

**TO ENHANCE COMMUNICATION SKILLS AMONG CHILDREN WITH AUTISM: MUSIC
AS A TOOL FOR INTERVENTION**

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Abstract:

Autism is a neurodevelopmental disorder involving impairments in social interaction and communication, a restricted range of interests, and repetitive behaviour. It affected 9 out of 10000 individuals, and it is more likely to occur in males than females. ASD as defined by the Individuals with Disabilities Education Act, ASD refers to a developmental disability significantly affecting verbal and nonverbal communication and social interactions, generally evident before age, that adversely affects a child's educational performance. Music is a powerful tool that stimulates all of the senses and involves individuals at many levels. which facilitates developmental skills in structured music, too, where intervention with guided participation can help them improve their communication skills. The present study aims to assess the importance of communication skills and the effect of music as a tool for intervention in autism. The design was modified before and after to investigate the effect of musical tool intervention. The total sample size was ten children with autism, aged 8 to 12 years, classified as having "mild-moderate autism." The children were given a tool called Basic MR for pre- and post-intervention assessment. During the observation intervention, a portion of a scale on communication skills was also completed; testing the children revealed that their overall performance was dependent and that they were unable to perform independently. Children were attended for three months every Monday to Friday, and music was used as a tool in an intervention programme from the Autism Research and Multidisciplinary School in Hyderabad. were selected for the study based on their parents' consent to participate in the intervention programme. When music is used as an intervention tool to train communication skills, the results show a significant improvement in communication skills. However, the study highlights, that music as a tool of intervention needs more training for children with autism to improve their communication skills and help them lead their activities of daily living with less prompting.

Keywords: autism, communication skills, music tool intervention.

1. Introduction

Autism Spectrum Disorder (ASD) is characterized by repetitive and restrictive interests, problems with communication, and impaired social functioning (American Psychiatric Association, 1994). [1] (Reichow & Volkmar, 2010) The word "autism" has been derived from "auto" and "ism," which mean "to be with oneself." 1906, Eugene Bleuler [2] (Poe, 2000) Kanner (1943) proposed in his description of autism that symptoms appeared as early as infancy. It is possible to say that autism is caused by an inherited flaw. The term "autism" had already been introduced to the mental health community in 1906 by Swiss psychiatrist Eugene Bleuler to describe the thought processes of patients diagnosed as having dementia praecox, a diagnosis he later relabeled schizophrenia. For Bleuler, "autism" was an active withdrawal from reality to live in an inner world of fantasy. (Wing et al., 1976).

Autism is a neurodevelopmental disorder involving impairments in social interaction and communication, a restricted range of interests, and repetitive behaviours. By being alone rather than interacting with others, an autistic child may prefer to spend time alone rather than participate in cooperative games. Autism affects nine people out of every 10,000 [4] (Fombonne, 2003). It is three times more likely to occur in males than in females [5] (Burd et al., 1988). On March 18, 2022, the American Psychiatric Association (APA) updated the diagnostic criteria for autism spectrum disorder in the Diagnostic and Statistical Manual, Fifth Edition, Text Revision (DSM-5-TR) [6]. Autism spectrum

disorder (ASD), as defined by the Individuals with Disabilities Education Act (IDEA) (2013), refers to a developmental disability significantly affecting verbal and nonverbal communication and social interactions, generally evident before age 6, that adversely affects a child's educational performance (Hill & Sukbunpant, 2013).

