# A STUDY USING ARTS BASED THERAPY INTERVENTION IN THE DEVELOPMENT OF ORAL MOTOR, GROSS MOTOR AND LIMBIC COORDINATION IN CHILDREN WITH DEVELOPMENTAL DELAYS (2012)

**Salomi**
**Roll Number: 176**

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# SECTION1: Details of Project

**Title:**
STUDY USING ARTS BASED THERAPY INTERVENTION IN THE DEVELOPMENT OF ORAL MOTOR, GROSS MOTOR AND LIMBIC COORDINATION IN CHILDREN WITH DEVELOPMENTAL DELAYS

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**Abstract:**
The research studied the effect of Arts Based Therapy (ABT) on the gross motor, oral motor and limbic coordination of children with developmental delays.

The study was conducted on a group of 5 children with developmental delays between the age of 5 and 12 years. Use of observation formats, ABT tools and Video recording in triangulation had been used for data collection. The results shows a significant improvement in the assessed domains with an average growth of 18.85% for the group. There has been significant increase in the vocalization and limbic coordinating ability for most of the children. From the results it can be proved that Arts Based Therapy can be used as a clear tool in improving the gross, oral motor and limbic coordination in the children with developmental delays.

It has also opened an avenue to explore how movement based techniques using play and dance have an impact on the vocalizations in speech.

# SECTION 2: Introduction



## 2.1 The Larger Problem

Developmental delays is a term given to that population that hasn't reached the required physical, cognitive, communicative, social, emotional and self help milestones like most of their peers around their age. Early intervention, before the age of four, will help the child to accelerate and learn required activities to reach the

required milestones, but most children in India do not get the required intervention by that age which further delays their process of learning and reaching required milestones. This is mostly because of lack of awareness or misdiagnosis. There are inadequate services in India to even help in diagnosis of mental disabilities and autism, this could be due to the ignorance of the medical faculty or even family and societal pressures to hide the problem as cognitive and communication disability of a person in the household could be a social taboo for the family.

Developmental Disabilities and delays can be seen with children under the Autistic Spectrum, children with chromosomal defects, nutritional and dietary problems, brain injury and slow development.

Children with developmental delays could suffer from behavioral problems, less eye contact. They could have visual problems and hearing problems. They will have clear issues with speech .They can be physically very stiff or very limp and they could have difficulty in maneuvering their bodies in a given space or activity. Such children prefer or get very dependent on using the more agile or dexterous side of their body.

According to the National Sample Survey Organisation (NSSO),India, in the year 1991 declared that 31/1000 children in the rural area had some developmental delay and 9/1000 in the urban area. The survey constituted of children between the years 0-14.[1]

It is found in a survey that mental retardation is more profound in the rural area when compared to the urban. NSSO states that on an average prevalence of mental retardation is 3.1% in the rural area and around 0.9% in the urban area in 1991.[2]

It is quite shocking to see that the statistics for autism in Asian countries, over 16 years has almost doubled from 3.71% in 1987 to 7.74% in 2003[1]. India has no concrete statistics identifying the growing numbers in autism.[3]

For the past 2 decades the statistics on the incidences of cerebral palsy have been constant 3/1000 persons[4].

Therapy comes in to bridge the gap between where the child 'is' and where the child 'should be' when it comes to achieving milestones.

The population selected for the study is a heterogeneous group of seven consisting of children diagnosed with/under Cerebral Palsy, ADHD, Autism spectrum disorder and mild mental retardation between the age of 4 to 12 years. The group is non-verbal and has significant delays in reaching developmental milestones like language, learning, mobility and independence in living. As speech and language is affected by delayed milestones, delays will be noted in related areas like social interaction and cognitive development. 60% of the population goes for other remedial therapies like physiotherapy and hydrotherapy. The other 40% has no such intervention.

Motor domain is currently under study for this population, focusing mostly on gross motor movements/limbic coordination, vocalisation of sounds and breath work.

The goal in the near future is to get these children to be self dependent at least for their basic needs.

## 2.2 Diagnosis of Individual Client Needs

### *Mohamed Adiy*

| | | |
|---|---|---|
| ***Date of Birth: 09/09/2006*** | ***Age: 6 Years*** | ***Sex: Male*** |

***Family back ground***: He is from a Muslim lower middle class family background. He travels 40 km everyday on the bike to reach the school.

***Medical background:*** Diagnosed with Cerebral Palsy. He has undergone a surgery for realignment of limbs and is undergoing physiotherapy and hydrotherapy at Recoup- Bangalore. Adiy is extremely stiff and limbic movement is limited. He has just about walking independently for a few steps. There is also slight vision impairment.

***Special care instructions***: When Adiy falls asleep his body tends to tighten for a minute.

***Strengths and weaknesses***

- He is non verbal but there has been vocalizations of sound.
- He has good cognition.
- He has good imitational skills.
- Adiy needs to be constantly engaged in an activity throughout the day to keep up his good spirits.

- He enjoys physical activities. As his movements are limited there is a need for a physical assistance in an activity.
- Adiy loves being around people and has a social smile, he needs constant reassurance that he is capable of doing things.
- He is dependent on the one- one attention of a facilitator, if not given or if he is left on his own. he has the tendency to cry.
- He finds it difficult to do an activity on his own unless it is an activity he has repeatedly done over a long period of time.
- He is a south paw. He doesn't have sufficient flexibility in his fingers so few activities are difficult for him to perform but he still makes the effort to see the activity to its completion.

**Creation: Primary focus would be focusing on oral motor skills and vocalization of sounds and bring in clarity in words. Second objective is developing gross motor skills and limbic coordination.**

## *Anish Venkata Sai Kothuri*

| *Date of Birth; 26/02/2006* | *Age: 6 years* | *Sex: Male* |
|---|---|---|

***Medical background***- Diagnosed with ADHD with developmental delay and a sacral disorder that has limited his movement and limbic coordination. He has muscle rigidity which makes bladder control a challenge. Anish shows clear signs of vestibular dysfunction. He is non verbal. His achievements of milestones are delayed and he also has limited cognitive ability.

***Family background***: He is the first child out of two. Parents are from a lower middle class background.

***Special care instructions***: Food restrictions when it comes to any kind of dals.

***Strengths and weaknesses***:

- He has very limited social interaction.
- He is aware of his surroundings and prefers well lit warm places to be in.
- He prefers to do an activity he likes at his own speed. He does make the effort to do an activity.
- He likes music and songs but he is sensitive to loud noises and sounds.
- Constant need to hold objects
- His memory is short termed and tends to forget the activity being done.
- He does respond to few simple instructions. It has to be instructed visually at times.
- He can even fight and grab for the objects if it is taken from him by another kid and does not let go till he is aware that the other kid is faster and physically more agile than him.
- He doesn't seem to react to pain.
- He enjoys gross motor activities if he is physically assisted.
- He can be very adamant when he has to move from an activity that he likes to something else.

**Creation: Primary focus is on Anish's vestibular dysfunction which helps in developing his gross motor movement and Limbic Coordination. The secondary focus will be vocalization of sounds and breath work.**

## *Yashas D Shetty*

| *Date of Birth: 28/07/2004* | *Age: 8 years* | *Sex: Male* |
|---|---|---|

***Family back ground***: From a well to do middle class family. Both parents work. Mother works from home as a consultant father travels often related to work. He is the only child in the family

***Medical back ground***- Diagnosed with cerebral palsy and has partial impairment of vision in one eye. He has limited movement in the left side of the body. He has delayed milestones and slightly verbal with limited vocabulary. Eye contact is good. Suffers from myoclonic seizures. He is sensitive to sudden sounds and movements. Yashas goes for physiotherapy.

***Strengths and weaknesses***

- He has started working with fine motor skills. Has the pincer and palmer grip. He is developing Pre-writing skills. Though he hasn't mastered pincer grip with crayons he can scribble with adequate pressure.
- Yashas is more interested with the physical and gross motor movement so his attention span for seated activities can be limited.
- He has good imitational skills. He imitates long vowel sounds well and still is developing clarity in the sounds of his consonants. He speaks full sentences in Kannada and phrases and words in English.
- He knows the name of few colors but cannot recognize them. He picks up activities that follow a particular sequence. Is able to say number from 1 to 10.
- Cognition when it comes to instructions is relatively good.
- He likes doing things instructed to him but lately he has tried experimenting on his own when it comes to activities. He joins others in activity and brings in his own element of fun and innovation
- He has the ability for pretend play and associating objects to day to day activities. He is highly independent in certain activities and he has thoroughly internalized routine over a period of time.
- Yashas is a very social kid when it comes to adults and he has select peers that he interacts with.

**Creation: Primary focus is improve his gross motor skills along side developing limbic coordination. The next would be to bring clarity in speech and articulation of consonants and vowels.**

## *Ishaan Kalra*

| *Date of Birth: 03/01/2001* | *Age: 11 Years* | *Sex: Male* |
|---|---|---|

***Family background:*** Lives in a joint upper middle class family from Haryana, settled in Bangalore. Eshaan is highly dependent on his father for most of his daily activities and is very attached to his father. He is the elder of two sons.

***Medical background:*** Ishaan has been diagnosed with cerebral palsy and speech impairment. He has undergone a surgery for realignment of limbs and is undergoing physiotherapy and hydrotherapy at Recoup- Bangalore. He is unable to walk independently and requires postural correction. His milestones are quite delayed.

***Strengths and weakness***:

- He has good cognition.
- He is non verbal but he does utter certain sounds. There are times when he indicates when he needs to use the rest room but most of the time he is diapered. He is able to indicate when he is hungry or thirsty.
- He has palmer grip.
- He is a heavy set kid and finds it difficulty in moving his body weight around. When it comes to sustained physical activity he becomes lethargic and prefers to sit and not move. He expects us to bring the material to him rather than crawl and get it himself. Enjoys walking when all the others are walking around him during the activity otherwise he resists
- He enjoys being around people and being kept occupied.
- He likes interacting with children younger than him. He laughs at the antics of those children and he joins in with the fun.
- Shows no resistance in interacting with others.
- He is a keen observer and he likes trying things on his own but has no resistance when it comes to observation and then doing.

**Creation: Primary focus is on vocalisation of vowels and consonants, Secondly development in the gross motor movements.**

## *Ullas. R*

| **Date of Birth: 14/09/2006** | **Age: 6 years** | **Sex: Male** |
|---|---|---|

**Family background:** Ullas comes from a lower income bracket background. His father is a daily wages worker with a limited monthly income. Ullas is the younger of the two sons. This is the first time Ullas has been provided any learning experience and environment. They stay 20-25 kilometers away from the centre and travels by the local buses to reach the centre. It takes them a minimum of 4 hours to travel up and down in the city to home.

**Medical Background:** Ullas has been diagnosed with mental retardation with signs of autism. He is non verbal with limited vocalization of sounds.

**Strengths and weakness**

- Ullhas has limited sitting tolerance and prefers to be on his feet
- There is a strong need to hold on to an object and play with it unconsciously.
- He doesn't like change and prefers a certain structure.
- He shows some interest in music as this is the only time that he has eye contact with the singer and he decides to sit rather than jump around.
- His non verbal communication is limited. He is unable to communicate so he prefers to cry instead.
- He likes open spaces.
- Ullas is not comfortable with others crying and has a tendency to join in the crying.
- He finds it easier to run than to walk around. Running seems more natural to him.
- There is a strong need for Ullas to have physical contact and warmth. He prefers to sit on someone's lap or any part of the body. He is unconcerned about who and where he is sitting on as long as he gets the warmth.
- He has a tendency to put things in his mouth.
- He dislikes being alone in a room prefers the company of others.

**Creation: Ullhas primary focus is on vocalization of sound and breath work and secondary focus is limbic coordination**

## *2.3 Literature Review of Creative Arts Therapy*

Arts based therapy encompasses several arts: Music, Theatre Visual arts and Play. Focus has been to understand the developments in these fields concerning oral motor and gross motor skills. "The need to create, communicate, create coherence, and symbolize is a basic human need"[1] (Serlin)

Art therapy believes that the creative process helps develop a sense of self and its relation or disconnection from the outer world or environment. Creating art is a process of reproducing an image of oneself[1] (Serlin). Art therapy also helps in developing complex motor skills through art activity that follows sequential steps for its completion[2] (Drower).

Morris (1998) believes that children with sensorimotor problems have high chances of pre-speech difficulties due to either too high or low muscle tone leading to confusing or threatening sensory information or input, even their own voice seems unfamiliar[3] (Malchiodi, 2012).

There has been an argument that non-speech related oral motor exercises have no direct relation to development of speech. Most oral motor exercises are not task specific and NOT identical to the movements required for speech[4]. So I believe that music and voice therapy comes into play. Singing and speech have many things in common. Vocal exercises used in singing can help develop oral motor skills such as "articulation, breath control, and vocal intensity"[5] (Lof, 2004).

Lack of physical fitness plays a major role in affecting the functioning and health of children with Cerebral Palsy resulting in "secondary conditions associated with CP such as chronic pain, fatigue, and osteoporosis"[6].With Dance or Movement therapy children are helped to explore and communicate with their environment with the use of their bodies. They also get to understand and develop "appropriate body boundaries"[7].

Dance has been an ancient form of healing which we now use as therapy in modern times. Dance therapist works with "observable splits between thinking, feeling, expressing and action"[8] (Loman, 1998). They work on the same philosophy as their predecessors.

Arts based therapy uses these different art forms to create ground for holistic healing.

## *2.4 Hypothesis*

ABT can significantly improve the oral motor and gross motor and limbic coordinating skills of the selected children with developmental delays.

# *SECTION 3: **Methods***

3.1Eligibility Criteria for Participants
3.2 Logistics
3.3 Data Sources and Data Collection Protocols
3.4 Methods Used

## 3.1 Eligibility Criteria for Participants

The selected participants have been grouped together as all of them have not yet reached their developmental milestones. All but one have been considered to be non-verbal or just able to utter certain sounds and to some extent babble. None except one is toilet trained in the group. The group consists of children with Cerebral palsy, Mild mental retardation, ADHD and under the autistic spectrum. Most of the participants have been together as a group since December 2011. I had a group of 8 initially, with one Down's syndrome child, Sneha, alongside the others. She had to be eliminated as she was clearly a verbal child and had relatively good motor skills compared to the others. 2 other children, Srihari and Nandan did not continue their education in the school after May 2012 thus they had to be eliminated from the study. Another child, Aarav was erratic in coming as he had other therapies to attend thus he was also eliminated from the group. After May 2012 I remained with only 4 children for study. In June 2012 the decision was taken to include another child Ullas in the study. This decision was taken after spending adequate time in orienting the child into the system and to understand the child and his abilities.

