CHAPTER III

METHODOLOGY

Review of literature states that only rigorous individual behaviour training will bring about changes in autistic children. Since behaviour training given to individuals is very time consuming, costly and more tailor made the autistic child will have difficulty in generalizing the learnt task. Moreover studies state that early intervention will bring about more changes than intervention given at a later stage. These reasons make the need for an intervention to be given in groups to autistic children of all levels of severity and also at any stage they come for training though early intervention still remains the best option.

Qualitative, descriptive, multiple case study research design, using direct observation method research design is adopted and the participants are selected using non-probability sampling technique namely purposive sampling technique to find the efficacy of group behaviour training in improving communication, socialization and reduction of self-injurious behaviour among autistic children.

OBJECTIVE:

- To find the effectiveness of group training for heterogeneous autistic children joining the training at any stage not necessarily the early stages.
- To chart a program based on application of reinforcement to achieve adaptive skill, communication skill and socialization skills and to include sensory programs to reduce anxiety and self-injurious behaviours.
To find out the level of Adaptive skills, communication and social skills the children achieve in a group intervention and

To find out how they are able to generalize the learnt behaviour.

SAMPLE:

Among 30 children with heterogeneous Autism spectrum disorder from a special school in Kerala, using purposive sampling 26 children having Autism spectrum disorder with poor socialization, communication and also dependent on activities of daily living were taken as samples. These children were, diagnosed as having Autism spectrum disorder by developmental pediatrician and psychiatrist. The children were into two groups based on their age to make it homogenous.

Initially 18 children with severe autistic traits who are in the preliminary group were taken as samples using purposive sampling method. These children had poor eye contact and no sitting compliance. They had poor attention, comprehension, socialization, communication and dependent on activities of daily living.

Phase I (June 2009-April 2010)

In phase I two groups namely group I and group II were taken. The sample of 18 children was divided into two groups with 9 children each in a group. Group I consisted of 8 male children between the age of 6 to 8 years and one girl child of 12 years. 7 boys had joined the school in the year 2008 and one boy had joined the school in 2007. The
girl had joined in the month of March 2009. She was attending a special school for the past 8 years in another district. Among 9 children only two were verbal but their speech was meaningless, mostly echolalia and other children were non verbal. In group II there are 8 boys and one girl child and the children are between 3 to 6 years of age. Due to various reasons 3 students in group II discontinued.

Initially training was given to only group I children but from January 2010 training was given to group II children also.

Phase II (June 2010-April 2011)

In phase II training was given to both group I and II. In group I there were 9 children and in group II there were 5 children. In June 2010 in group I, 2 children had left for normal school, 2 children discontinued. So in group one only five of the old students remained along with two children from group II and two new admissions. So now in group I totally 9 students were there, out of which 8 boys and 1 girl. In group II along with 4 children one new admission was there.

Phase III

Training given to three groups namely group I, II and III. In June 2011 in group I, there were 8 children, in group II, 5 children and in group III, 8 children were there. In group I, one child was promoted to academic section and one child discontinued due to logistical reasons. So now, 7 students were there and one new admission so totally 8 students in group I. In group II only 5 students were there. There were 7 new admissions
and one child was readmitted after one year. So another group namely group III was formed with these children. There was one girl child in each group and rest of them were boys.

**PROCEDURE**

Consent was taken orally from the parents before taking part in the program. Demographic details noted were:

1. date of birth
2. sex,
3. age of mother at the time of delivery,
4. complications if any during delivery,
5. developmental milestones,
6. diet that is being followed,
7. Medication taken.

The baseline data of their behaviour, self help skills, communication, comprehension, eye contact and socialization namely group play, tolerance to each other, holding hands, turn taking, ability to imitate verbal as well as motor activities were noted.

Review of literature states that only rigorous individual behaviour training will bring about changes in Autistic children. But the aim of this intervention was to give behaviour training in groups and also in short individual sessions. The children were taught the target skill through play and in naturalistic situations. The classroom sessions were structured and consistent. Learning is defined as any permanent change in behaviour and for it to happen sitting behaviour should improve followed by improvement in attention. The curriculum included a careful plan of instruction, right way of presenting
the instructional stimuli and procedures and monitoring the student’s performance. Systematic instruction is the identification of meaningful goal and the explicit planning for specific, direct instruction that allows the students to successfully, achieve the goals. Improvement of eye contact, pointing to objects, pictures are activities that aid in developing a skill. Critical skills for development of independent self-help activities include communicating their wants and needs through gesture or through verbal expression, able to perform activity independently, improvement of fine motor and gross motor activities. These skills development are focused by including such activities throughout the day. Principles and procedures such as reinforcement, shaping, prompting and fading are provided at required levels for achievement of tasks.