Communication deficits are one of the core symptoms of autism. People with autism can be slow to begin talking or may not learn to talk at all. The term "communication" is the broadest of the trio. It refers to all forms of sending and receiving messages, not only with language but in other ways such as with gestures, body language, and even the way we dress. There are other ways to express ideas in language, such as through writing, which is not speech. It will be helpful to keep these distinctions in mind as we discuss communication in autism (Paul, 2006). (Brunsman et al., 2004) found that comprehensive skills are depressed relative to production in the second year of life, while the gap tends to narrow with receptive skills moving by the third or fourth year, expressive levels were more comparable. However, delays in the language in the early preschool years are not specific to autism (Cantwell et al., 1980) [9]. We know now that language in autism is variable and that there is likely to be a growing subgroup of individuals with the autism spectrum who have diverse language profiles (Tager-Flusberg Joseph, 2003). During the school-age and adolescent years, the main changes that take place in typical language development involve Individuals with autism continuing to make progress in language and related developmental domains well beyond the preschool years. Paul and Cohan (1984) found that both comprehension and expressive abilities continued to improve in their population through adolescence and adulthood, although expressive language showed greater rates of improvement than understanding. Frith, U. (1991) Speech delay and abnormalities are very common, and Kanner considered them to be an essential part of his syndrome. Teaching language to people with autism was one of the earliest accomplishments of applied behaviour analysts (SL Harris, 2002).

Music as a tool is one area within which some individuals with ASD demonstrate exceptional skills. Music therapy is especially beneficial for autistic people because they have inexplicable soft spots for music and many of them develop singing abilities before developing communicative speech. The definition of music therapy as a treatment method and as a profession emerged alongside the first case report on conserving children with autism by Kanner and Asperger during the 1940s (Davis et al., 2008). After Nordoff and Robbins published their book on Creative Music Therapy (1977), the improvisational music therapy approach in the treatment of developmentally disabled children gained a theoretical foundation. T. The management of autism is a universal concern. All multidisciplinary team training is provided to mainstream children with autism to help them lead near-normal lives. To help children with ASD improve their communication skills, many people use a tool approach. The child-centred approach has been developing skilled behaviour in the area of communication. Music as a tool today has become accepted as a paramedical discipline. Several studies were conducted today on music as a tool to effect music intervention in various (Noda, 2004) or mental (Berger and Gabriele, 2004) settings to develop cognitive levels (Schellenberg, 2004) and improve communication skills (Martin and Lori, 2004). Music therapy is especially helpful for people with autism (Rachael Evans, 2006).

The effect of musical presentations of social story information on the behaviour of students with autism Brownwell (2002). Hindustani raga will have a significant impact on autistic children. Nada (2006). In the work on music in autism, new observational efficiency of music therapy as an intervention for autism will improve social skills, cognitive-communication, and hyperactivity Banerjee (2006). Music therapy is one of the options to improve the potential for the intervention or treatment of children with autism (Gold et al., 2006). Together with a huge amount of case reports and research concerning music as a tool of perception, the high potential of music as a tool in the intervention and education of this group is underlined. Using educational methods through music as a tool is considered an important intervention in the management programme for children with autism for two things: rehabilitating them and developing as many independent skills as possible (Novak, I., and Morgan, c. 2009). Most children with ASD will benefit from therapies designed to improve their ability to communicate and engage in

social interaction. For young and lower-functioning children, therapy may include highly structured behaviour approaches designed to teach a sequence of discrete skills such as vocal imitation, responses to specific words, and single-word production (e.g., Sundberg & Michael, 2001).

Music as a tool and a motivating quality can be stimulating, motivating, and relaxing, and by the third or fourth year, expressive levels were more comparable. It can complement and change our moods, and it is widely accepted as therapeutic medicine. Music is a tool that engages and stimulates all of the senses of individuals at many levels, which facilitates the development of skills. Thus, an attempt was made to assess the importance of communication skills for children with autism.

II. Methodology

2.1 Objectives

to assess and identify the significance of communication deficits at various levels in children with autism through baseline assessment, and to comprehend the various types of autism.

to study the effect of music as a tool for intervention in children with autism.

2.2 Sample

The total number of N-10 children with mild to moderate autism in the age group of 8 to 12 years was selected through purposive sampling techniques from a special school in Hyderabad city; among these, participants in the intervention programme were attending regular therapies.