**Demographic details**

| | |
|---|---|
| **Age** | 5-12 years |
| **Gender** | All male |
| **Back ground** | • 2 middle class back ground<br>• 2 lower middle class<br>• 1Upper lower class |
| **Relevant Info** | • Non verbal with developmental delays.<br>• Toilet training needed for all but one. |

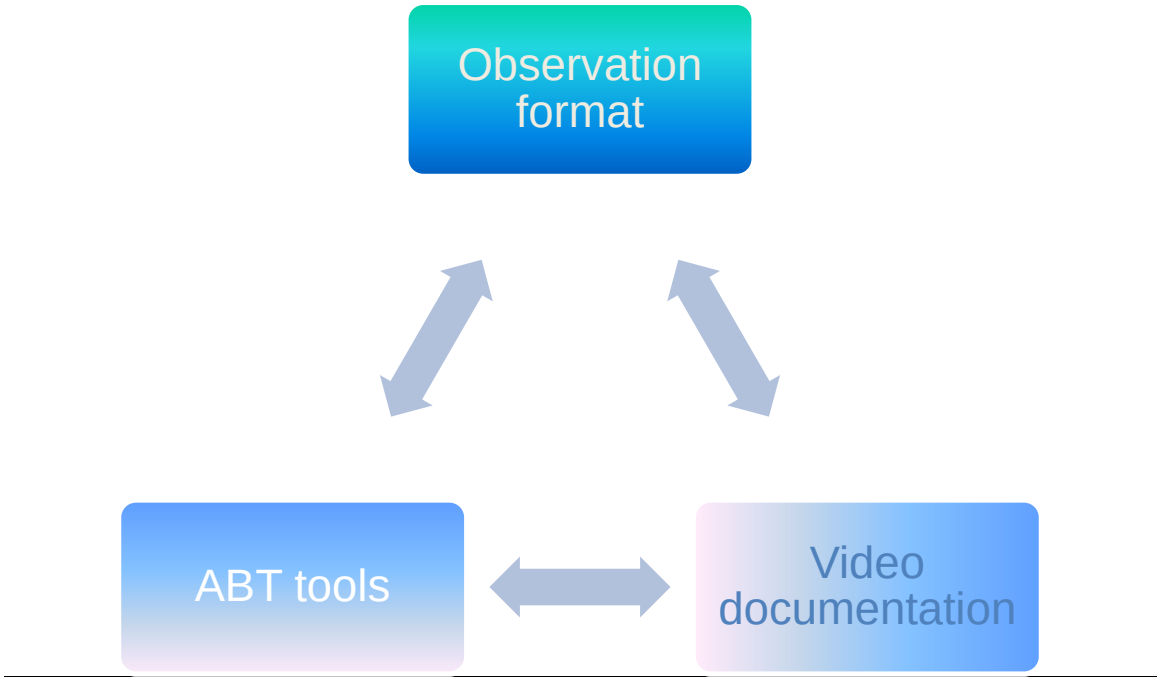
**General Details of participants of study**

| *NAME* | *AGE (Year)* | *SEX* | *FAMILY BACKGROUND* | *DIAGNOSIS* | *OTHER THERAPIES* |
|---|---|---|---|---|---|
| *Ishan Kalra* | 11yrs | Male | Upper.Middle Class | Cerebral Palsy | Physiotherapy and Hydro Therapy |
| *Mohamed Adiy* | 6yrs | Male | Middle Class | Cerebral Palsy | Hydro Therapy |
| *Yashas D Shetty-* | 8yrs | Male | Middle Class | Cerebral Palsy | Physiotherapy |
| *Anish Venkata Sai Kothuri* | 6 yrs | Male | Lower.Middle Class | ADHD with developmental delay and sacral defect | None |
| *Ullhas* | 6yrs | Male | Upper Lower Class | Moderate Mental Retardation and Autistic | None |

## *3.2 Logistics*

| | |
|---|---|
| Settings | School in residential area.<br>Room Area- 30x15, 15x15 square feet |
| Location | Magic Puddles Arts Based Therapy centre for Special Needs. 3rd phase JP Nagar, Bangalore |
| Date of Session (Start) | 11th June 2012 |
| Date of Session ( End) | 9th August 2012 |
| Duration | 10.30am-11.30am (12.00pm) |
| Frequency | 3 to 4 times a week |

## 3.3 Data Sources and Data Collection Protocols




**Use of observation formats, ABT tools and Video recording in triangulation**

| *Observation Formats* |
|---|
| Gross motor |
| Bi-Parietal motor coordination and limbic coordination |
| Vocalisation of sounds |
| Breath work |

| *ABT tools* |
|---|
| Risk and Ritual |

| *Video Documentation* |
|---|
| Progression in drumming |

### *3.3(a)Observation Formats*

| Name of Observation Format | Name of Child | Frequency | Week for admistration | Administered by |
|---|---|---|---|---|
| 6.1 Gross motor | Anish, Adiy, Ishaan | Once every 10 session-Thrice in 35 sessions | Between June 11-17, July 10-15, Aug 5-9 | Facilitator and observer |
| 6.2 Bi- parietal motor coordination and limbic coordination | Yashas, Ullas, Adiy, Ishaan, Anish | Once every 10 session-Thrice in 35 sessions | Between June 11-17, July 10-15, Aug 5-9 | Facilitator and observer |
| 6.3 Vocalisation of sound | Yashas, Ullas, Adiy, Ishaan, Anish | Once every 10 session-Thrice in 35 sessions | Between June 11-17, July 10-15, Aug 5-9 | Facilitator and observer |
| 6.4 Breath work | Yashas, Ullas, Adiy, Ishan, Anish, | Once every 10 session-Thrice in 35 sessions | Between June 11-17, July 10-15, Aug 5-9 | Facilitator and observer |

**Observer:** Colleague: Mrs Vardhana Srikanth who will observe the child outside the ABT session. The Observer will be oriented about the observation format and how it is to be used and how it is to be ranked. All the four tables will be covered by the person.

**Refer Appendix B for the Observation formats**

***3.3 (b) ABT Tools*:**

**Done individually for each child**

| ABT TOOLS | OBSERVATION | CRITERIA |
|---|---|---|
| ***Risk/ Ritual format*** | Breath work and vocalization, Gross motor and bi- parital motor coordination and limbic coordination | % of change or improvement in taking risk through pre-post sessions. |
| ***Drumming (Video documentation)*** | Gross motor and bi- parital motor coordination and limbic coordination | Intensity of drumming for gross motor skills using alternative hands, Using mallets for limbic coordination, Imitation |

- EPR based: Ritual/ Risk observation: Filled by facilitator
  Format : Attached in the Appendix B

*Admistration of ABT tool: **19th June** (6th Session) **11th July** (18th Session) **8th August** (32 session)*

*Frequency: thrice in 35 hours of ABT work (Pre- Mid- Post)*

**3.3(c) Video recording of how participant .**

***Video Recording Plan ( Drumming)***

- Purpose: Use it as an assessment tool alongside ABT tools and Observation formats. Record and document Individual in a group performance over a period of time

- Camera used: Samsung 65x intelli-zoom SIO
- Recording duration and frequency: 1-2 minutes of raw footage will be taken of each child in action. Once in every 7 sessions. Total of 5 sessions recorded
- Recording focus: Time related. Progression in ability to drum using hands and mallet. Extent hands raised above the shoulder level. Use of alternate hands. Resistance in drumming.
- Video captured by a colleague
- Regular reviews: After every recording
- Editing: Assisted by a friend and a colleague.

**Video Recording Plan ( ABT Video)**

- Purpose: To glimpse at social relationship
- Camera used: Samsung 65x Intelli-zoom SIO
- Recording duration and frequency: 1-2 minutes of raw footage will be taken of each child in action. Once in every 7 sessions. Total of 5 sessions recorded
- Recording focus: Bond of friendship built between Yashas and Ishaan
- Video captured by a colleague
- Regular reviews: After every recording
- Editing: Assisted by a friend and a colleague.

## *3.4 Methods Used*

Over the past three 8 months the focus has been on using various arts forms to get the children to push themselves to reach few of their milestones. It is said that the arts are less threatening learning tools compared to the conventional method of learning.
A 'Session Record Sheet (SRS)' format has been followed for each session to bring in clarity for self and structure in a medium of unstructured for the children
The children under study have responded well to most art forms. These art forms were used to asses their development in Gross motor, Limbic coordination, Vocalisation and breath work.

**Visual Arts**: Wet medium of paints and dry medium of sand were given to the children at different intervals in the study period. They showed greater comfort with using the dry medium to the wet medium. Children could spend hours in the sand and maybe a maximum of 20 minutes with paints.. Surprisingly the children were more excited with the cleaning up process of the paints. They showed great enthusiasm to clean the floor with lots of water, buckets and a cloth. The visual stimuli of colours seemed insignificant to them. They showed greater learning in the simple act of playing with water.

**Movement and Play:** Children loved this arts form. Exploring the capabilities of their bodies was such a great thrill for these children. They were ready to pick themselves up when they fell and keep pushing on. Once a week it was customary for us to take the children to the park. Despite hindrances in mobility these children walked a good 15 minutes before they got to explore the uneven surface of the park themselves. They helped each other out insisting that they push the wheelchair the whole distance for another. This could have been the most tiring of the activities planned the whole week but here they showed their greatest enthusiasm and resilience. Few sessions went into just wrestling around with each other. Here is where they learnt to maneuver their bodies from a supine position and they loved these sessions. Vocalisations were the highest and need to help the other pinned down also was very high.

**Theatre:** Playing and testing the capabilities of their voices was most thrilling for them. They enjoyed the comical use of scarves and puppets. These activities incited a lot of laughs and giggles.

**Music**: Music and rhythm is inborn in all these children. If they don't sing, they know to drum, If they don't drum they know how to keep a pulse and improvise with beats. Music played a vital role in every session. Sessions started with a song and ended with another. During the time of singing was when there is 100% attention from all the children and greatest participation. A lot many sessions went into drumming. Kids enjoyed themselves and figured how to create rhythms on their own and during drumming they showed improved gross motor and limbic coordination. Beat boxing was another area the children loved. The use of voice to keep a rhythm and improvises made them very curious and most of them made an attempt to beat box.

**Refer Appendix E for SRS format and sessions recorded**

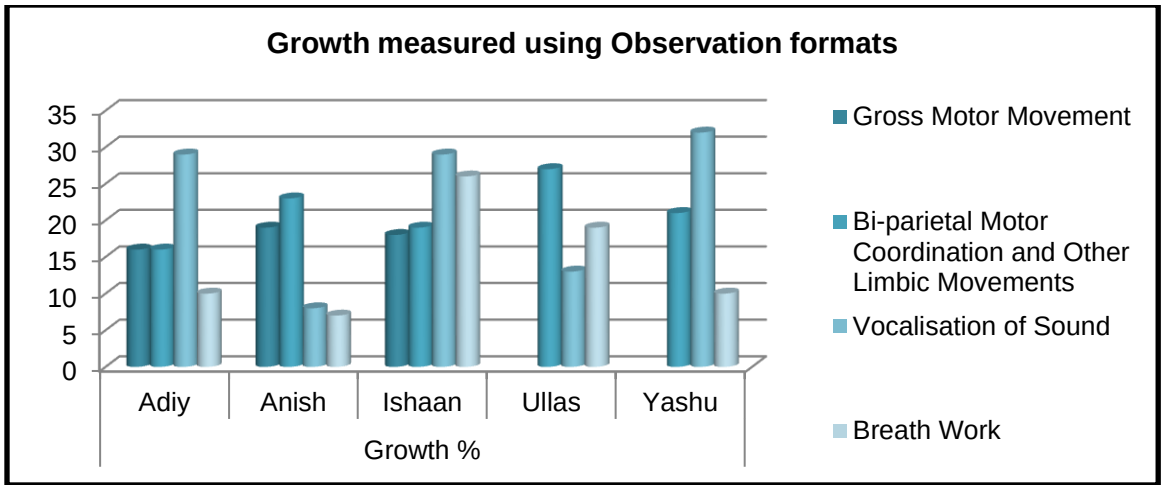
# *SECTION 4: **Results (Outcomes)***

*4.2(c) Ishaan Kalra*
*4.2(d) Ullas. R*
*4.2(e) Yashas D Shetty*

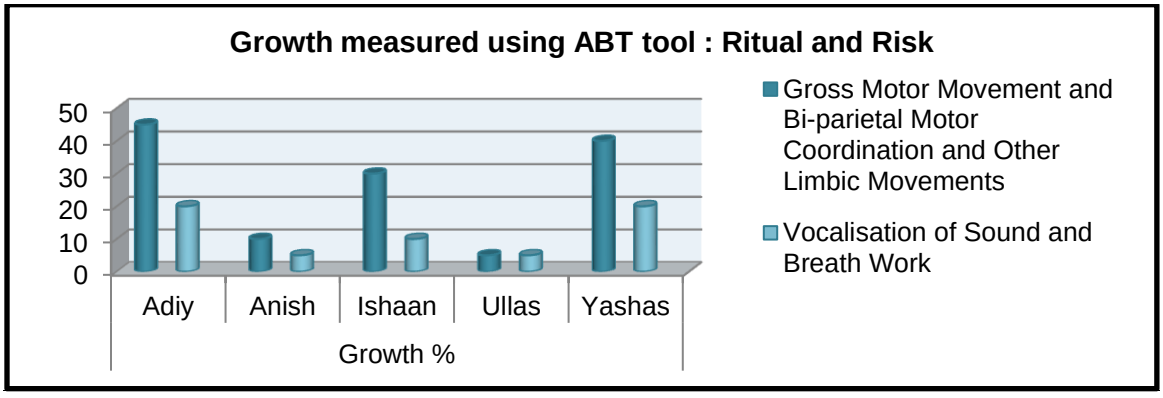
## *4.1 Results Summary*

The results tabulated and analyzed show that there has been a 18.85% growth in all domains assessed under the data collection observation format. Vocalisation of sound seems to have the highest response among 80% of the participants followed by bi-parietal motor coordination and other limbic movements. Gross motor movement for 3 participants show almost equal growth.

| | |
|---|---|
| Gross motor | 17.7% ( Average growth) |
| Bi-parietal Motor Coordination and Other Limbic Movements | 21.2%( Average growth) |
| Vocalisation of sound | 22.2% (Average growth) |
| Breath work | 14.4% (Average growth) |

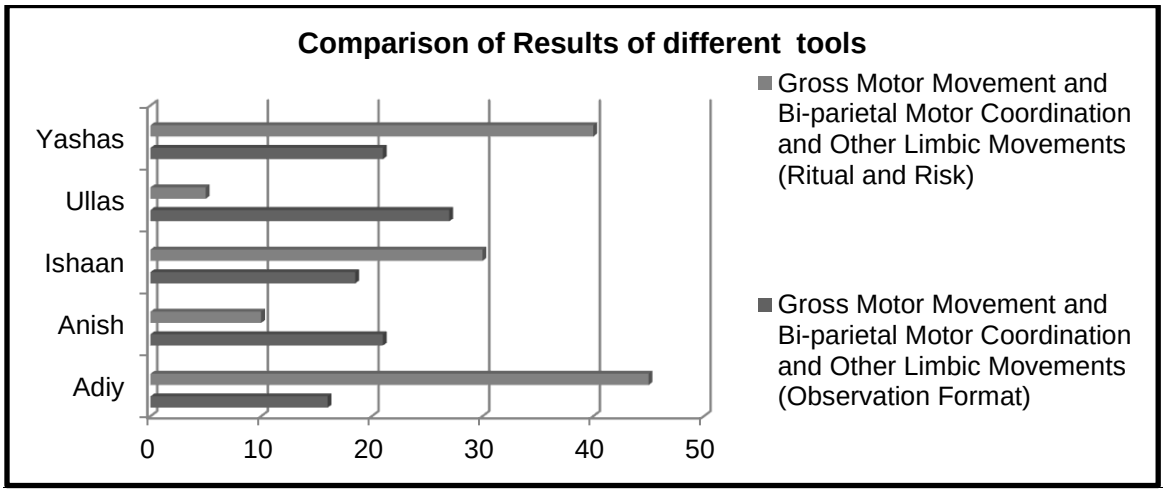



ABT tool: Risk and Ritual has shown good growth in both criteria in 60% of participants. There has been a out of proportional growth in Gross motor and Limbic coordination in two participants and limited growth in other two participants. Vocalisation and breath work growth averages around 12-15% for all the participants.