Therapies and behavioural interventions were designed to remedy specific symptoms and to bring about substantial improvement. The ideal treatment plan coordinates therapies and interventions that target the core symptoms of Autism, impaired social interaction, problems with verbal and nonverbal communication and obsessive or repetitive routines and interests.

Social situations are very difficult because their social skills do not evolve naturally. Autism affects children’s thought, perception and attention span. Curriculum included skills that are typically deficient in Autism children such as socialization, observational learning, attention, and communication as well as reduction of interfering behaviour such as self-stimulation. They need highly structured series of discrete activities, which help in developing a sense of self, concept of wait, making choices, teaching emotions, etc. Through social play first along with adult and then with peers, parallel play- playing alongside others alternating between solitary and group play.
Autistic children benefit under a structured daily routine. A structured learning environment in the classroom was provided. A daily classroom schedule that breaks down classroom activities on an hourly basis was developed. The focus of the schedule was to improve communication and socialization and to reduce self-injurious behaviour.

One of the pre-requisites of communication is the need to gain the attention of the person and teach them joint attention. Joint attention is looking at the object, then looking back to the person, you want to share/request from and then look back at the object again. So the Initial program comprised of activities to improve

1. Compliance
2. Attending/orienting to social stimuli-responding to name
3. Joint attention - supported, coordinated
4. Choice making
5. Imitation- motor and vocal actions and learning social rules

**SKILL IMPROVEMENT SCHEDULE**

**Relaxation:**
- Relaxation training using flute, as background music, with the children lying on the floor and the parents/caretaker massaging their body with bare hands and with different items given in the sensory kit.

**Compliance training:**
- Standing in line and entering the classroom.
- Keeping their lunch box in the place assigned.
- Sitting in their respective chairs.

**Attending/orienting to social stimuli responding to name:**
• Standing up and wishing teacher. Sitting down
• Answering attendance call by raising their hands when their respective name is called.

**Imitation-motor and vocal actions and learning social rules:**

• Motor Imitation – Various target skills were taught through gestures for verbal stimulus like “Namasthe”, salute, shake hands to say ‘Hello’, flying kiss, Wave bye-bye, clap hands, flap arms, tap feet, jump, right hand up, left hand up, sit, stand, come here and thank you.

**Short interval**

• Before leaving them, teach through gesture need to go to toilet, wash hands and eat.
• Eating snacks

**Joint attention-supported, coordinated:**

• Tracing the circle drawn on the board using their forefinger and learning to draw using chalk piece.
• Pointing to pictures with their forefinger of their family members, self, vegetable, animals, fruits, etc.
• Pointing to various body parts.
• Writing in sand with their forefinger.
• Pointing to pictures of family, self, vegetable, animals, fruits, etc.
• Pointing to body parts.
• Writing in sand.

**Lunch time interval**- Indicate through gesture need to go to toilet, wash hands and eat.

• In group activities rhymes, action songs and storytelling session daily.
Sensory integration program:

- Sensory activities catering to auditory, visual, tactile, proprioception integration.

Activities of Daily Living (ADL):

- One of the following activities each day in a week:
  - Fine motor activities like cutting, painting and pasting.
  - Self-help skills like learning to brush their teeth, eat food, use toilet, etc.
  - Outdoor play, group play like playing in the swing, group games etc.
  - Theme work including regional, local celebrations like Onam, visiting markets, visiting friends, visiting park, etc.

Before starting the program, the students in the classroom and their routines noted. All the children in the group I and II were restless and hyperactive, had poor eye contact, and had self-stimulatory and self-injurious behaviour. They had poor attention, comprehension, compliance and socialization. The students sat in individual chairs provided with a tray and bolt to, lock. This prevented the children from moving out off their seat.

