were involved in the study. Five students were selected for experimental group and the other five formed the control group. Students E1, E2, E3, E4 and E5 constituted the experimental group while the students C1, C2, C3, C4 and C5 formed the control group.

The training was imparted to the subjects in 20 sessions. Small group instruction has been given to the subjects. The play therapy has been given through colorful materials to the subjects. Each session lasted for about 45 minutes. Before intervention, base line of the subject has been collected. Pre-test and post-test has been conducted for all the subjects.

The researcher taught the play therapy activities to the subjects in the experimental group. Researcher made participants to stand on the ground and motivated the subjects by letting them know the benefits of play therapy activities and how it would be helpful for them. Subjects were oriented with all the colorful materials of play therapy activities. During intervention participants were brought to the ground for play therapy activities. Intervention was given through colorful materials. Each subjects of the group has been provided with all the colorful materials for different kinds of play therapy activities. During intervention participants were oriented with the researcher delivering an attention cue. Then the researcher provided...
verbal cue of the first step of the task. If the participant was unable to respond, the researcher provided prompts such as modeling, physical prompt, verbal prompt and gestural prompts. The same procedure was followed to complete the remaining steps of the targeted task. Gradually, prompts were faded when participant performed the task independently. The performance of the students has been entered in the performance checklist with respect to each task and session wise individually.

**Setting:**

The experiment was conducted in the ground at special school, Secunderabad. The experimental group was taught additions group and individually by using colorful materials. The control group students were taught without colorful materials.

**Intervention Schedule:**

A total of 20 sessions were carried out for the experimental group. The duration of each session was 30 minutes. Weekly 5 Sessions will be conducted from 11.00 am to 11.30 am. The session wise performances of the subjects were recorded in the checklist. Record was made under the following options: Dependent (D)-0, Physical Prompt (PP)-1, Modeling Prompt (MP)-2, Verbal Prompt (VP)-3, and Independent (I) - 4. After the 20 sessions post test was conducted and the data were tabulated for analysis was done using t-Test.

**Results**

Data were organized and analyzed as per the objectives of the study. For statistical analysis mean, standard deviation, and a `t` were computed. Data analysis and interpretation is presented in the following Tables.

**Table-1**

*Comparison of Pre-test and Post-test Mean Achievement scores of Experimental Group with regard to Fine Motor skills among Children with Moderate Intellectual Disability*

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
<th>t. Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>5</td>
<td>22.60</td>
<td>1.14</td>
<td>12.79**</td>
</tr>
<tr>
<td>Post</td>
<td>5</td>
<td>55.80</td>
<td>5.76</td>
<td>df=4</td>
</tr>
</tbody>
</table>

**Highly significant at 0.01**

Table-1 indicates that pre-test and post-test mean scores of experimental group with regard to fine motor skills of children with moderate intellectual disability. The obtained mean scores of pre-test experimental group is 22.60 and post-test mean achievement score is 55.80. This shows that there is a major difference between pre-test and post-test mean scores. To see whether there is any significant difference between pre-test and post-test mean scores of experimental group, a paired `t` test was conducted. The obtained `t` value is 12.79, which is greater than the table value, hence it is highly significant at 0.01 level. Children in experimental group got improvement through Play Therapy.

Therefore hypothesis states that “there will be significant difference between pre-test and post-test mean scores of fine motor skills among children with moderate intellectual disability who received play therapy activities” is accepted.

**Table-2**

*Comparison of Pre-test and Post-test Mean Achievement scores of Experimental Group with regard to Gross Motor skills among Children with Moderate Intellectual Disability*

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
<th>t. Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>5</td>
<td>23.00</td>
<td>1.22</td>
<td>6.04**</td>
</tr>
<tr>
<td>Post</td>
<td>5</td>
<td>43.80</td>
<td>7.40</td>
<td>df=4</td>
</tr>
</tbody>
</table>

**Highly significant at 0.01**

Table-2 indicates that pre-test and post-test mean scores of experimental group with regard to gross motor skills of children with moderate intellectual disability. The obtained mean scores of pre-test experimental group is 23.00 and post-test mean achievement score is 43.80. This shows that there is a major difference between pre-test and post-test mean scores. To see whether there is any significant difference between pre-test and post-test mean scores of experimental group, a paired `t` test was conducted. The obtained `t` value is 6.04, which is greater than the table value, hence it is highly significant at 0.01 level. Children in experimental group got improvement through Play Therapy.
Therefore, hypothesis states that “there will be significant difference between pre-test and post-test mean scores of gross motor skills among children with moderate intellectual disability who received play therapy activities” is accepted.