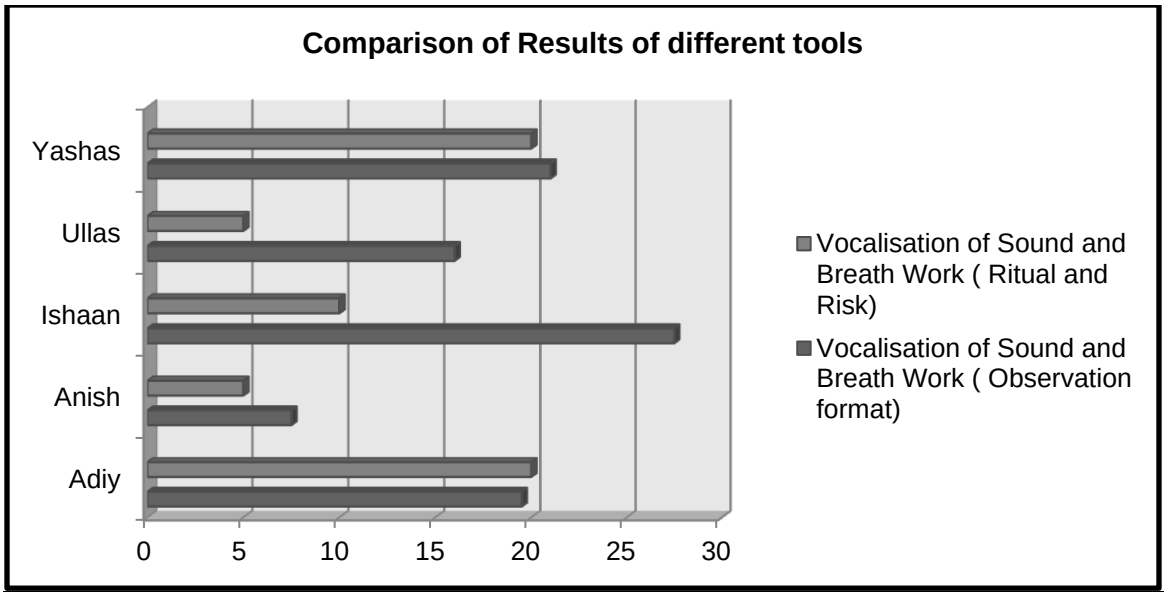



The Observation format and Ritual and Risk Observations don't seem to come to the same conclusion.
Video documentation has also shown significant improvement in drumming which clearly indicates development in general Gross motor and Bi-parietal motor coordination and other limbic movements. Therefore it can be concluded that the hypothesis has been proved to be true that ABT can significantly improve the oral motor and gross motor and limbic coordinating skills of the selected children with developmental delays.

## Comparison between different evaluation tools




It can be agreed there is general growth but the results are oddly contrasting in the gross motor and Bi-parietal motor coordination and other limbic movement of Risk and Ritual and Observation formats




The Vocalisation of sound and breath work seem to have more acceptable outcomes between the two evaluation tools but yet there are disparities in the eventual outcomes for both the tools.

## *4.2 Results Detailed*

### 4.2(a) MOHAMED ADIY

Adiy has shown remarkable improvement in most domains despite him being irregular and unsettled in class. Greater confidence in himself and his body has helped Adiy with his mobility. He seems to be more agile and general body stiffness has reduced over the period of few months. He is able to bend his knees which aid him with climbing and descending stairs. Adiy shows more confidence in his walking and is now able to waddle towards another without excessive assurances and with least physical assistance. When his mind is distracted from the task of walking he is able to walk with long and even strides with assistance for long periods of time. Adiy is working very hard to sit and stand on his own with less external support.

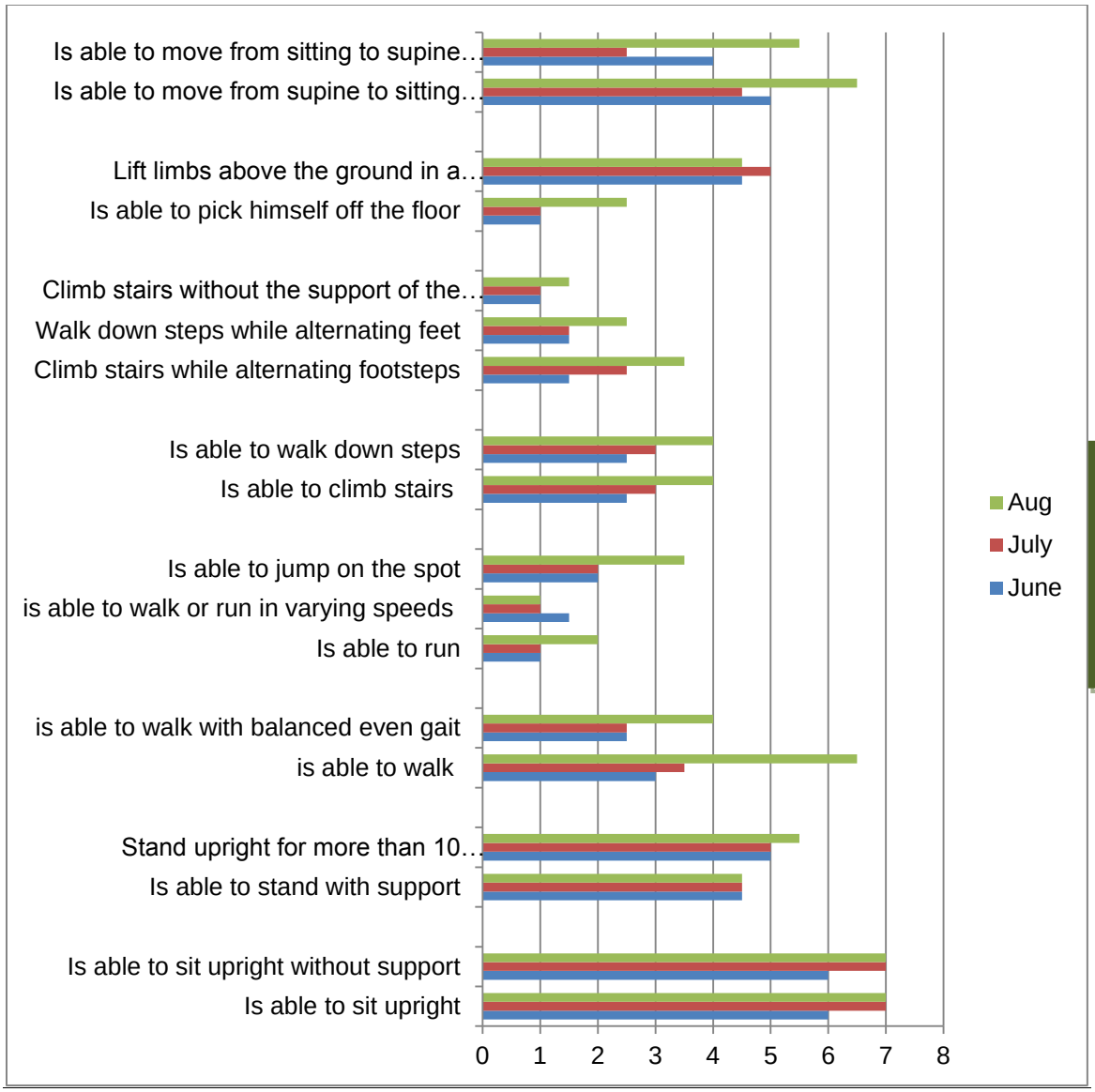
Adiy has shown great progression in articulation of sounds. Even though his consonants are not the most clear he is making efforts to speak in sentences addressing his needs. He seems to be enjoying the use of his voice and is very participative when the activity is to do with learning new sounds.

Adiy has shown improvement in cognition alongside oral and motor skills. Adiy has become less dependent on others to keep him entertained. He is allowing peers to interact with him which he had avoided before.

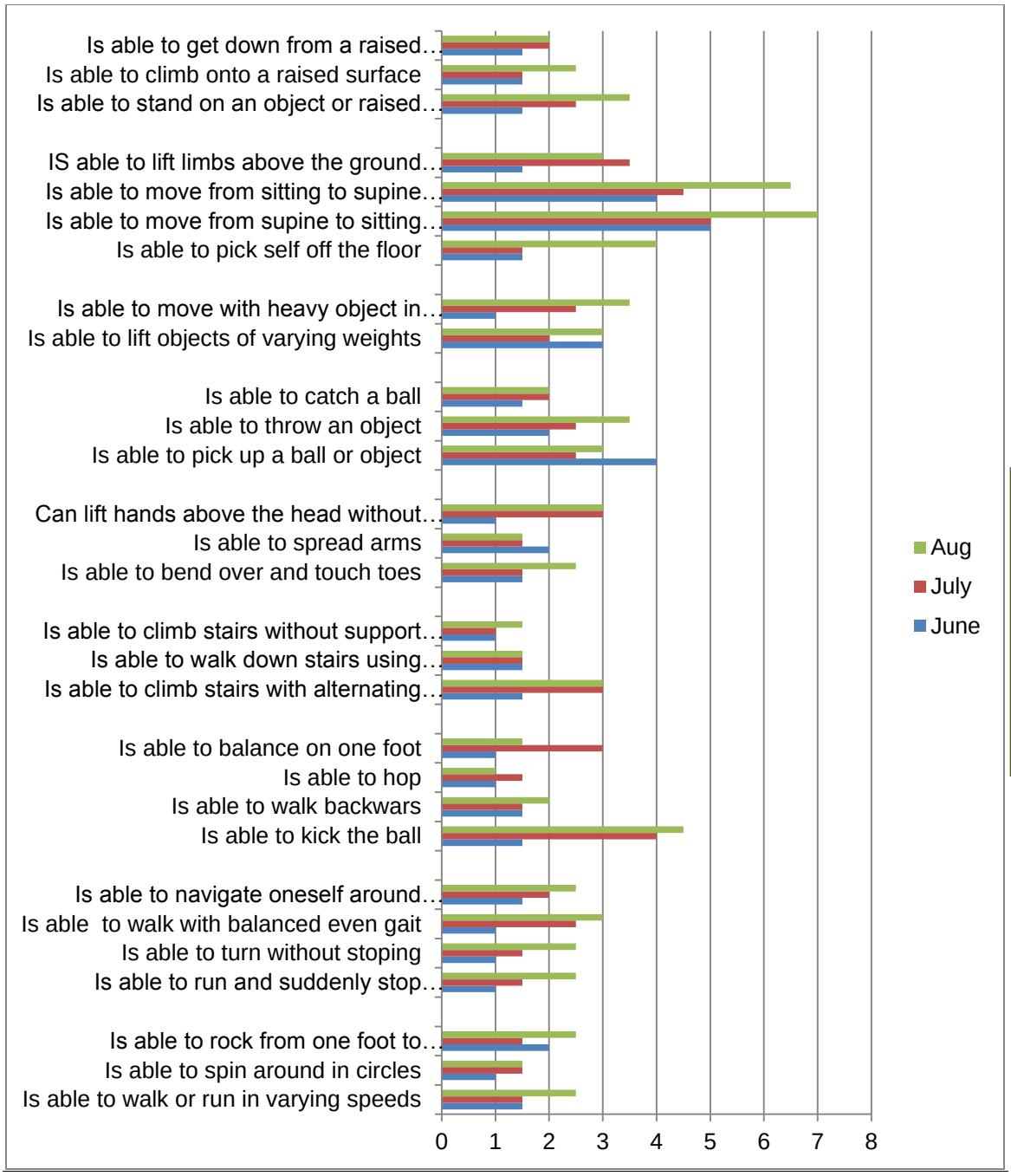
Adiys results once evaluated shows great improvement in vocalization of sound in both the evaluation tools. There are improvements in the other 3 domains too. The results of the gross motor and Bi-parietal motor coordination and other limbic movements show contrasting results where as the Vocalisation of sound and breath work has shown similarities between the two evaluation tools Observation formats and ABT tool.

| Evaluation Tools | |
|---|---|
| Observation Graphs | • Gross Motor Movement<br>• Bi-parietal Motor Coordination and Other |

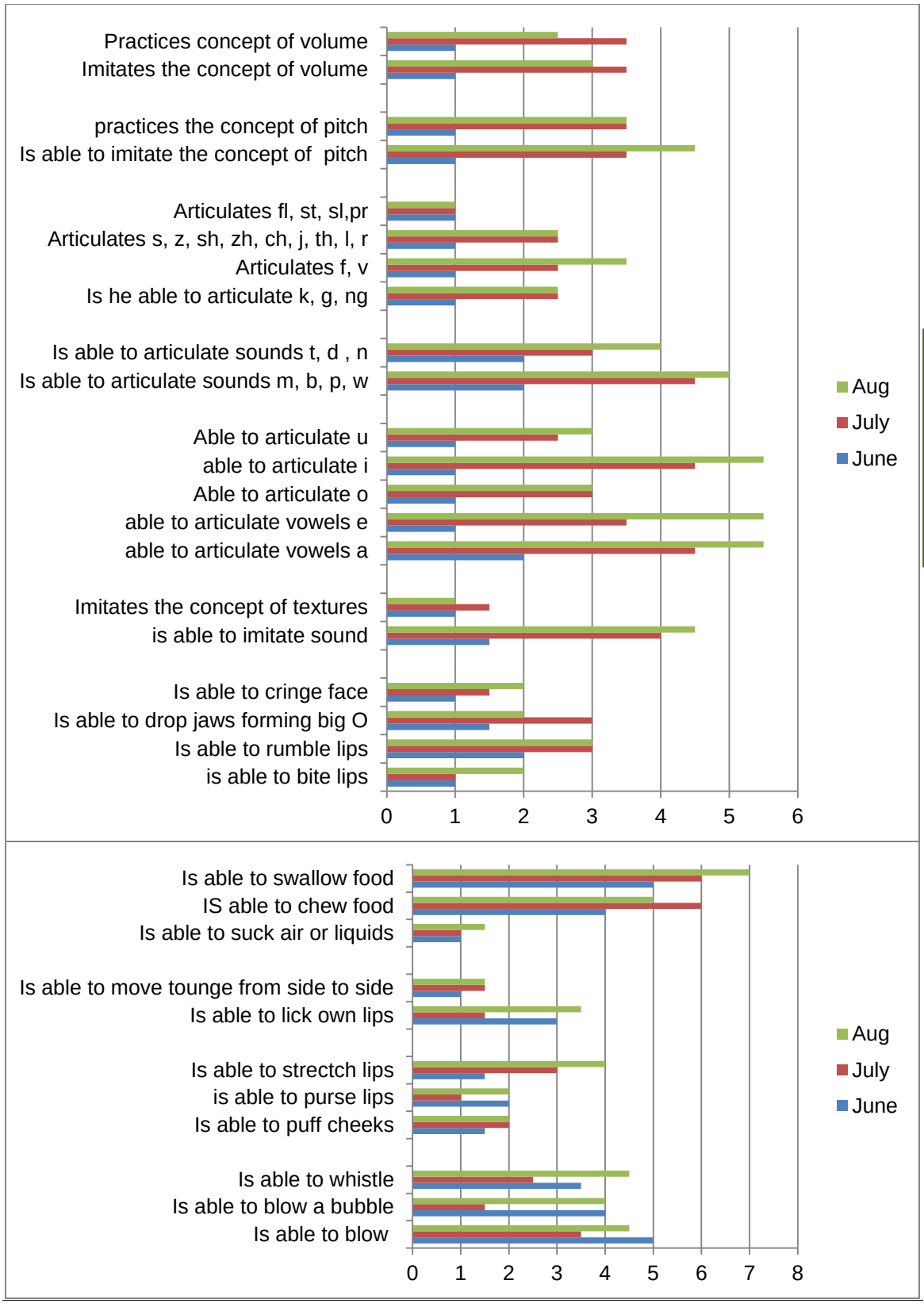
| | |
|---|---|
| | Limbic Movements<br>• Vocalisation of Sound<br>• Breath Work |
| ABT Tool | Ritual and Risk |
| Video | Drumming |