2.3 Tools used

The data will be measured using the methods used in this study, including standard tool observations and interview schedules. (Basic MR Part A) Behavioural assessment scale for Indian children with intellectual disabilities. Developed by Reetapeshwari and Venkatesh of NIEPID Secundrabad, Part A Skill behaviour consists of 280 items grouped under 7 domains. 1. motor; 2. language; 3. reading and writing; 4. numbers and time; 5 The scoring key for the response option 6. social or occupational activities; and 8. The scoring key for response options is the response option scoring key.

2.4 It applies A pre- and post-intervention design, as well as an intervention programme, were used.

2.5 Pretest

The facilitator sought permission and consent from various special schools and children with special parents to conduct the study. Those children with special needs who were willing to participate in the study were considered the sample of the study. Children with autism who participated in this study pre- and post-test explained the importance of the study to the facilitator. Further, the facilitator built a rapport with them and also assured them that the information obtained would be used only to emphasize the importance of communication skills for children with autism, and a music-as-a-tool intervention programme was conducted after the pre-test was done.

III. The therapeutic procedure and the intervention programme.

3.1. To improve communication skills

People with ASD can be slow to begin talking or may not learn to produce words and sentences but have difficulty using them effectively to accomplish social interaction goals. Language involves the creation of a potentially infinite set of never-before conveyed messages through the combination of words in a rule-governed way that allows the formats of the sentence to express meaning to others. The children were taught to use music as a tool to improve their communication skills and communicate with others. Many activities were planned and implemented to develop skilled behaviour in the children.

3.2. Parental counselling

Children with autistic parents lack knowledge of how to teach communication skills, the importance of language skills, and the technique for teaching them to their autistic child. Parents' support is required to cope with their stress, and training their children is the primary goal. Training their children helps them understand others better, and language skills help the child develop interpersonal relationships and become more independent, which helps the parents reduce their children's need for care.

3.3 Intervention Program

The intervention programme was designed by the facilitator to train the children in communication skills and help them improve their communication skills. The intervention programme was conducted by the facilitator over a period of three months, from 9:30 a.m. to 12:00 p.m. The facilitator implemented communication skills, using various teaching techniques, and strategies, such as low-cost materials, picture cards, and hands-on experience. This was done to make the autistic children independent in doing their tasks/goals and also to ensure that parents began to practice what therapy had taught them at the time of the intervention programme. The children were taught to use music as a tool to improve their communication skills and communicate with others. Many activities were planned and implemented to develop skilled behaviour in the children. The facilitator followed space for the practicalities of the intervention program, i.e., indoor and outdoor.

3.4 Music as a tool skill

Music as a tool skill will include copying the imitation and singing along with a group; sharing and taking turns on sound variations will also be included.

- Develop vocalization.
- Name identification, self-conductor
- To improve the core activity
- imitates body movements
- to improve improvisation
- To improve the concept

Activities

- points or gestures to indicate basic needs.
- When asked to tell their name
- Common vehicles
- reads at least three to four rhymes.
- Use the short, long, clean, or dry
- Body parts, which are left and right, and why they point to familiar objects.
- Hello song
- Everyone plays together.
- Opportunities for individual play
- Obtaining equality for all
- achieving where everyone has a chance to participate.
- Encourage vocalization by saying simple words.
- taking turns, listing, working, and good bye-song group structure for the session.

Instructional methods and behaviour modification techniques were applied for children with autism during the activity session. The three teaching procedures are acquisition, fluency, and maintenance, followed by generalization.

Teaching principles are known to unknown from whole to part, from simple to complex, and from concrete to abstract. steps to be followed in teaching: identification, naming, and suitable reinforcement will be applied during the session, and teaching techniques and prompting are provided to children depending on their performance during teaching activities.

3.5 Activity: Naming familiar objects using the drum.

Materials: a kerchief, plate, bag, book, spoon, and facilitator drum.