**Table-3**

Comparison of Post-test mean achievement scores of Control and Experimental Group regard to Fine Motor skills among Children with Moderate Intellectual Disability

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>5</td>
<td>36.80</td>
<td>5.40</td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>5</td>
<td>55.80</td>
<td>5.76</td>
<td>5.38**</td>
</tr>
</tbody>
</table>

**Highly significant at 0.01**

Table-3 shows that the mean scores of post-test of control and experimental group with regard to fine motor skills among children with moderate intellectual disability. The obtained mean value for post-test score of control group is 36.80 and the post-test mean value of experimental group is 55.80. It is seen from findings, there is a difference in the post-test mean scores of control group and experimental group. To see whether is any difference between post-test mean scores of control and experimental group, an independent ‘t’ test was conducted. The ‘t’ value is 5.38 which is higher than the table value. Hence, it is highly significant at 0.01 level. Therefore, hypothesis states that “there will be significant difference between Control Group and Experimental Group of post-test achievement scores of fine motor skills among children with moderate intellectual disability” is accepted. It is clear from the findings that children who are trained through play therapy are gained more score compared to control group who trained through conventional method.

**Table-4**

Comparison of Post-test mean achievement scores of Control and Experimental Group with regard to Gross Motor skills among Children with Moderate Intellectual Disability

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>5</td>
<td>34.40</td>
<td>4.83</td>
<td>2.38*</td>
</tr>
<tr>
<td>Experimental</td>
<td>5</td>
<td>43.80</td>
<td>7.40</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at 0.05

Table-4 shows that the mean scores of post-test of control and experimental group with regard to gross motor skills among children with moderate intellectual disability. The obtained mean value for post-test score of control group is 34.40 and the post-test mean value of experimental group is 43.80. It is seen from finding, there is a difference in the post-test mean scores of control group and experimental group. To see whether is any difference between post-test mean scores of control and experimental group, an independent ‘t’ test was conducted. The ‘t’ value is 2.38 which is higher than the table value. Hence, it is highly significant at 0.05 level. Therefore, hypothesis states that “there will be significant difference between Control Group and Experimental Group of post-test achievement scores of gross motor skills among children with moderate intellectual disability” is accepted. It is clear from the findings that children who are trained through play therapy are gained more score compared to control group who trained through conventional method.

**Discussion**

After the intervention, it is evident from the results that the children with moderate intellectual disability who were taught through play therapy performed better in enhancing fine motor skills, gross motor skills and social skills than that of the children with moderate intellectual disability through conventional method. Hence, this performance of the children of experimental group can be ascribed to Play Therapy. As the children were receiving immediate feedback during intervention and in turn children became more confident and showed significant improvement in enhancing fine motor skills, gross motor skills and social skills through Play therapy activities. The study's results made it quite evident that Play Therapy laid higher learning performance among children having moderate intellectual disability.

From the aforementioned facts, it can be concluded that Play Therapy is a pleasurable and recreational activities for children with moderate intellectual disability because it fosters leisure progress. In order to help students who are having difficulties in motor movements, play therapy is used to deliver one-on-one instructions and group instructions. In order to keep up with their progress, students need to participate in leisure activities.
Conclusion

The study's findings provided additional evidence that the play therapy was efficient method in training children having moderate intellectual disability in enhancing fine motor skill, gross motor skills and social skills. Teacher can employ this method for various playing activities. Through this method children can enjoy the activities and complete the task successfully. The study's findings have inferences for innovative way of playing activities through this method. A variety of play therapy should be provided by the teacher where motivation, interest, creativity can be aroused to perform the given activity successfully.

Play therapy can be easily accessible by all the school going children which make recreational activities for their break time after the class for the students. All the regular schools should provide play activities for students after the class when the students should also relax and feel refresh of their mind after the study. The teachers should give students to make a participate in play activities. School students should have grounds and space to playing activities. Play therapy can also be used as different playing activities such as catching the ball, kicking the ball, bubble play, and throw ball the basket for children having intellectual disability and these play therapies are cost effective. By using these activities, student can manage their time and also maintenance fitness and energy.

Bibliography