Gross Motor Movement (Aditi)




Bi-parietal Motor Coordination and Other




Vocalisation of Sound (Adiy)

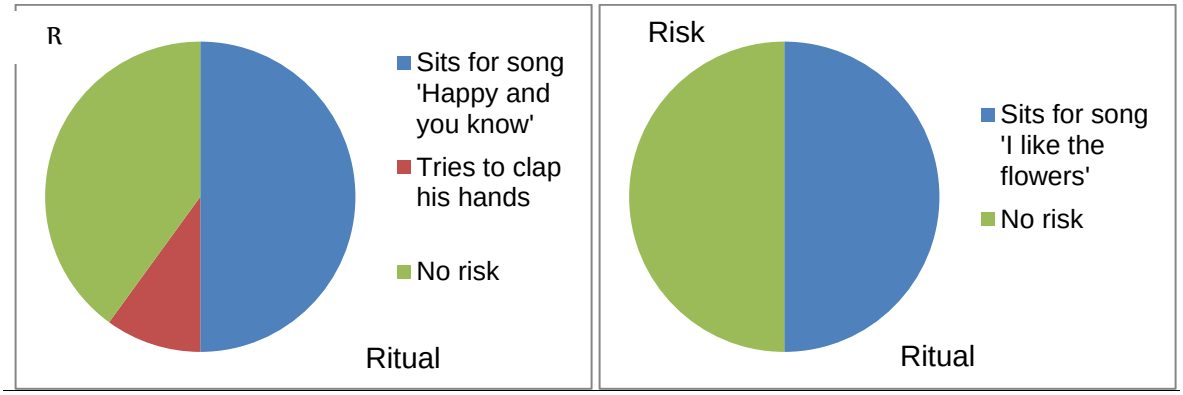
Breath Work (Adiy)

## Ritual -Risk Observation

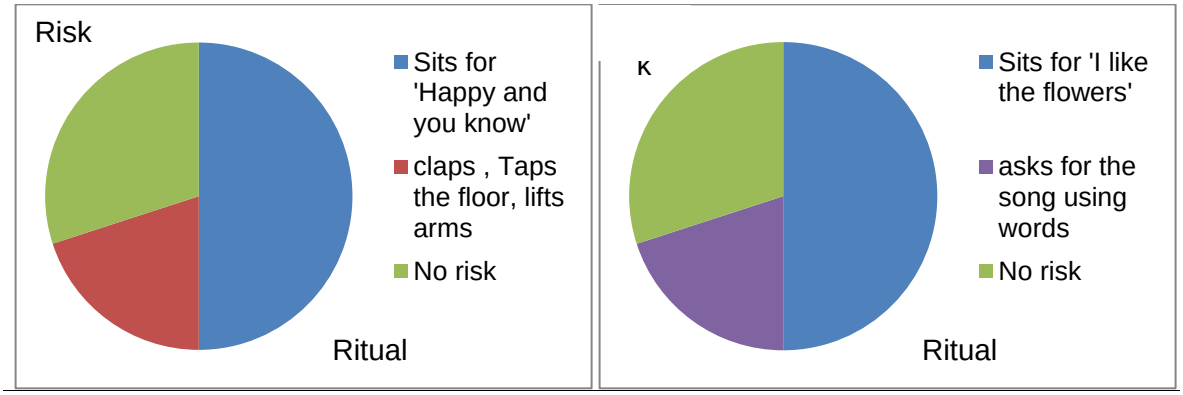
Childs Name : *Adiy* Observer: Facilitator