To motivate the children, the facilitator will show the common picture cards and drum to the children to help them understand the concept of familiar object names. When the facilitator taps the drum, the child

matches the bag picture card in two choice situations, and the facilitator shows the common, familiar objects bag picture card.

The facilitator will show the common, familiar objects' bag picture card when tapping the drum to identify the bag picture card in two different situations. In a one-choice situation, when the facilitator taps the drum to name or point to the bag picture card, the facilitator will show the common, familiar objects bag picture card. The facilitator will ask each child, one by one, to perform the activity with the drum instrument. The facilitator will perform a demo in 2-to-3 trials in front of the children to help them understand the activity. The facilitator will allow each child to lead the activity. The facilitator reinforces the children's every step by naming familiar objects independently. The facilitator will repeat this in various environments. The facilitator will teach the students the names of the familiar objects in the same way that he will plan several activities.

3.6 Activity: Focus attention and self-expression, listen.

This activity is about children playing the drums and making hand tambourine movements along with rhyming phrases. The classroom arrangement sits in a circle, after the play, and children are led into playing the same activity without the support of a facilitator. This activity will teach them self-expression. Put on the rhyming song and tell all the children to play along with the rhyme. The facilitator plays with the children, notices what kind of rhythmic pattern they are making, and identifies the facial patterns. Carry on the activity for 10–30 minutes. Children have to initiate participation in singing rhymes, and the facilitator has to sing along with the children to encourage them to play. By following these steps, the facilitator will train the children to free-play along with the rhyme independently or point to develop attention and expression skills.

3.7 Activity: To improve attention, body awareness, and awareness of fast and slow.

This activity is about children acting as leaders, sharing, and taking turns to play the instruments: children start with shakers that fast and slow and stop suddenly. Children will sit in a semi-circle, with a shaker and chair in the middle of the circle; all the children will face towards the leader's chair or shaker; all the children have to take initiative and participate. The leader stands or sits in front of everyone and takes a chance to perform the activity. The facilitator will start directing everyone to play fast or slow. The facilitator will explain and model the activity in front of the children. Children will do it many times; the facilitator will explain to the children to look at the leader's performance and start initiating play with these shakes as directed by the leader. Ask the children to clap, shake hands, nod their heads, and tap their feet to understand the concept of fast and slow. After these various activities, the children come and do them one by one, directed by a leader. During the session, the children can do free play or whatever else they want to do. By following these steps, facilitators will train the children to get up, get down, and clean dirty things independently or point to the name.

3.8 Activity: Saying hello

The facilitator will begin participation with children by tapping their knees and tapping their hands in a rhythm, leaving a gap for each student to say their name, tap rest and calm, repeat until familiar, and then add another child's name to the child's name. The facilitator will go around the circle 3–5 times, assisting each child in saying his or her name based on their facial expressions. This activity will be repeated 3–5 times by the children. To generalize, the facilitator asks the children to name them one by one, and they can respond and generalize in particular environments.

3.9 Activity: Interact with other children by waiting and taking turns.

To motivate the children, the facilitator will emphasize the importance of learning these skills for this task and will demonstrate three trials in front of the children before the session begins. The facilitator asks the children to sit in a circle. When you say so, instruct the kids to pass the Shekar around. The facilitator will give the physical prompt and verbal instructions. Keep the hands together and pass the egg shaker towards the child. The facilitator will ask the child who gets the egg, Shekar, to say his or her name and pass it back. The facilitator will ask the children to wait for their turn and let other children tell them the name of the child who has the egg, Shekar, when they ask them. The facilitator will assist

the child in passing the Shekar, giving them a better chance of success. The facilitator will help the children by pointing to the Shekar.

By following these steps, the facilitator will train the children to respond to the name independently or by pointing at the name. To generalize, the facilitator asks the children to name them one by one, and they can respond and generalize in various environments.