The classroom had a half glass door which can be locked from inside. Each class had a special educator and an assistant. Each child had a caretaker. The caretaker was mother of the child or a paid person. The children did not look at the teachers, did not follow any instructions. They were having a far away lost look and were in their own world. Some of them were making some occasional odd sounds and movements. On letting them out of the chair, the children ran around the class climbing on the chair and window and trying to run out of the classroom by trying to open the door. The teachers threatened the children with stick if they did not comply. So the class room situation gave
them fear. The self-injurious behaviour and aggressiveness of the children were present throughout the day in the class. The teachers had tough time in managing these kids and were hurt. When the children were prevented from doing self-stimulatory behaviour or activity, they kicked or bit the teachers. The students hit their head against the chair or bit their own hands. They did not indicate any needs, like to eat, drink, to go to toilet, etc. Some of them soiled their clothes even before being taken to the toilet and all were fed snacks and food by the caretaker. Some children took water bottle if it was available in front of them when they were thirsty. The teachers sang songs and rhymes to them but the children did not listen and were disturbed. The teachers were stressed, had hard time in controlling them. The children could not stand in line, hold other child’s hand and could not wait for their turn. They had no sitting behaviour, no compliance and had poor tolerance level. The children were totally dependent on their mother or caretaker for everything.

The baseline data of the self-injurious behaviour in a day was noted for children in group I with duration and frequency. The antecedent for their behaviour was also noted. Similarly, baseline data was noted for eye contact, sitting compliance and attention.

The children in group I were first given the training based on the program designed with a goal to teach them Compliance, improve eye contact, attending to social stimuli-responding to name, Joint attention- supported, coordinated, Imitation- motor and vocal actions and learning social rules in play based and naturalistic approaches based on operant conditioning. Operant conditioning, also called instrumental conditioning, is a method for modifying behaviour (an operant) which utilizes contingencies between a discriminative stimulus, an operant response, and a reinforcer to change the probability of
a response occurring again in that situation. This method is based on Skinner's three-term contingency and uses reinforcement in learning behaviour and also using shaping and other techniques.

A discrete trial is a single cycle of a behaviorally based instruction routine. A particular trial may be repeated several times in succession, several times a day, over several days (or even longer) until the skill is mastered. There are four parts, to a discrete trial, the Discriminative Stimulus (SD) - the instruction or environmental cue to which the teacher would like the child to respond, the Prompting Stimulus (SP) - a prompt or cue from the teacher to help the child respond correctly, the Response (R) - the skill or behaviour that is the target of the instruction, the Reinforcing Stimulus (SR) - a reward designed to motivate the child to respond. The prompts given may be fully physical, partially physical, fully verbal, partially verbal, fully model or partially model. A prompt can be defined as a cue or hint meant to induce a person to perform a desired behaviour. Fading is gradually reducing the strength of the prompt. Base line data was noted, by giving a score of 1 point for occasional response to the target behaviour though the response was not meaningful. For response with physical prompt a score of 2 points, for model prompt a score of 3 points and correct response with no prompts a score of 4 points was given.

First, the children were given relaxation by making them lie on their caretaker’s lap in a dark room as can be seen from the photograph 1. The children had difficulty in doing this. So instrumental music namely flute by Hariprasad Chaurasia was played in the background and the children were made to sit there initially for 5 minutes for two weeks. From third week onwards, the duration was increased to 10 minutes. Their whole body
was massaged by hand and then with items in the sensory kit like shaving brush, makeup brush, loofah, etc., both soft and rough textured material.
Photograph 1: Relaxation training and massage using sensory kits to the children.
After the music training the children entered the class and were seated in the chair without the tray with caretaker sitting by their side. The chairs were arranged in horse shoe pattern with teacher in the centre. Initially the children did not sit even for a minute they were only running away. Using discrete trial training, they were seated in chairs with reinforcement. They sat initially for 5 minutes and thereafter extended for longer duration. Initially reinforcements like peanuts, popcorn and for some children dry grapes were used. The instructions - the discriminative stimulus like sit stand, look at the board were followed using prompt and reinforcement. Each task was for 10 trials and the teacher noted the details. The details like goal, the SD, SP, R and the reinforcers used were noted down. The caretaker held their hands for 5 minutes and immediately reinforced them with some preferred snacks of the child. Instruction given for the group and the teacher modeled it, and each child repeated it with the support of the caretakers. The children were made to stand and sit with support on teachers command, five times. After group instruction, individually the child’s name was called and was asked to show gesture. They were then made to wish the teacher “Good Morning” through gesture and answer attendance by raising their hands when their names were called again with full prompt. On doing this task they were given social reinforcers namely parents clapped their hands and said “Good” to the children and also hugged and kissed them. Every time they answered attendance call, they were made to look at the teacher by holding their head. The students were made to stand in line and go to the teacher one by one and show through gesture through prompting raising forefinger indicating need to urinate, then by sweeping movement of the palm indicating washing hands and by taking hand to mouth indicating eating snacks. The students were then fed snack by the parents.
After snacks time, for one hour they were taught to identify and draw circle by pointing to a circle drawn on the blackboard, by drawing it in air and by drawing it in sand. A baseline data of the above activity was recorded. The therapist guided the parents/teachers to guide the children achieve the goal through physical prompts then model prompts which was followed by verbal prompts and finally with no prompts. As mentioned the reinforcements initially provided were eatables. This was then followed by claps and thereafter only social praise like “good boy”, “good job”, etc. They were then taught to show Namasthe. The class ended with gesture of saying “Thank you” by placing their palm on the chest and bending down. After this, lunch session was for 40 minutes duration.