EARLY IN SESSION LATE IN SESSION

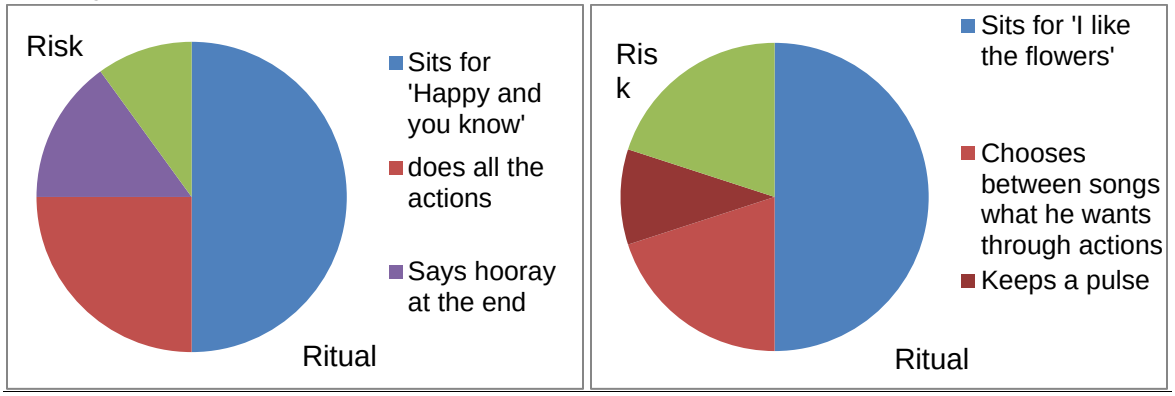
Session 1




Session 2




Session 3

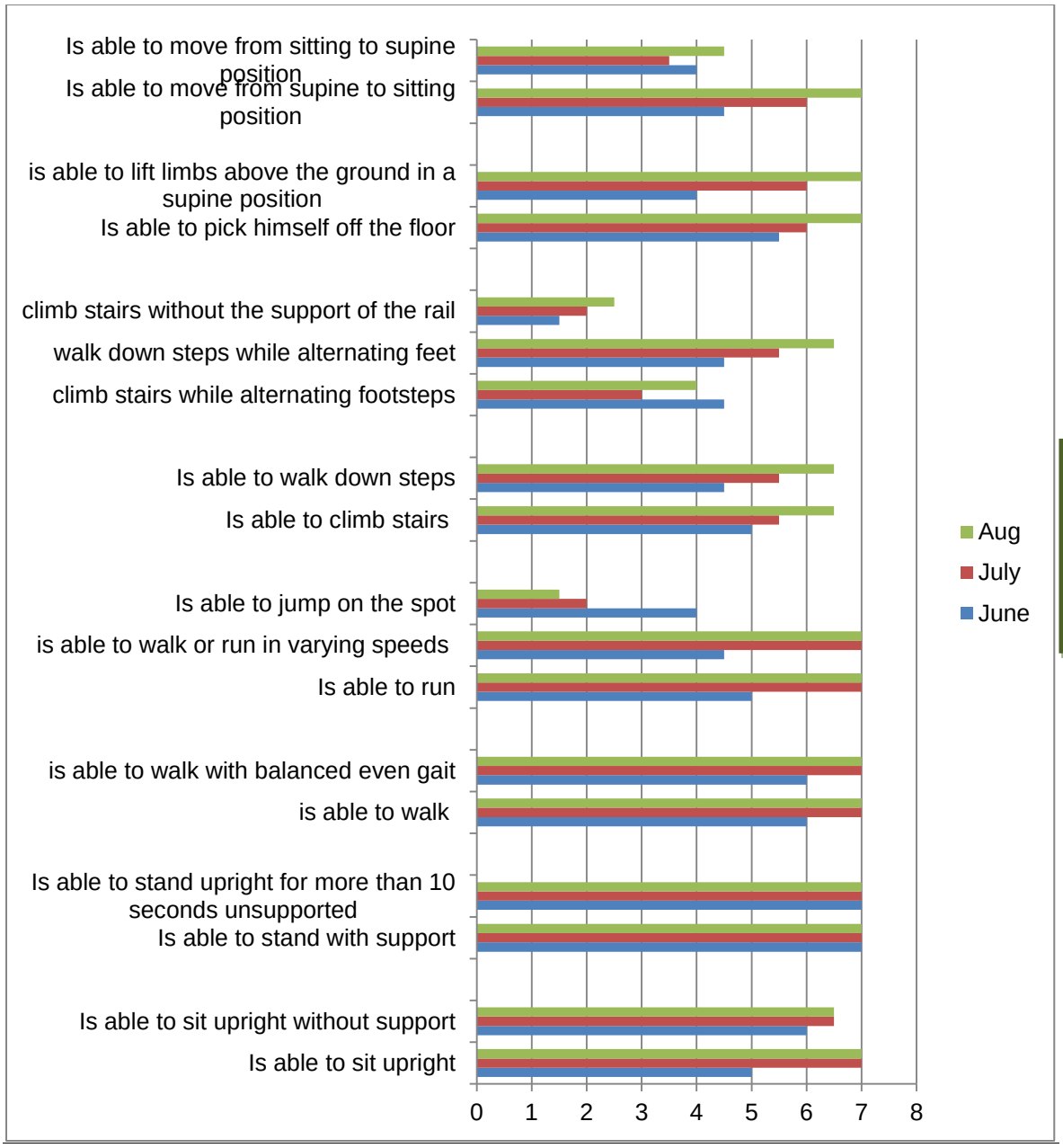


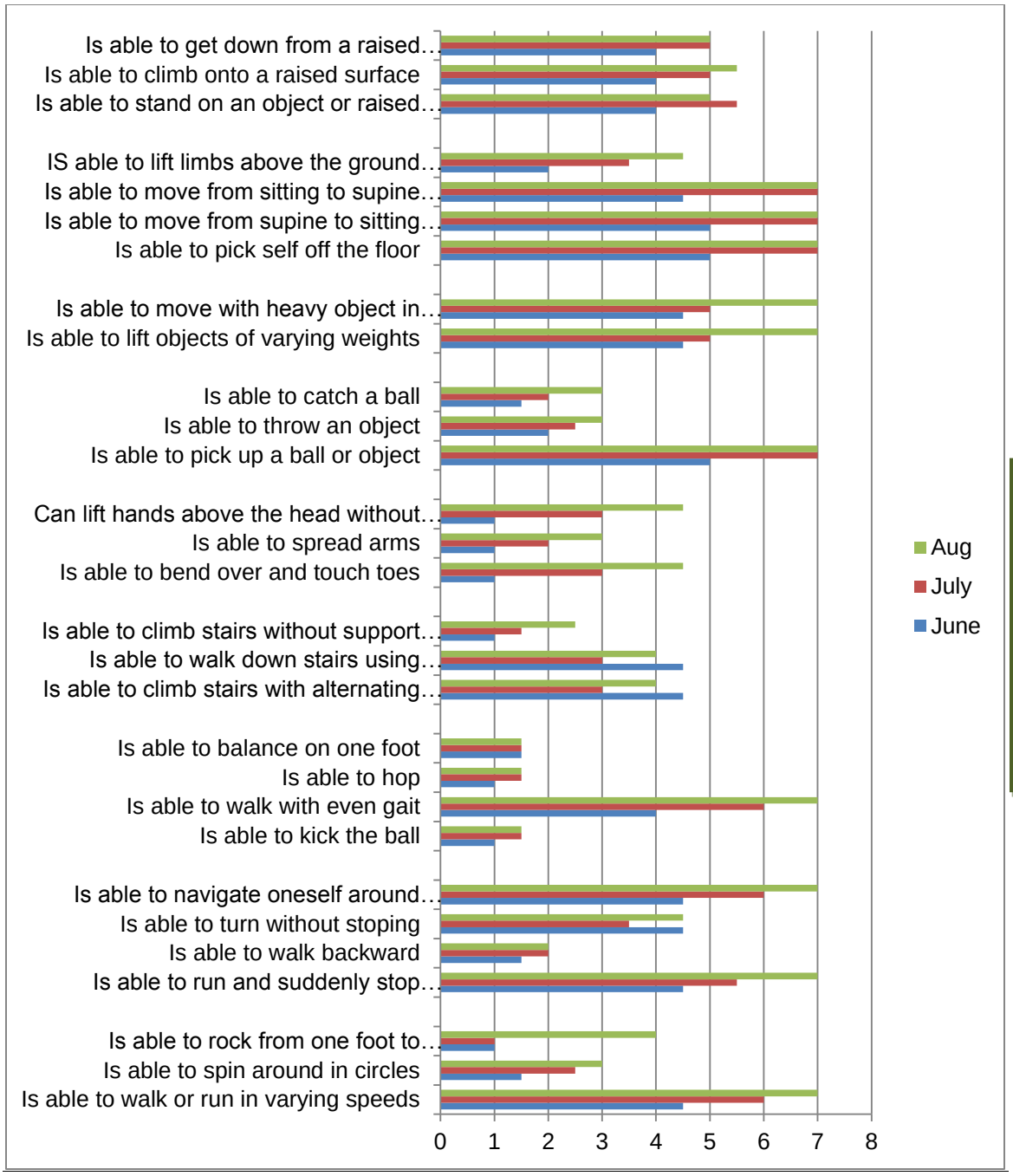

Vocalisation and Breath work | Gross Motor and Limbic Coordination

## *4.2(b) ANISH VENKATA SAI KOTHURI*

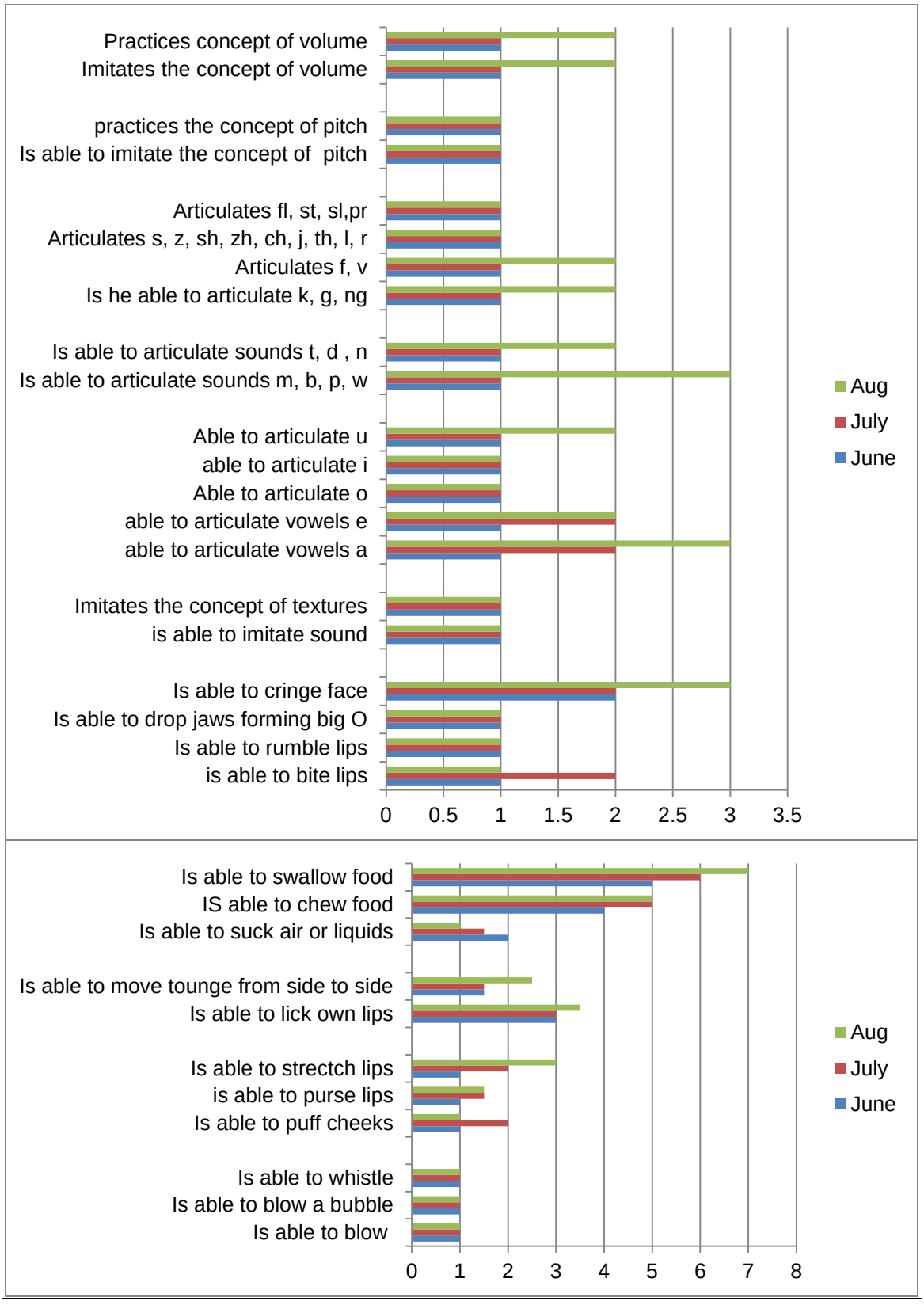
Anish has shown greater agility in the months of the study. He seems to be enjoying studying and exploring the space around him. His tendency to sit holding his ears has gradually decreased and he has started to move around and explore the environment. He has become less dependent on assistance for movement and has become more independent. He is able to climb and sit on higher surfaces a little above the ground on his own but he does show resistance when he is picked up and placed on a surface much higher than his comfort zone. In such a situation he sits on his haunches and tries to get down to safe grounds independently.
Anish seems to be enjoying the free movement of his legs and seems to like running and walking fast he has also started to spin around on his own. He enjoyed activities to do with gross motor and always responded with a smile. Anish has been very responsive in one-one sessions and interactions but most often is group sessions he preferred to stay away from the rest.
Anish's results hasn't shown great improvement in cognitive verbalization but there has been a clear shifts in volume and intensity of his verbalizations. Instead of a rumble and moans behind a closed mouth he is now able to open his mouth and do the same. He prefers to do this around people is very familiar and comfortable with or when he is left on his own.
Anish has shown cognitive progression. He has started responding to simple instructions of sit and come. He has also started to emote pleasure and displeasure with sounds and expression. He has also made a great shift with his effort to recognize and approach adults he likes.

| Evaluation Tools | |
|---|---|
| Observation Graphs | • Gross Motor Movement<br>• Bi-parietal Motor Coordination and Other Limbic Movements<br>• Vocalisation of Sound<br>• Breath Work |
| ABT Tool | Ritual and Risk |
| Video | Drumming |


Is able to move from sitting to supine position
Is able to move from supine to sitting position
is able to lift limbs above the ground in a supine position
Is able to pick himself off the floor
climb stairs without the support of the rail
walk down steps while alternating feet
climb stairs while alternating footsteps
Is able to walk down steps
Is able to climb stairs
Is able to jump on the spot
is able to walk or run in varying speeds
Is able to run
is able to walk with balanced even gait
is able to walk
Is able to stand upright for more than 10 seconds unsupported
Is able to stand with support
Is able to sit upright without support
Is able to sit upright
0
1
2
3
4
5
6
7
8
Aug
July
June
Gross Motor Movement




Bi-parietal Motor Coordination and Other Limbic




Vocalisation of Sound (Anish

Breath Work (Anish)

## Ritual -Risk Observation

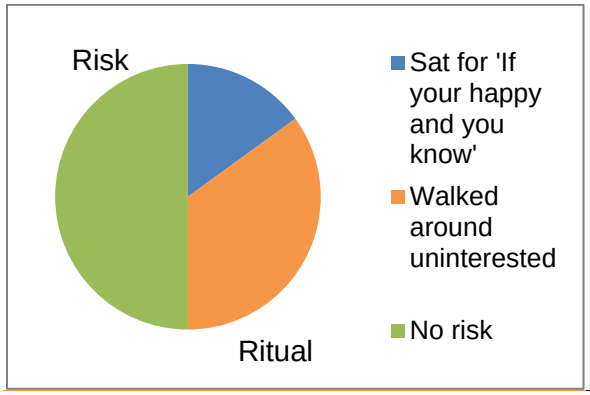
Childs Name : ***Anish***

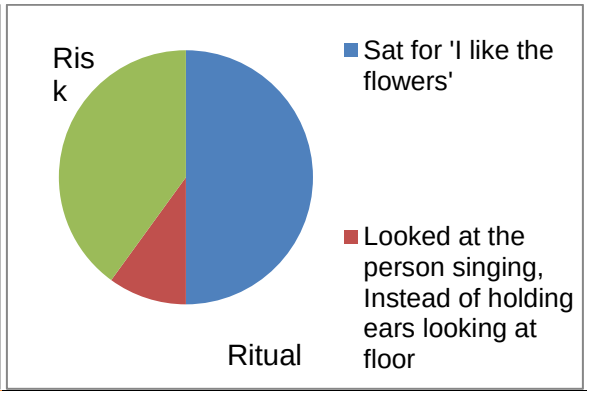
Observer: Facilitator

EARLY IN SESSION

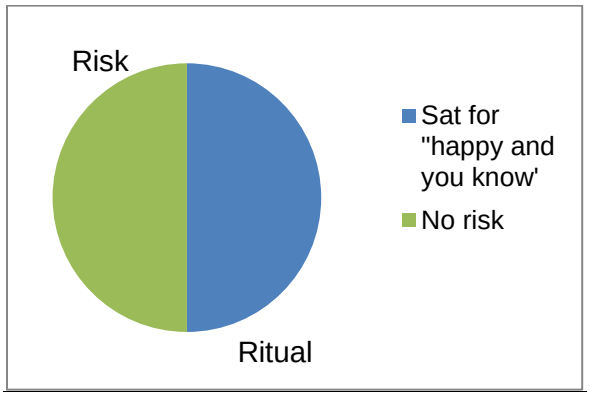
LATE IN SESSION

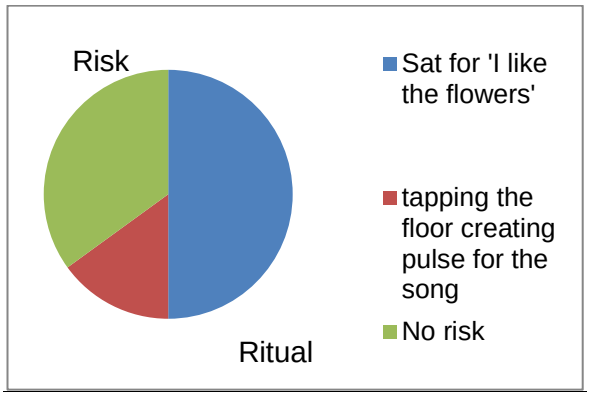
Session 1



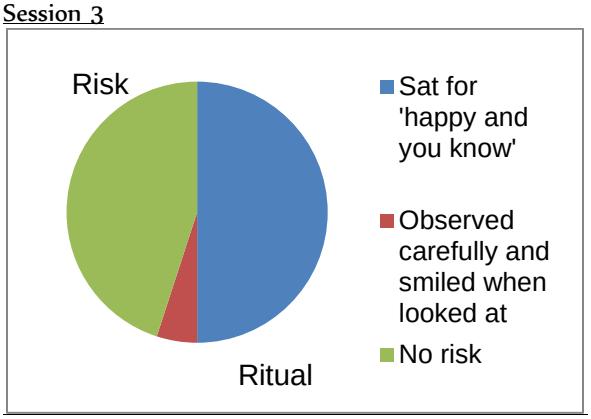



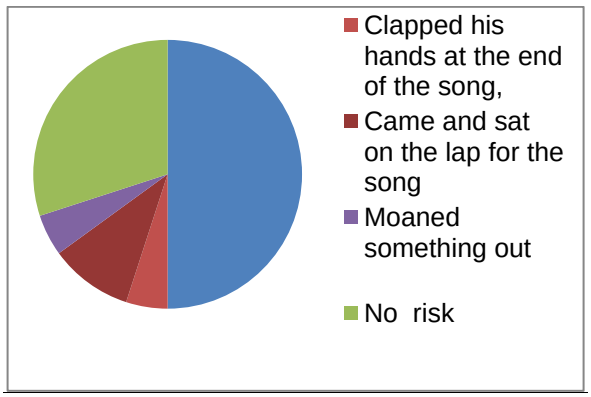

Session 2




Session 3




| | | | |
|---|---|---|---|
| | Vocalisation and Breath work | | Gross Motor and Limbic Coordination |

## 4.2(c) Ishaan Kalra

Ishaan is a jovial kid who initially showed great resistance to activities to do with body movement but over a short period of time this has changed and he seems to have understood that the need for physical activity is needed to experience life better. His resistances have reduced tremendously. Ishaan is able to walk long distances with limited number of breaks and with varying speeds and strides. His ability to support himself while seated has improved by getting him to cross his legs beneath him.

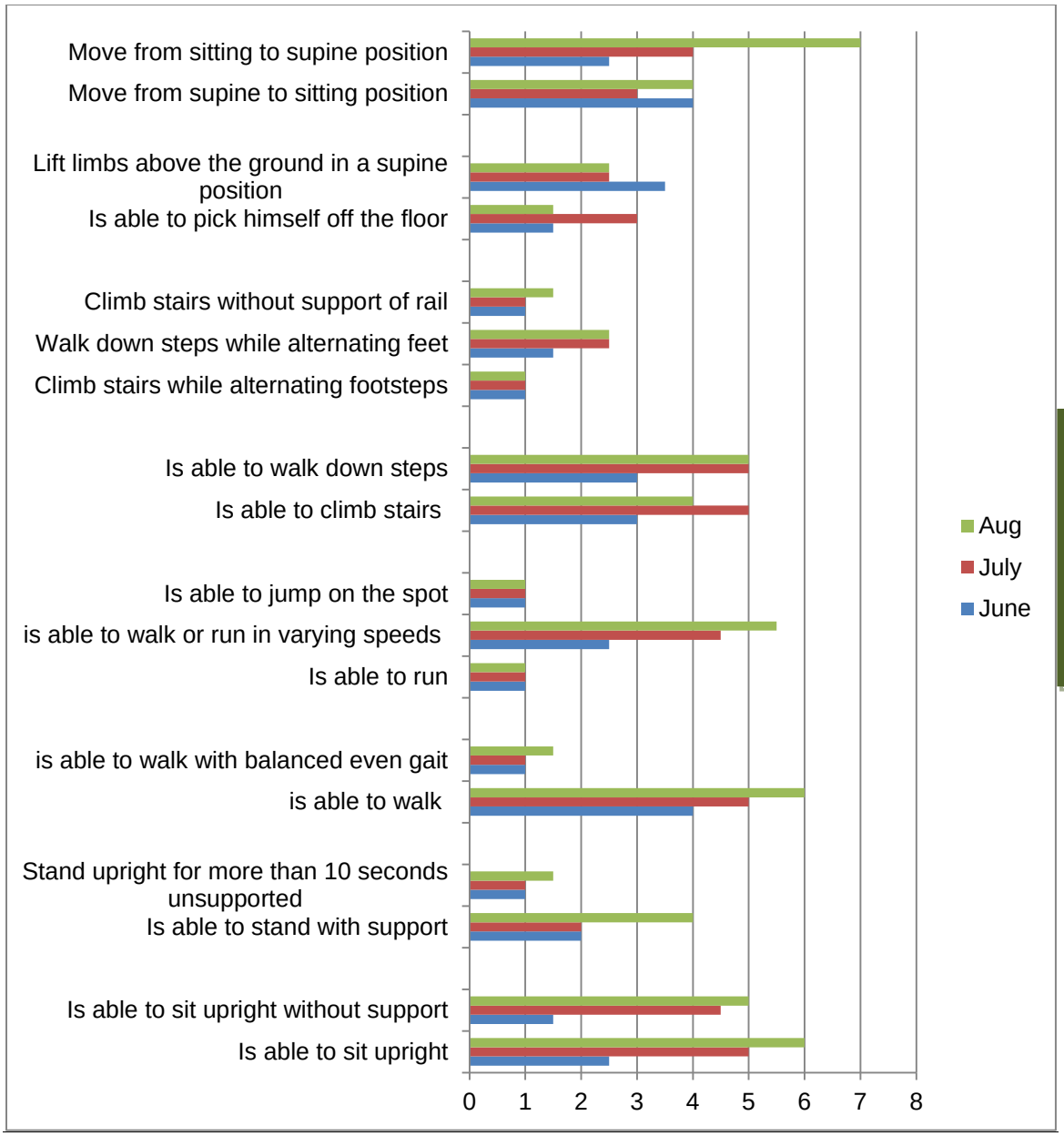
He is making valiant attempts to communicating his needs by gesturing and creating sounds. Vocalisation has improved greatly and this has helped him be more independent. His use of vowels and improved greatly and he is able to project his voice in such a manner that he is heard and his needs are met. As he is getting more comfortable with the vowels he is also trying to experiment with consonants.

Ishaan is quiet an innovator and tries several new activities and sounds on his own without being guided. This clearly indicates that there has been improvement in cognition alongside the domains evaluated.