3.10 Activity: To foster the development of common transportation sound self-expression.

The facilitator of the group should lead the sound transport by allowing the children to select any sound they want; the facilitator will initially encourage the remaining children in the group to join. The facilitator can control the volume of the transport sound imitation as well as the facial expressions, for example, bus, train, car, bike, Aeroplane, cycle, and boat. Children learn different sounds in different environments, so it's a good idea to get everyone to close their eyes and listen to one another. To generalize, the facilitator assigns names, transports, and imitates sounds to the children one by one, and they can respond and imagine generalizing in various environments. By following these facilitators, the teacher will train the child to recognize fruit and vegetable names independently or by pointing to the name.

3.11 Activity: To improve the vowels, and create shared sounds

To motivate the children, the facilitator will show the common picture cards and drum to the children to help them understand the concept. The children were responding to each other, Building a relationship by sharing the drum along with expressions of the vowel sounds a, e, I, o, u, The fast hands beating along with the sounds will be children and facilitators. In the group, keep a drum tapping and sounds of vowels going, and pass the drum around the circle by saying sounds. Each child takes the initiative to participate by tapping the drum, making sounds, sharing the drum, and tapping the drum with the next person. Place the drum in the middle of the group, and each child has to participate. Children have to learn to tap the drum, make it sound, and make it fun. They all take turns playing together. As the game continues with the children, who must use their voices or body tapping to make sound vowels, the facilitator will perform the variations and remove the drum instrument.

3.12 Activity: Play with other children.

To motivate the children to play the game, the facilitator will do the warm-up exercises. The facilitator will arrange chairs in a circle with a selection of music, and the facilitator will place the materials on the floor. The facilitator will demonstrate the activity in 2 to 3 trials in front of the children to help them understand the activity. When the music starts, the child must pick up the egg shaker and change chairs immediately. Each child begins at a chair playing with the Shekar instrument, and the facilitator will shout "change," and everyone will move to the next chair. The facilitator will ask each child, one by one, to perform the musical shaker with the instrument. The facilitator will allow each child to lead the activity. The facilitator will do the variations, and take away the shaker instrument, as the game continues with the children, who have to use their voices or body tapping to make sounds.

IV. Post-Test Formative Evaluation

4.1 After 3 months of intervention, the children were able to respond to the classroom and home environments; they developed imitation skills, shared turn-taking, and improved eye-hand coordination while waiting; they were able to identify the materials and various modes of transportation; they initiated group involvement and followed simple instructions during the intervention, whenever required; they could identify and name common, familiar objects;

4.2 Recommendations on Music as a Tool for Intervention with Children with Autism

It would take a long time for music to be used as a tool in an intervention for children with autism, and the intervention's suggested activities of at-home bonding training would have to be implemented by parents.

V. Results and Discussion

5.1 Table -1: The improvement observed after 3 months in music as a tool post-intervention

Pre-intervention current performance level	Post-intervention current performance levels
Poorly following the simple instructions	able to follow instructions whenever needed
Unable to tack initiative and participation within the peer group and individuals.	Able to tacking initiative participation with the help of a facilitator during the session, whenever required.
Did not have any sharing, waiting, turn-taking, or group involvement.	Children can share whenever needed, and gradually improved waiting, turn-taking, and group involvement are good in the classroom and various environments.
Children were not able to identify the short, long, clean, and dirty.	Children can match and identify, name long and short, clean and dirty concepts, and follow stimulus generalizations.
There was no concept formation	Children can match and identify, name long and short, clean and dirty concepts, and follow stimulus generalizations.
Not able to mingle with other children	Children can participate, whenever needed.
Unable to identify common fruits, vegetables, and vehicle names.	Children can match and identify independently, and they can generalize the various environments.
Unable to indicate familiar objects.	Facilitator's assistance, Children pointing familiar objects whenever they.
When asked, children are unable to respond with their names.	Children can respond to the name whenever asked in various environments.
Poor in reciting rhymes of at least three to four lines	Able to recite the rhymes with a peer group.
Unable to imitate sounds, vowels, and animals.	Able to imitate vowel sounds.
Not able to point out the question	Able to follow the instructions and point to the queries during the classroom activity session and various environments.
Unable to speak five single words	Able to speak simple words with a peer group.
Inadequate indication of right and left.	Can recognize the right and left whenever needed.
unable to indicate basic needs.	Able to indicate his or her basic needs whenever required.