In the afternoon the children were made to sit in a circle in group. To improve socialization the children were initially made to sit in groups for duration of ten minutes with their preferred activity as reinforcement. They were later made to sit in circle near each other with respective parents/care taker helping them to play with puzzles etc. then this was gradually moved to doing activities like clapping and flapping their hands. The children did peg board activity with caretakers support. Then children sat in circle for rhymes session. The whole program was designed to improve their sitting behaviour, eye contact, attention, compliance and comprehension. This program was followed consistently for a month. The parents acted as co therapist for all activities.

After a month of starting the training, when the students were able to do tasks with 50% correct response they were taught gestures for want, finished, do not, and drink water. Natural reinforcements were used to teach these gestures. They were taught to clap hands, Flap arms, tap feet, Jump, Shake hands, give flying kiss and Wave bye-bye. These
tasks were done in the morning with single instructions and in the afternoon through song and action session. The song was framed keeping in mind their self-stimulatory behaviour so that the imitation learning will be naturally reinforced. The rhymes were made meaningful with few lines sung in loud clear musical tone. The children showed attention to loud clear voice. They were made to hold hands of each other with hands on hands of the parents. The children neither resisted this nor showed any displeasure.

After 4 months of training, the parents were made to stay away from the class for an hour in the morning session. The children were made to stand in line with their bags before entering the class. Then they were made to keep their snacks box in one corner. As next step they were made to wash hands by themselves and eat snacks on their own. Some children needed support. During snacks time the children had tendency to grab items from boxes of other children. The children were prevented from doing so by making the child put back the grabbed items and giving it only when the child showed the gesture of want. Now in the afternoon after rhymes session they were made to stand in line, take turns to play in the slide, see-saw and swing.

Once the children’s attention improved, the children were taught to point to body parts. Only one part was taken at a time and the first task was to point to head. The instruction given was “touch your head”, that is the SD and when they just placed their hand on their head with support they were reinforced and this was also marked in the note book for 10 trials daily. Picture of head was pasted in the notebook and the children were taught to point to the picture of head on the scrap book. Similarly one alphabet, one vegetable, one fruit and name of one animal and one bird was taught and the pictures were also pasted in the scrap book. Also one vehicle, circle, slanting line, standing line
and square were taught. Only when a task was achieved above fifty percent the next one was taught. Everything was taught initially with eatable as reinforcers and later on by permitting them to do activities they like or by just letting them wander around for 5 minutes and finally only social praise like good boy etc was used. The children were also taught meaningful action songs in regional language, with few lines like “Kan yeniku kanuvan” which again is a song mentioning each part of the body and its use. “Kannilunni aane” is song about elephant and only two lines were taught with action. Action depicting the long trunk, broad ears and tusk of elephant was taught. They were also taught the rhyme ‘bits of paper’ with a slight addition in the last line, that is after pick them up, put it in the dustbin was added. Through this action song the children learnt to put waste in the dustbin. They were also taught few lines of a story “The story of an ant and a bird” with actions and pictures. Only one line of it was taught at a time. They were made to point to the bird when it was mentioned in the story, to the ant and leaf as and when it was mentioned. Also the emotions like fear were taught through actions. First the teacher told the story and showed action then the group did it and finally each child was called and asked to perform.