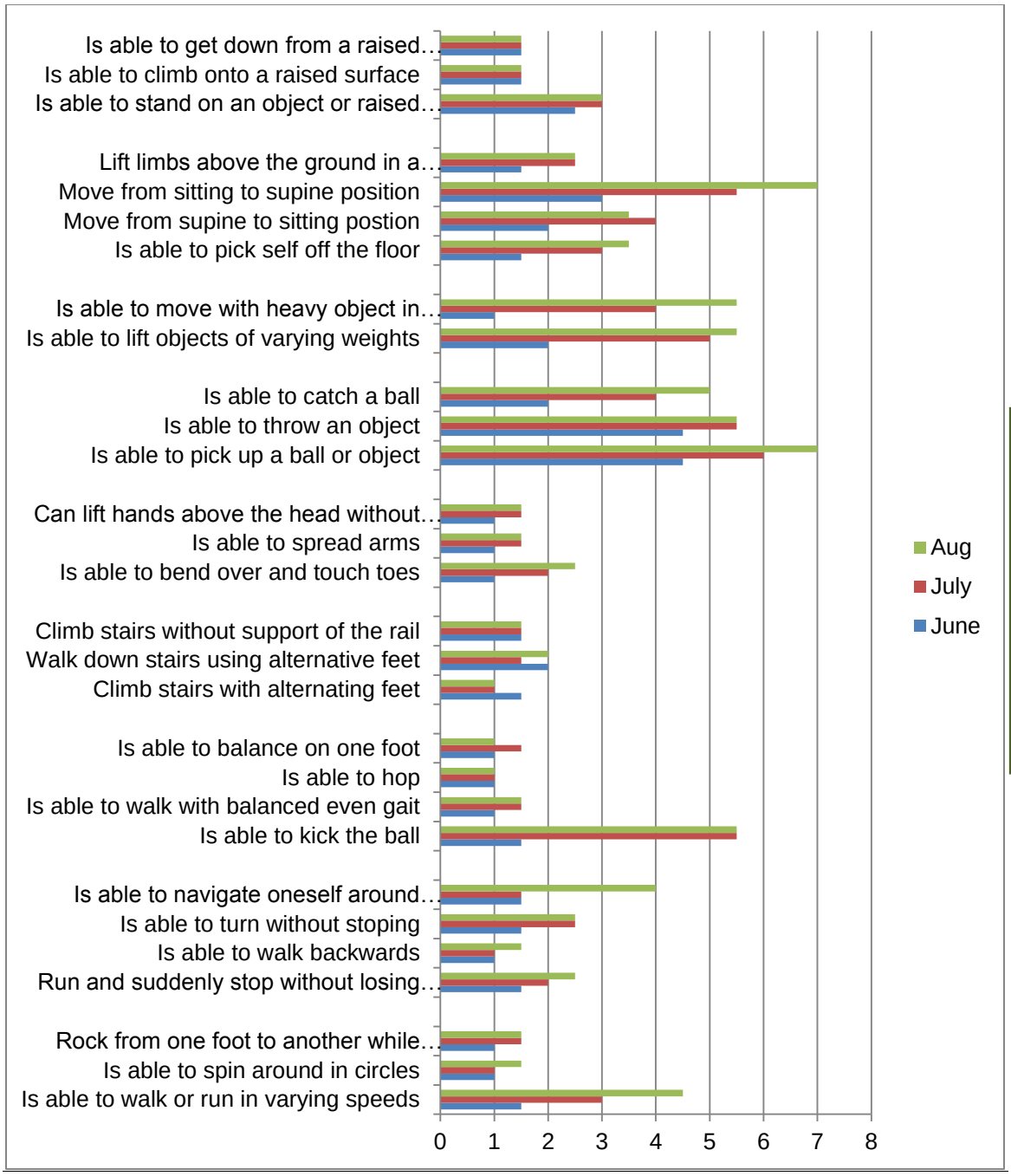
Ishaan has made a conscious effort to look beyond him and interact with the others. He has found a friend in Yashas. Ishaan seems to take the more authoritarian position in the relationship. Both Yashas and Ishaan value their friendship and both have complemented each other in their own journeys of learning.

There seems to be a general improvement in all domains but there seems to be a strong contrast in the outcomes of the data collection formats and the ABT tool; Ritual and Risk

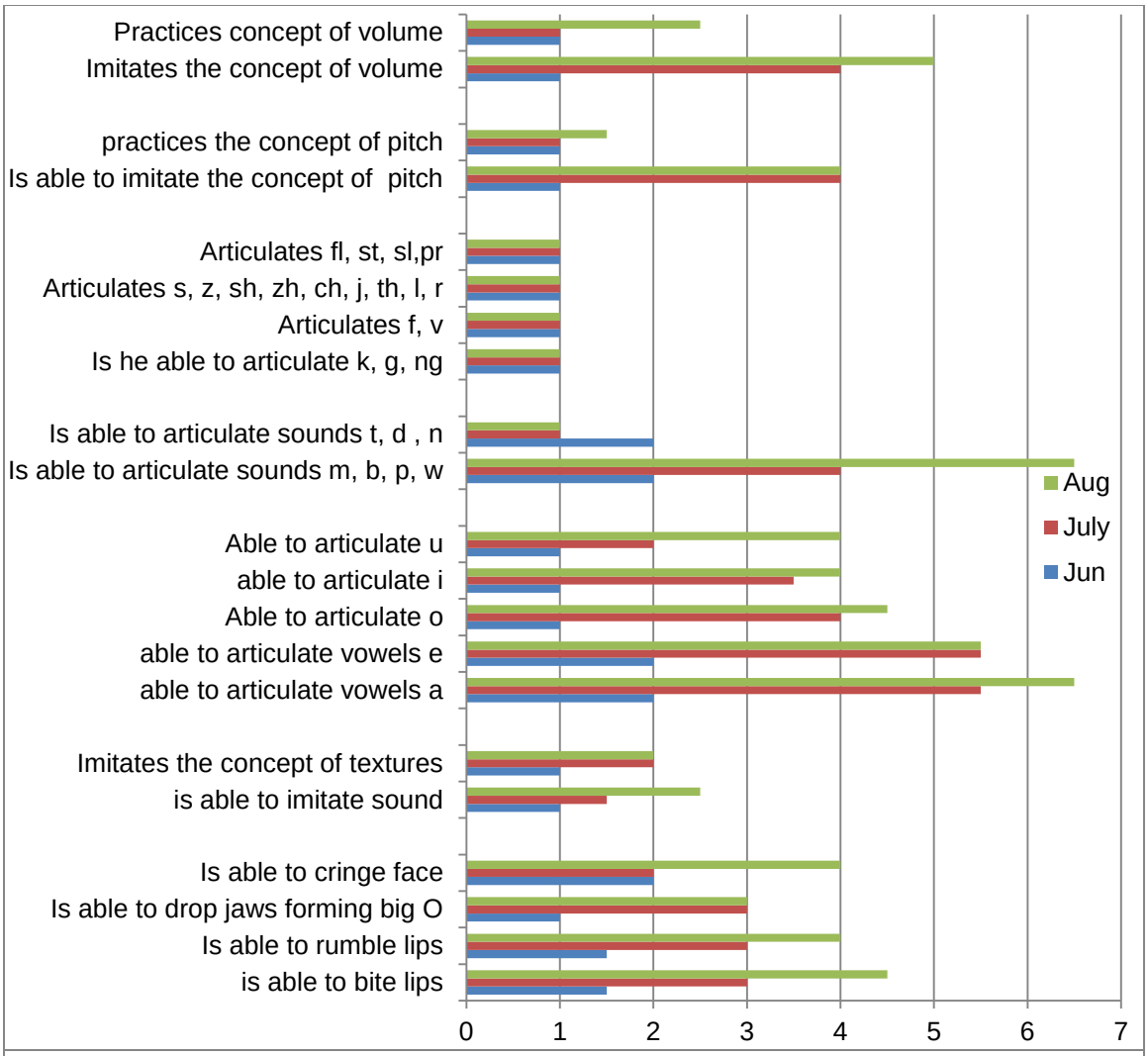
| Evaluation Tools | |
|---|---|
| Observation Graphs | • Gross Motor Movement<br>• Bi-parietal Motor Coordination and Other Limbic Movements<br>• Vocalisation of Sound<br>• Breath Work |
| ABT Tool | Ritual and Risk |
| Video | Drumming |



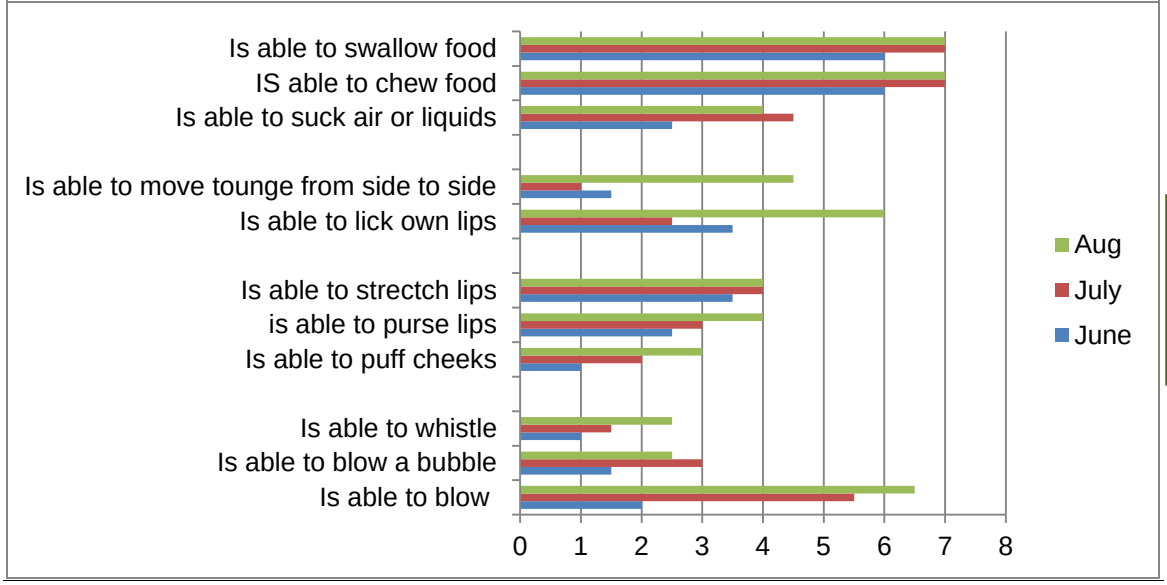

Gross Motor Movement (Ishaa




Bi-parietal Motor Coordination and Other Limbic Movements (Ishaan




Vocalisation of Sound (Ishaa`



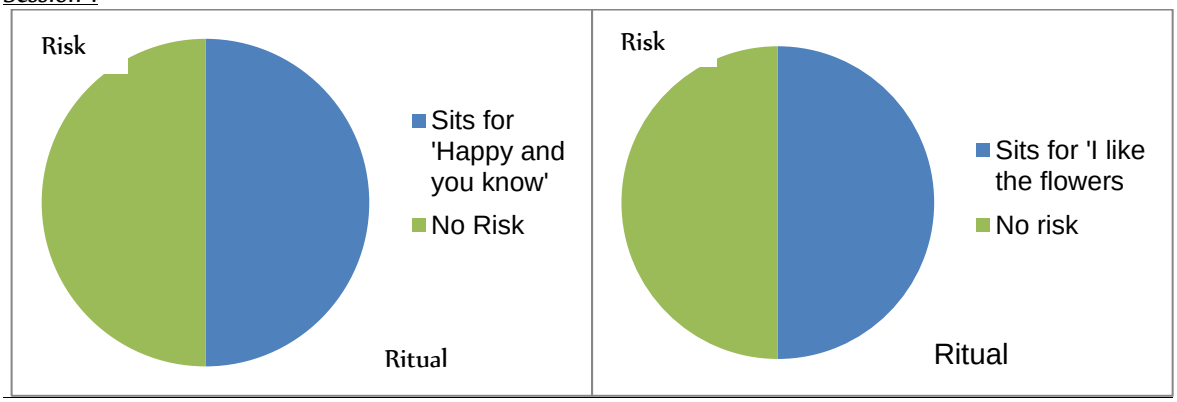

Breath Work (Ishaa

## Ritual -Risk Observation

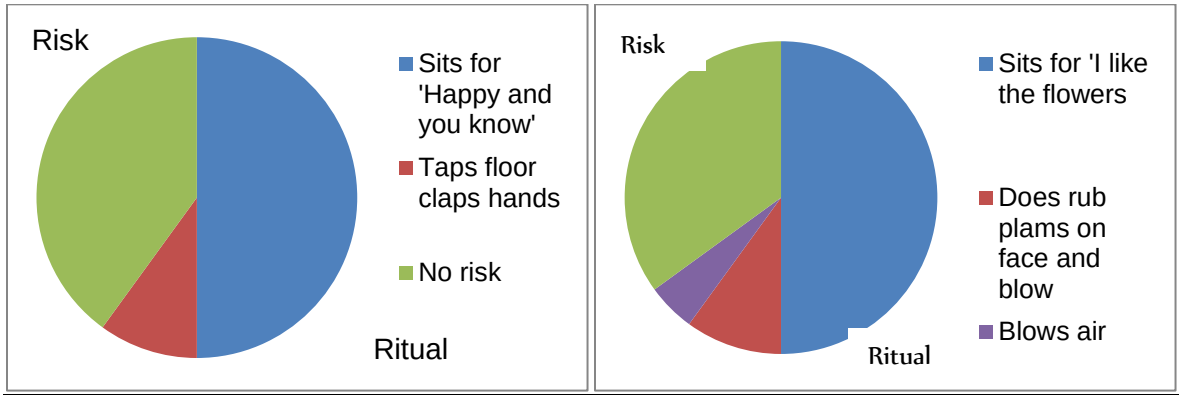
Childs Name : *Ishaan* Observer: Facilitator