5.2 Table -2: Pre- and Post-Music Raw Score as a Communication Skills Intervention Tool in Basic-MR Part-A

Samples	Pre-Test Raw sore	Post-Test Raw sore
1	126	150
2	120	135
3	122	155
4	138	156
5	134	161
6	122	167
7	140	165
8	130	156
9	128	155
10	132	158

Table 2: Given the improvement of music as a tool post-intervention after three months.

Children were able to follow simple instructions, maintain attention, develop eye-hand coordination, follow concept formation, respond with names when needed, improve concentration and sharing, take turns and wait during the session, and also take the initiative and participate when needed; they could name common fruits, vegetables, vehicles, familiar objectives, and receive rhymes with actions. The ability to imitate sounds and show involvement and mingling within the group/individual was improved. Children were able to generalize the overall improvement seen in children after 3 months of music as a tool of intervention.

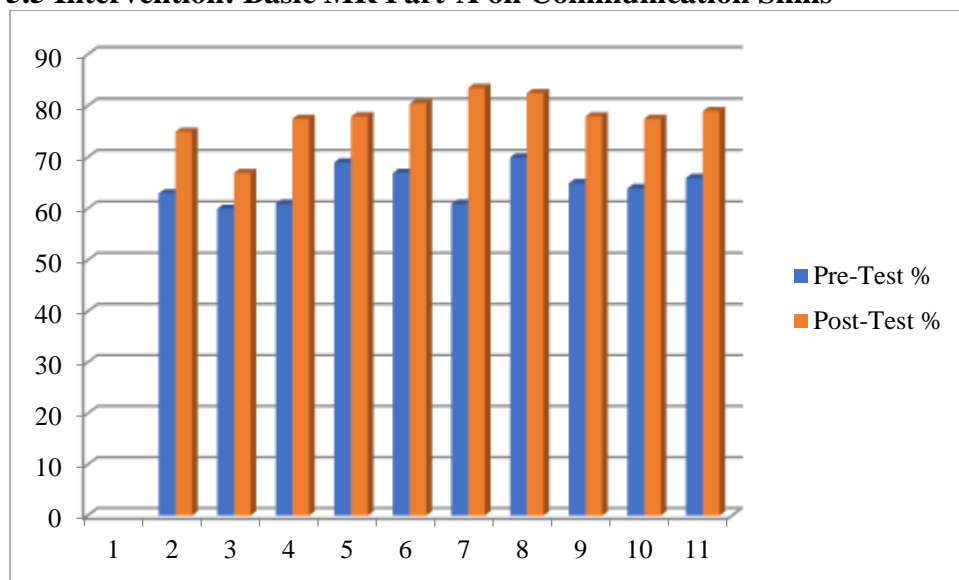
5.3 Table -3: Pre- and Post-Music Intervention Basic-MR Part A Percentage of Communication Skills

Samples	Pre-Test %	Post-Test %
1	63	75
2	60	67
3	61	77.5
4	69	78
5	67	80.5

6	61	83.5
7	70	82.5
8	65	78
9	64	77.5
10	66	79
Mean	64.6	77.85
SD	3.44	4.57

Table 3 reveals that pre- and post-intervention music can be used as an intervention tool. Basic MR Part-A on communication skills and scores in each activity, the communication skills pretest, post-test where the score indicates that concept format to understand the formation of the sentence, and partial poor in responding to questions whenever asked. narrates simple jokes and simple conversations, following the steps and Following instructions, simple concepts such as right Following instructions, simple concepts like right, left, fast-slow, saying simple words verbally, improving eye contact, sharing, waiting, and taking turns, and being able to follow simple instructions all improved, with children taking initiative and participating whenever needed. In other words, children were taking initiative and participating whenever needed, and they were able to name common fruits, vegetables, and vehicles. They also improved their eye contact, sharing, waiting, taking turns, and being able to follow simple instructions.