Behaviour visual charts indicating - do not, no kicking, no yelling and no biting, were used appropriately whenever required and the children were able to follow it after practicing it continuously at school, home and in demanding situations.

In the afternoon session, children did oral exercise. They were made to move their tongue up and down and towards the cheek by giving honey as reinforcer. The children were made to produce sounds like A, Ah, M. Though most of the children were non-verbal they made attempts to move their lips accordingly even though no sound was
produced. They were also helped to learn through discrete trial training activities like stacking rings, doing puzzle, peg board and catch and throw ball.

Group play like fire in the mountain run, run, Ring a ring roses was played with parents also sitting with these children inside the classroom. Children needed support to hold each other’s hand initially but later could hold independently for a brief period by themselves. They were divided into groups with three children in each group and play. They were also taught to play in twos by holding hands in cross and rotate as this will satisfy their sensory need as most of them were hyperactive. They were made to jump from one square to the other diagonally, to do tandem walking on straight line and to throw ball into a basket kept on the floor.

The children played group games ring-o- ring-o- roses, by holding hands and going round in circle. They also played “fire in the mountain” games. The children had to sit in circle for this and one child will run with a hanky in hand around them. When the child drops hanky behind any other child that child has to pick it up and chase the first child. Rules of the game taught, by holding them and running along with them. Though the children did not understand the rule they enjoyed running.

Again once in a week these children were given sensory integration training. They were trained to crawl like a worm on the floor, like an elephant on all fours, move inside a tunnel and jump on a trampoline. Using reinforcers the children were taught to do these activities. For moving inside the tunnel, which is fearful for most children, a sound making toy was placed in the middle of the tunnel. The distance was gradually increased. For visual integration the children were made to sit in a dark room. A torch light was focused on the wall, it was moved in vertical, horizontal and diagonal directions, and the
children were made to track the light by moving their eyes. This was done by holding
their head and making them look at the light. Children loved to jump on the trampoline as
all of them were hyperactive and they enjoyed this. Light and sound making toys were
mostly used as reinforcers for developing these kinds of activities.

As part of socialization the children were introduced to different themes like
market place, park, hotel, traveling by bus, traffic rules, regional festivals like Onam, and
Christmas. For each theme visual cards were prepared and they were practiced in the
school by combining visual cards with verbal instructions and prompts wherever required.
One theme was selected at a time and it was practiced for 4 weeks in the school with on
the field training in the fifth week.

Since Onam was in September 2009, the children were taught about it through
visual cards. They were introduced to the main characters like King Mahabali, Vamanan,
boat race, kaikottikali, flower carpet and Sadhya (feast) using visual charts. These
pictures were pasted in the scrapbook and the students were asked to point out when the
names of it was mentioned. This was done in the school and also at home by the parents.
On the day of celebration mothers and teachers were dressed in traditional Kerala sari.
One student was dressed as King Mahabali and another as Vamanan. The students due to
sensory issues disliked such things as crown, etc but they let the teachers dress them and
waited patiently for half an hour in this dress. This was really remarkable and parents
were surprised and happy. The children were made to put floral carpet with support and
also made to sit down for feast. Food was served in plantain leaf and they had to sit down
and eat.
Next theme was market theme. They were taught using pictures of market place and vegetables. The market situation was simulated in the school with different vegetables with respective flash cards arranged in different boxes in a row in a classroom. The children were made to go in line with bags to pick up the item they needed without grabbing it and taking it to the bill counter where they had to pay the money and take things. All this was done with the support of the respective parents being with the child. Then they were taken to the supermarket by bus. In the bus one of us acted like conductor and children were asked to take tickets by paying money. Before entering the supermarket the children were made to stand in line, pick the basket, then take the things they wanted and put them in the basket and then finally taking to the bill counter, wait patiently and pay the bill and carry the things bought.

In December 2009, Christmas was celebrated again with pictures of Santa Claus, Christmas tree and star pasted in the scrap book and they were taught to these children one week before Christmas celebration. On the day of celebration one teacher was dressed as Santa Claus,

In January 2010 the girl from group I discontinued. Both parents are working in another district and had taken leave for the purpose of training. As mother did not get leave of more than 6 months they had to discontinue training and go back to their hometown. In the month of January 2010, the children were made to sit in bench instead of chairs with two students in a bench.