EARLY IN SESSION LATE IN SESSION

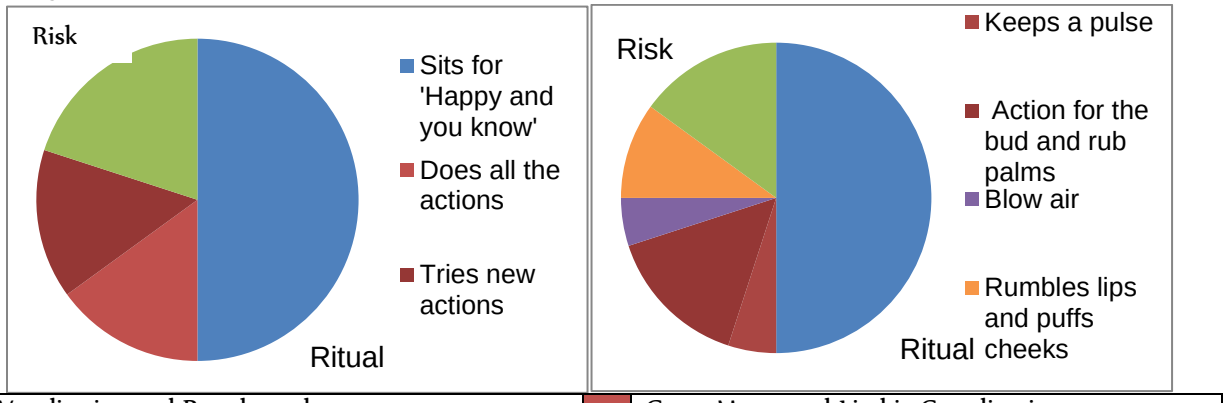
Session 1




Session 2




Session 3

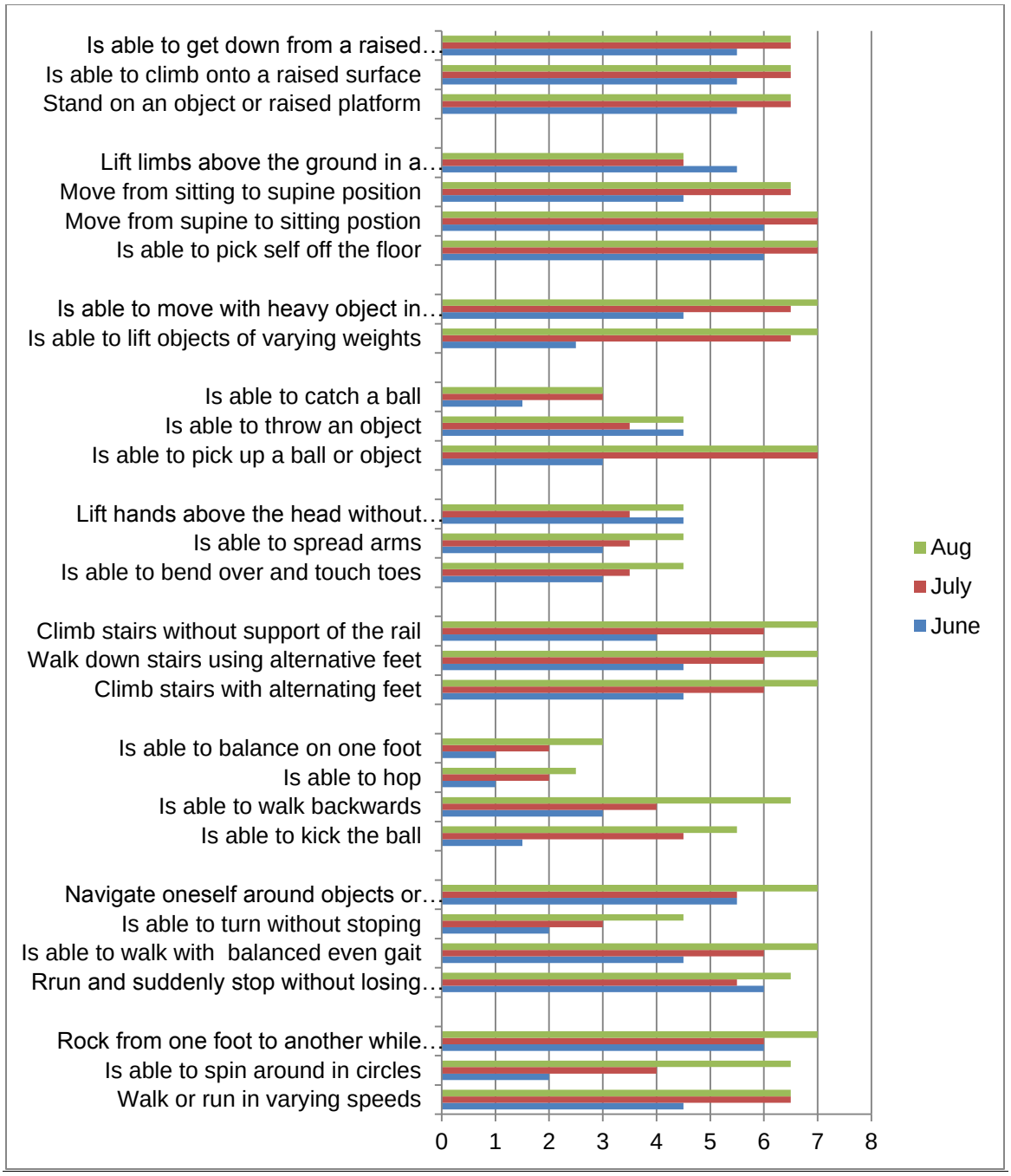



Vocalisation and Breath work | Gross Motor and Limbic Coordination

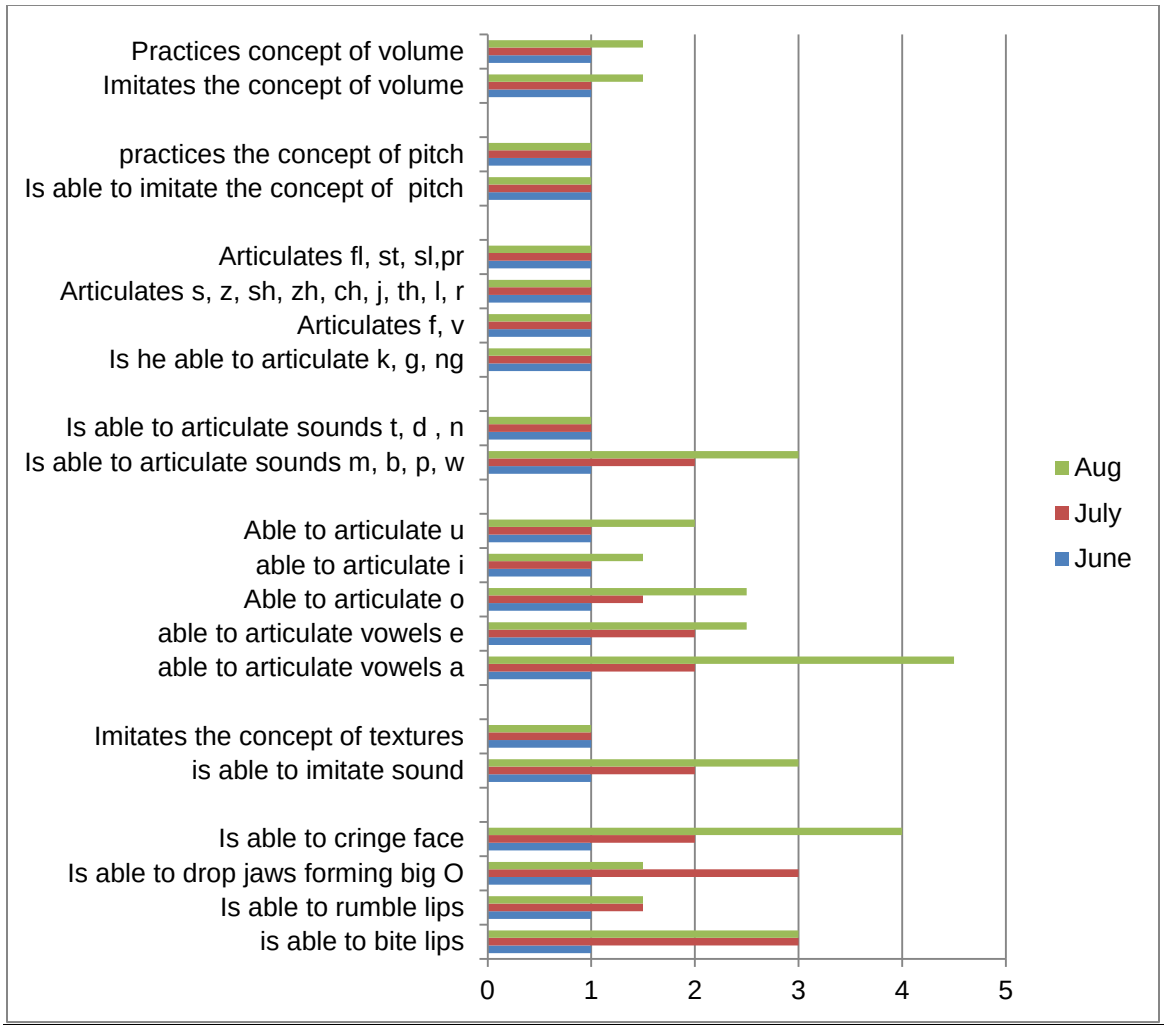
## 4.2(d) ULLAS. R

Ullas has been the most recent of participants to be added to the study group after the pilot study in March 2012 of this project. It has taken him some time to get adjusted to the environment but he has done it splendidly. Over the past three months Ullas has gotten more comfortable with his body and voice this could be not just be attributed to ABT intervention but also the fact that he has taken time to settle into the environment in school within a short period of 3 months starting June.
There has been a clear shift in his body comfort levels. He seems to be very agile on his feet and running seems to be more natural to him than walking. His eye contact has improved and there seems to be a shift in his behavior. He seems less dependent on human contact for comfort and prefers the outdoors, the park, to get settled.
His cognitive abilities have improved, considering the fact that he can now follow instructions in Kannada.
There has been lot more vocalisation of sounds and unconscious imitation of single syllable words. He has just started articulating consonants. Ullas is still uncomfortable using his voice for communication. He prefers to cry or move to the object or space he wants.
Ullas has a good ear for music and rhythm and seem most settled and comfortable with his self in such situations. He seems to be a natural at drumming and percussion. (Refer Video)

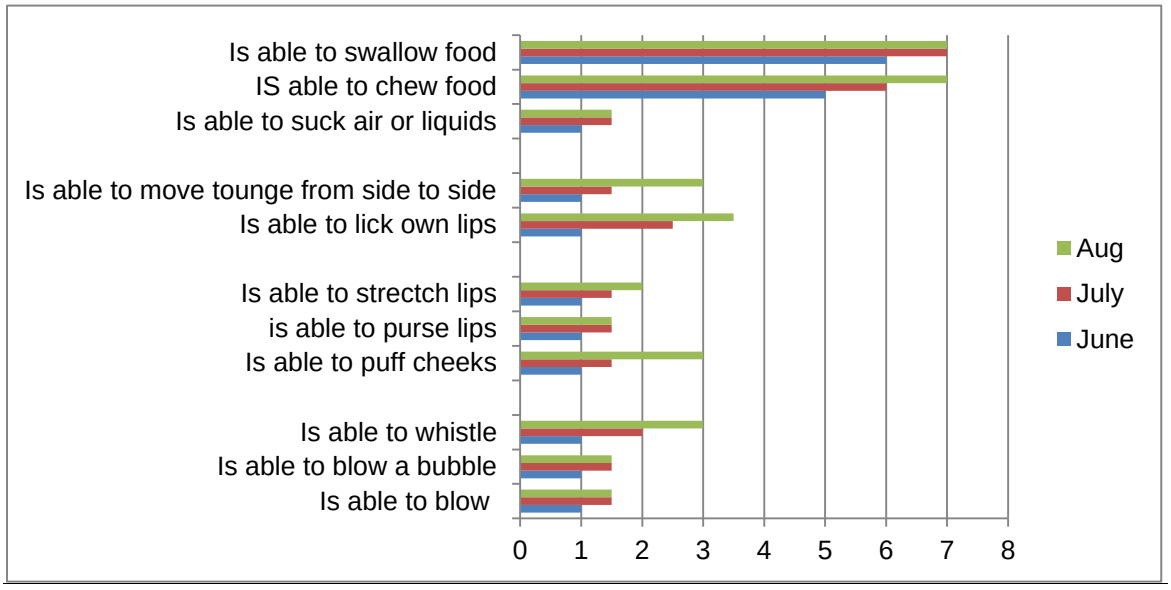
| Evaluation Tools | |
|---|---|
| Observation Graphs | • Bi-parietal Motor Coordination and Other Limbic Movements<br>• Vocalisation of Sound<br>• Breath Work |
| ABT Tool | Ritual and Risk |
| Video | Drumming |




Bi-parietal Motor Coordination and Other Limbic




Vocalisation of Sound (Ullas)




Breath Work (Ullas)