5.5 Intervention: Basic MR Part-A on Communication Skills

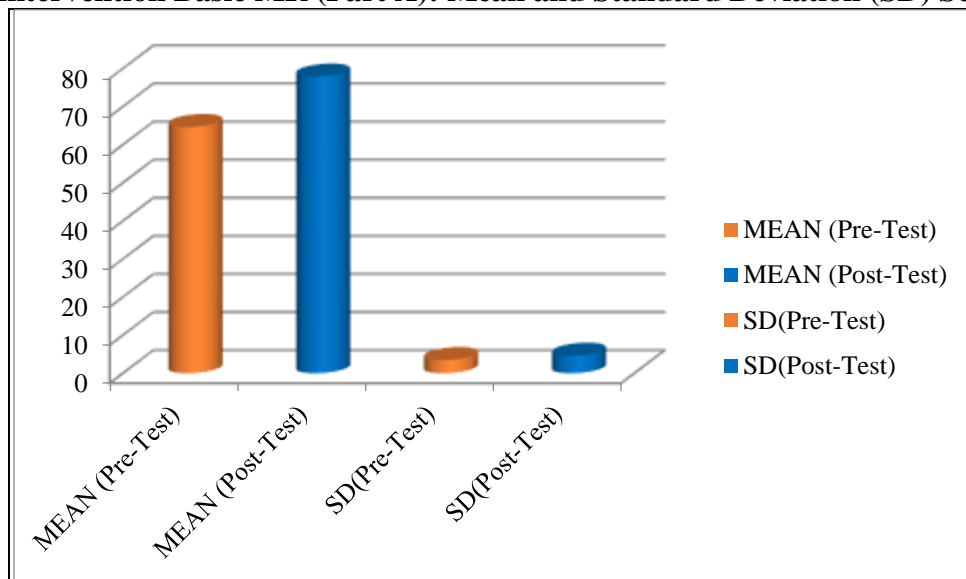


(Graph 1) Pre-Post Intervention: Basic MR Part-A on Communication Skills

Pre-Post Intervention: Basic MR Part-A on Communication Skills

Graph I depict pre- and post-music as an intervention tool graphically. Basic-MR Part A on Communication Skills in Each Activity Samples N-10 The Basic MR Part A communication skills score indicates that they have improved their skills in responding to names, sharing, waiting, and taking turns talking; they are taking initiative and participating; they have improved naming common familiar objects and fruits, vegetables, and vehicles; they have recited and rhymed at least 3-4 lines; they can follow concepts; there is no improvement in sentence level speaking; they have completed 2-3 tasks; and they have answered the WHY questions.

5.6 Pre-Post Intervention Basic MR (Part A): Mean and Standard Deviation (SD) Score



Graph 2: Pre-Post Intervention Basic MR (Part A): Mean and Standard Deviation (SD)

Music as a tool for pre-post mean and SD Basic-MR Part-A on Part-A skills

The above Graph II graphic impression reveals that musical intervention, pre-musical intervention, and post-music as a tool for intervention Basic: MR Part A on Communication Skills. The current study obtained a mean standard deviation (SD) value of 64.63 during pre-intervention, indicating the pre-intervention performance of children in communication skills. We need to develop children's expressive and receptive language skills. The current study's post-intervention values (mean SD values of 77.854 and 47, respectively) indicate that this gradually improves children's activity performance in their communication skills. It indicates that music as a tool for intervention was effective for children with autism.

VI. Conclusion

Training communication skills in autistic children encourages more social interaction, allowing the child to develop self-awareness as well as self-interpersonal relationships, socialization, group involvement, and group participation. Music as an intervention tool can help children with autism improve their communication skills and behaviour.

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