Another field trip was conducted in January 2010 and they were taken to park. Children went inside the park standing in line and they were made to play in the swing
and see-saw. The children again were made to stand in queue and wait for their turn to play. They were made to sit in circle and eat the snacks they brought and also a fruit was provided to them. They were never let to grab things but to wait for their turn patiently.

From January 2010 the students in the group II were given training like group I. That is the same program was followed for this group also. It was found that only two children were regular to school for three months and other children were not regular as they were always having some sickness or the other. The parents of children who were regular to school, seeing changes in the first group took active participation in the program and this showed improvement in their eye contact, compliance and also attention.

The children were made to do simple movements for an English song (Aqua Barbie girl) with fully physical prompts by parents. It was practiced nearly for 3 months and for the first time a performance was given by these children on the Annual day of the school. Their performance was scheduled first and they could wait dressed up in the dance costume for 30 minutes in the noisy crowd and performed well. After that they became restless and were immediately changed dress and given food and taken home.

In April 2010, a final assessment was done to check how far the students have achieved the learnt targets. For this purpose, they were asked to point to target picture from among two pictures that were placed side by side. Say when the child has to point to picture of apple, the teacher placed flash cards of apple and another fruit and the child was asked to point to target object, the apple. Two children from group I who had improved in their eye contact, attention, expressive and receptive language, who had the
prerequisite skills for writing and whose socialization had improved significantly were sent to normal school. These two children are able to go independently to school, sit with others in the class, eat their lunch by themselves and also play with other children.

In June 2010 in group I, 2 children had left for normal school, 2 children discontinued and so only five of the old students remained along with two from group II and two new admissions with one being boy and the other girl. The girl had attended school in Dubai and boy also attended individual session in Dubai. But both of them did not have eye contact, had self stimulatory and self injurious behaviour. Both of them had problem behaviour also. The boy used to pull hair and hit others. The girl used to shout in the class, cry, play with saliva and hit herself in the head. In group II, there were only 5 students as 4 of them discontinued owing to personal problems. In group I totally 9 students were there, out of which 8 were boys and 1 girl.

The year started with same program of music training in the morning followed by forming a line and entering the class with their back packs and wishing the teacher ‘Good Morning’. The students then took out their snacks box with support of teachers and placed it in a place assigned for that and then sat down in their seat in desk and bench. The children were initially restless for a week but after that they could adjust to the routine. The class started with wishing the teacher ‘Good morning’ in groups and then answering attendance call. This was followed by following instructions like Namasthe, clap your hands, hands up, hands down, and stand up sit down. After this they were made to write on the board and before snacks they were made to stand in the assembly in line for prayer. The students were able to stand without running around with the parents standing by their side and not holding their hands. The children were made to eat snacks
by sitting on the floor in circle and were made to eat by themselves independently and occasional prompt was given to make them eat whenever required.

The students were taught alphabets A to J to identify and write. To identify their names from the flash cards as most of them were nonverbal. To point to the means of transportation, that is point to the vehicle by which they were coming to school namely bus, auto rickshaw, car, etc. To teach them to point to the breakfast they had namely dosa, appam, puttu, idli, etc. In the academic year 2010-11, the children were made to generalize the target learnt or achieved in the previous year. They were made to select cards from a group of five cards instead of two cards. They were insisted to point using their fore finger to show their body parts instead of just touching it. Since pointing is the biggest task for Autism children it was insisted on using fore-finger to point to flash cards. Some children had problem in folding their hands and pointing objects, but with support they were able to do. If a task is not generalized children are not able to always point to the correct picture. Sometimes by chance they pointed out correctly and not always. So generalizing the learnt concept was very important. That is making the learnt concept meaningful.

The children were able to do exercises with minimal prompt. Most of the time only model prompts and not physical prompt was used. Once a task is achieved the prompt is gradually reduced form physical to model and from model to no prompt at all. When teaching alphabet and number it was focused on teaching them the concept meaningfully instead of simply pointing. They were also taught sequencing of alphabets, numbers and activities. They were also taught new rhymes and songs both in Malayalam
and English. Since children were non verbal if they are able to do the actions in sequence of the song it was considered that they had learnt and the next song was taught to them.

As the main aim was to make the children independent, the focus was on developing self help skills. Self help activities like brushing was taught through successive approximation technique using visual pictures. From easy task of keeping brush inside their mouth to identifying brush and toothpaste is taught. First the children were taught to identify pictures of tooth brush and paste and then the real objects. They were then trained to follow pictures in the order of brushing like taking the brush, opening, putting paste and closing the toothpaste with lid, brushing, spitting, opening the tap, rinsing their mouth and closing the tap. Then by pointing to each picture they were made to do the task through discrete trial. This activity was taught for a month and was asked to follow at home daily. Then the next task of flushing the toilet was taught in the school and was asked to follow at home as well. Bathing was taught through sequential pictures and parents were asked to follow it at home. Similarly dressing up and removal of dress was also done like this. Visual cards were used to teach the entire concept along with verbal instruction.

Training to develop ADL (Activities of Daily Living) is focused on making the children independent. Through discrete trial and successive approximation technique the target is taught. Baseline data was noted before providing training. A score of 1, was given for occasional response and 0 for no response. Eating is divided into indicating, opening the snacks box, eating with one hand and washing hands and mouth. Similarly for toileting it was divided into 4 steps namely indication, passing urine/stool, washing and flushing. For brushing taking paste, brushing, rinsing, spitting. For drinking indication,
able to drink, drink without spilling. For each activity the correct response was given a score of 4, model prompt 3 and partial physical prompt 2. Other than the above said activities parents were also asked to train them in activities like bathing-pouring water, applying soap and wiping dry with towel. They were also asked to train the child through discrete trial.

Same theme activities were followed this year but the level of prompting was reduced gradually and the focus was to make them do it as independently as possible. Brain exercises to improve left and right side coordination was introduced. Like ‘ice-cream soda’ game (tapping the right hand of one person to left hand of another person and vice versa), “Super Brain Yoga” – (Holding the ear with hands held cross against the chest and keeping the legs crossed and going down the knees as the earlobes are pulled), Lifting the left thigh and tapping with right hand and vice versa, holding the palms together and raising it from chest level to above the head. Each of this was done by using full physical prompt that is by holding the child’s hand and making them do it. Fine motor activities were also given and they were taught through discrete trial and result noted down.

One skill was chosen at a time. Brushing the teeth was practiced with flash cards using shaping technique using successive approximation in the school for one week and was asked to follow at home. The next self help item of removing and wearing dress, buttoning was also taught in the school and was given as homework. The theme of market, visiting house (role of guest and host), visiting hotel, visiting Park, visiting the nearby area to spot the birds and animals taught, Onam and Christmas celebration were taught using flash cards and pictures pasted in the scrap book. Training was given for three weeks using flash cards and oral instructions about the various steps of doing it and
on the behavioural aspect. During the fourth week they were exposed to the natural situation.

In order to make children more independent, parents were not allowed inside the classroom till lunch break from this year (2010-2011) onwards. The students were made to eat lunch independently with the children maintaining basic etiquettes like not spilling food, grabbing food, etc. Some children were fuzzy eaters they always preferred only certain type of food with particular texture. So during lunch time they were introduced to other food in small amounts and if they did not eat they were not provided with an alternate food that finally they started including everything in their diet. Sensory issues were also dealt with in the class room by providing them exercises to improve auditory, visual, tactile, olfactory and proprioceptive integration. Visual integration was given like last year. Auditory integration was provided by introducing sounds of all frequency to them daily through a headphone attached to the computer. Different ring tones like sound of water fall, shh...sound, electric drill, sound of train, sheep, cat, breaking of glass, etc were recorded in a CD and played in the computer. Many children who were closing their ears and disturbed by sound were benefited by this. Initially the children refused to keep the head phone so slowly this fear was desensitized by making them touch it, keep near their head and then near their ears and finally put on their head.

Ball Therapy was also given. The children were initially afraid but they were desensitized by graded exposure. The children were made to lie on the ball on their stomach and made to move to and fro. This was repeated with children lying on their back and move to and fro. Joint compression was taught by physiotherapist and this was also given to the children by the parents. They were made to make small balls out of clay
and press into flat round circles. In the music training room smells of lavender was used. Lavender is said to be soothing and relaxing.

This year (2010-2011) also for school annual day the children were made to do some dance steps which they had already learnt in their exercise session for a song from Tamil movie ‘Robot’. This time their performance was scheduled to be the fourth one by the organizers. Some children became restless but in spite of that they performed some steps and this was disappointing for the parents.

Children in group II were following the program designed for group I last year and since the teachers were already trained in these only parents required training sessions and counseling. This helped in the smooth running of the program without any impedance.

Noting down data was time consuming and was interfering with the program so instead of daily it was made weekly and monthly. Data collection was done for one activity in a day so that all the activities were covered that week. For self help activities it was done once in a month only. Every 3months a review of all the programs was done and a final one was done in the last month of the closing academic year.

In June 2011 in group I, out of 9 students one was promoted to academic section and one child discontinued due to distance problem. This child attended school for 2 years in spite of having to travel long distance as the parents found development in the child but this year mother could not accompany the child due to health and economic reasons so the child had to discontinue. So now, 7 students were there and one new
admission so totally 8 students in group I. In group II only 5 students were there. Another group namely group III was formed as there were 7 new additions and one child was readmitted after one year. The admission was increasing as people through word of mouth heard about the program benefits and improvement in children.

The students in group I only needed new program to be devised. The other two groups of children were following the program designed earlier. The children in group one, were able to do exercise independently. Some new exercise was introduced for this group along with older ones. This was mainly for improvement of proprioception namely crab walking and walking on their arms with their legs held up. They were also made to lie down on the floor with their arms and legs in a relaxed position and were made to close their eyes. This was again a big task for these children as they could not close their eyes or lie down without moving their legs. Through discrete trial they were made to close their eyes with their hands for a count of ten. The children learnt this and after this the next program of lifting their legs initially one at a time and both legs together were taught.

Parents were not permitted in the class in both morning and afternoon session. Children were able to manage without them. Only 2 caretakers were permitted in the class to support the teachers. The children were given training in fine motor skill activities like folding bits of paper into balls, picking small objects with tweezers, pouring water into narrow mouthed bottle, cutting shapes form papers, etc. Alphabets and words were taught. Also name of colours and shape were taught. The children of group I was able to grasp things faster. Alphabets and the corresponding words in English were taught to these children and they were supposed to point out the items and also arrange the letters
in sequence. They were taught stories of ant and a bird, fox and grapes, thirsty crow with visual cards actions and in short sentences. The children were able to reproduce the story through action. The children were able to cut different shapes out of paper and paste them on a sheet, paste sequins, do coloring, make chains by stringing the beads, etc. During Onam celebration in 2011 they were able to put floral carpets with little help and they could also be trained to do action for traditional boat song with the movement of rowing a boat. They sat down alone and ate independently. They were able to be spectator of functions held in the school without creating chaos or problem. The children were taken to movie, to watch cricket in the ground and also to another ground to watch and take part in sports. They cooperated in all this.

The data was noted in such a way that when the child is able to perform the task correctly in a trial it was marked ‘c’, otherwise ‘p’, etc. A target was considered achieved when the child could get ‘c’ in all the ten trials. During subsequent noting down of the data after 1 month and 3 months and the child is able to do or point to the target correctly it is considered generalized. For example initially when the child is taught apple, the child points to it correctly from 2 different pictures of say orange and apple then it is correct and marked ‘c’. Likewise the child has to get it in all 10 trials when it is considered achieved. But during other trials the subject is made to choose from amongst 4 pictures of different fruits the target fruit. Also the child must be able to identify the correct picture card when a real fruit is given. If the student is able to identify like this in all forms and in all situations then it is considered that the child has developed the concept meaningfully and can be said that it is generalized. This way it is noted for all activities so that the teacher also is able to understand their level of acquisition and if needed may change their method.
There were 18 autistic children in the academic session of the special school namely in LKG and other sections. The children were of different age group and have been attending this school for more than four years. The teachers had tough time in handling these children as they were moody, non compliant many a times, had problems in sitting down, taking their books from their bag, snacks from their bag, and always very hyperactive and were more obsessive and ritualistic in their behaviour. Any small change say even change of teacher, change of snacks time, change of classroom disturbed them and caused self injurious behaviour like biting and hitting their head. They were also not able to imitate any motor actions and were able to express their need for water, food, toilet, etc, only occasionally, not able to sit in benches or hold hands of others. Some children are grown physically well they are tall and hefty and difficult to manage because when they get disturbed they hurt others. Few of them were taking medication and none of them followed GFCF diet. So to this group also the initial program was given to them for one and half hours in the morning daily. The initial program comprising of skills to develop compliance, etc. were taught to these children using different behaviour techniques and using visual charts.