## Ritual -Risk Observation

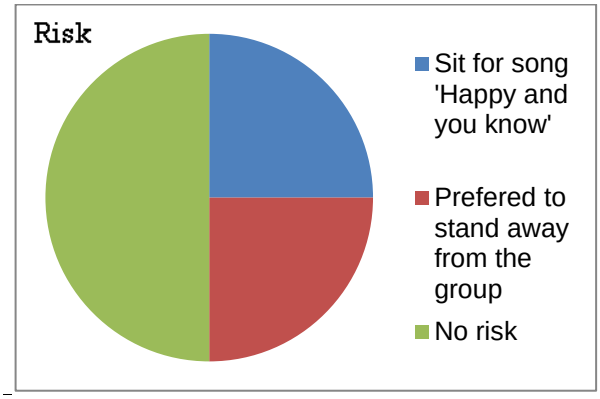
Childs Name : *Ullas*

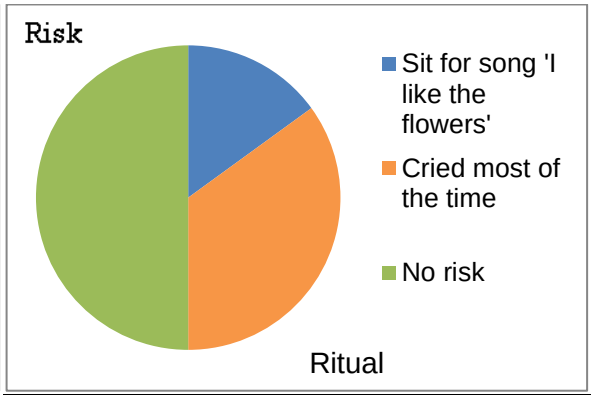
Observer: Facilitator

EARLY IN SESSION

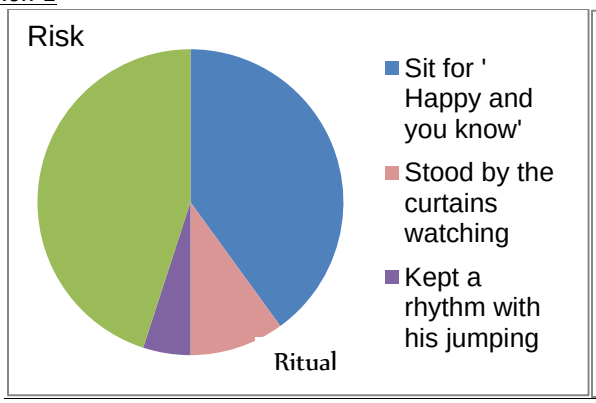
LATE IN SESSION

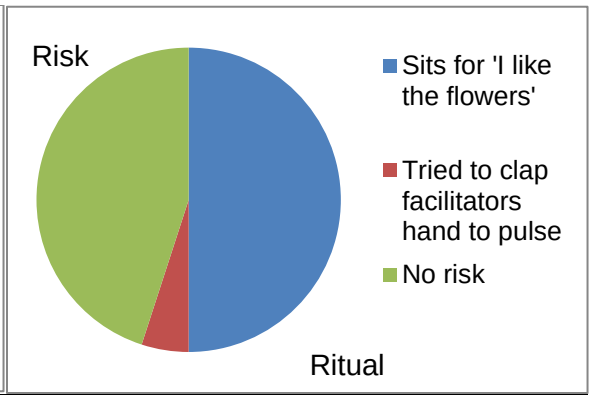
Session 1



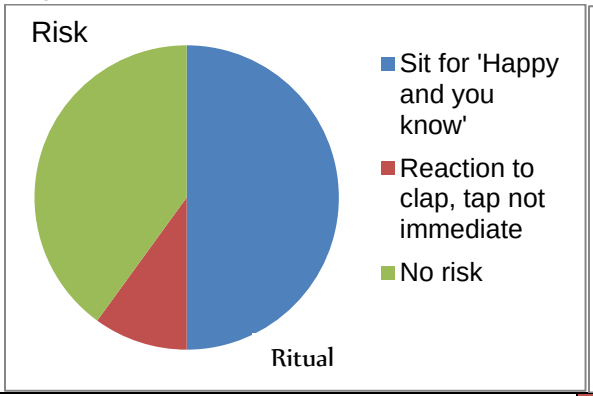



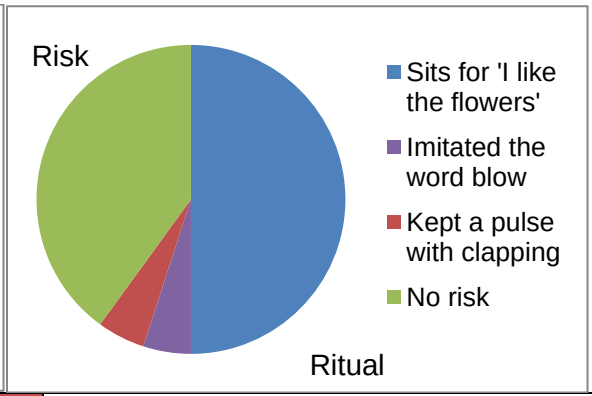

Session 2




Session 3



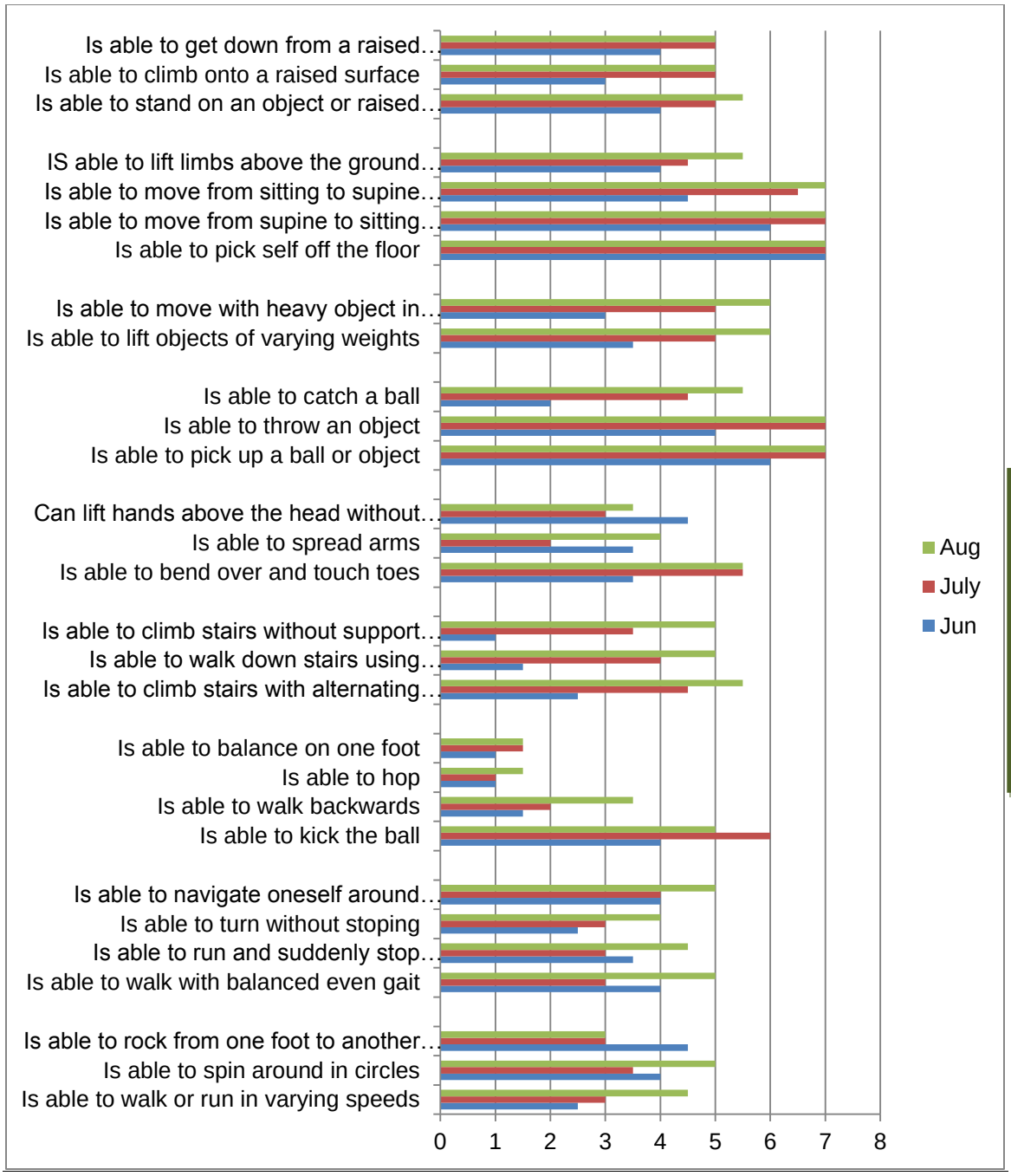




Vocalisation and Breath work | Gross Motor and Limbic Coordination

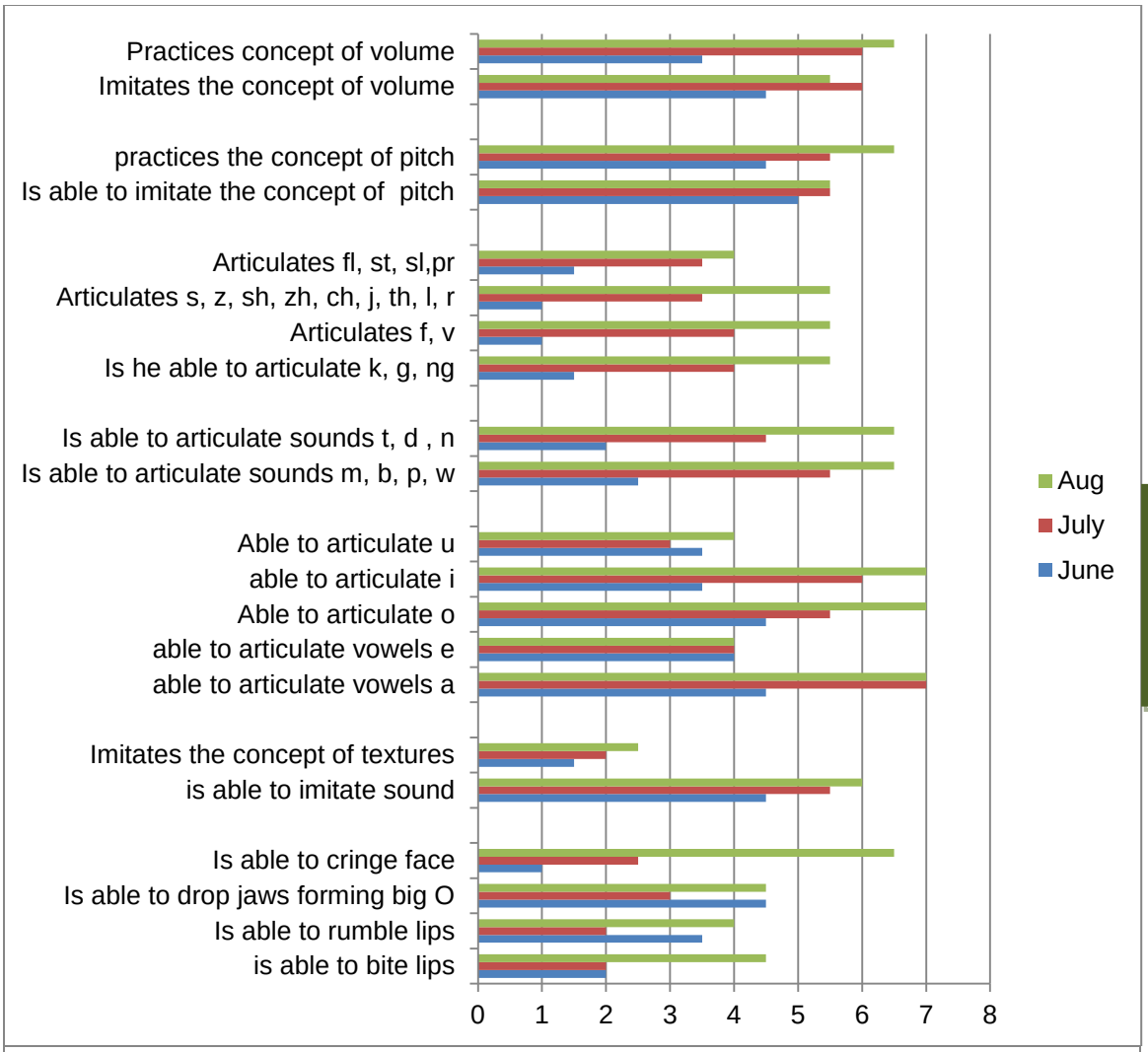
## *4.2(e) YASHAS D SHETTY*

Yashas is a very independent child and very clear that he can do things himself and accepts no help unless he asks for it himself. Yashas had enjoyed all the activities to do with movement and embraced the fact that he could channalise his high energy to understanding his body better. Yashas sense of balance has greatly improved which has helped him navigate himself around objects and up and down the stairs with limited assistance. He has made an effort to use his left arm, less dexterous side, to catch, pull, lift and move around with objects of varying weights (Refer drumming video). He has also figured that his legs can be used in lot many ways apart from walking. He has learnt to pivot himself with his hands to give his legs more freedom and power. His ability to kick, move objects deftly with his legs has improved. With a growing awareness of his body and using muscles unused has helped lessen his tendency to react to loud sounds and hurting his chin. This is because of growing neck, hand and leg muscle strength and his sense of balance.
Yashas is a very musical child and enjoys his singing. His speaking and singing has become much clearer and louder. He is also making a conscious effort to articulate his consonants better. He is good at imitating sounds and words with extended vowel sounds and he practices it till he gets perfect with it and then he uses it as a means to communicate and have fun with his facilitators. Yashas seems to be enjoying the fact that his voice has endless possibilities for innovation and creativity.
What was most remarkable to see was how easily he made friends and intereacted with others. (Refer ABT Video) He is always ready to help the others even if it is just holding their hands to help them walk.
The ABT and Observation format evaluation tools don't seem to correlate.

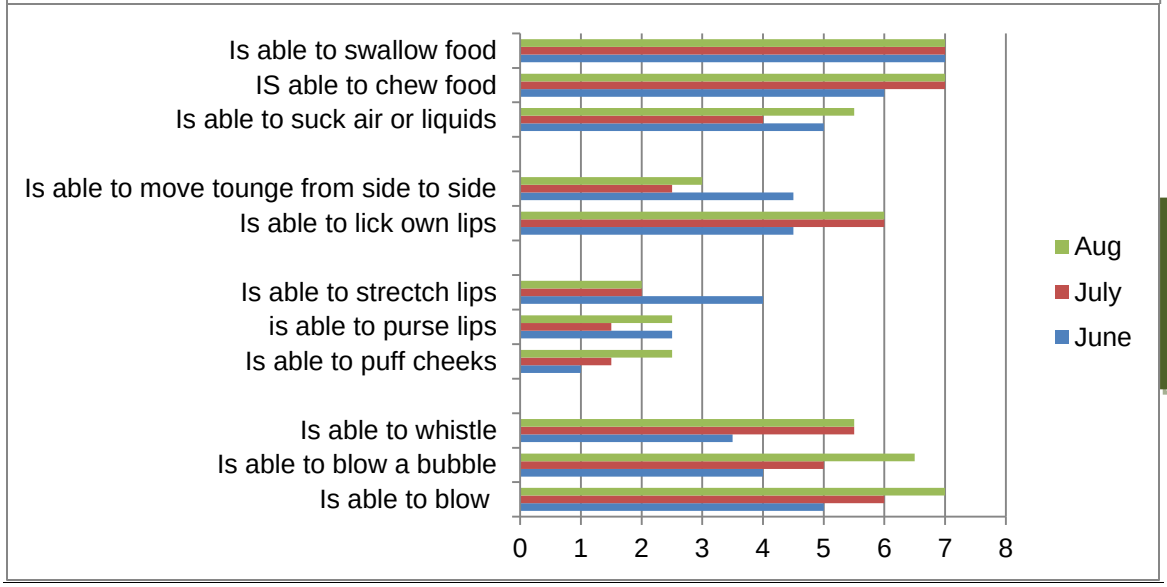
| Evaluation Tools | |
|---|---|
| Observation Graphs | • Bi-parietal Motor Coordination and Other Limbic Movements<br>• Vocalisation of Sound<br>• Breath Work |
| ABT Tool | Ritual and Risk |
| Video | Drumming |




Bi-parietal Motor Coordination and Other Limbic




Vocalisation of Sound (Yashas)




Breath Work (Yashas)

## Ritual -Risk Observation

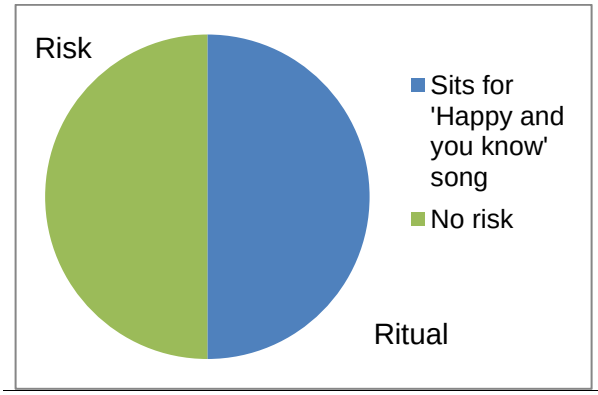
Childs Name : *Yashas*

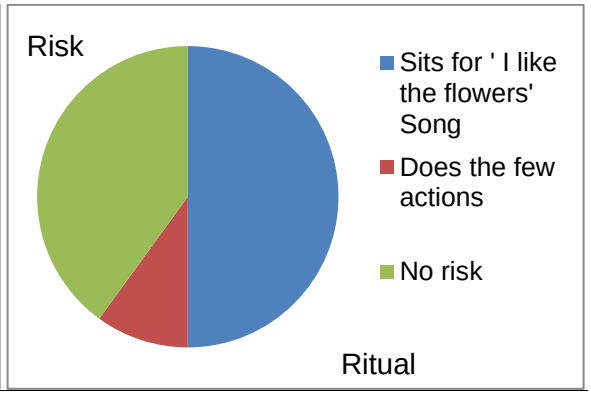
Observer: Facilitator

EARLY IN SESSION

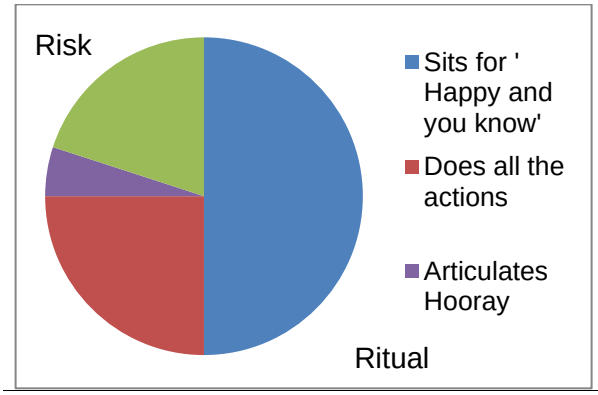
LATE IN SESSION

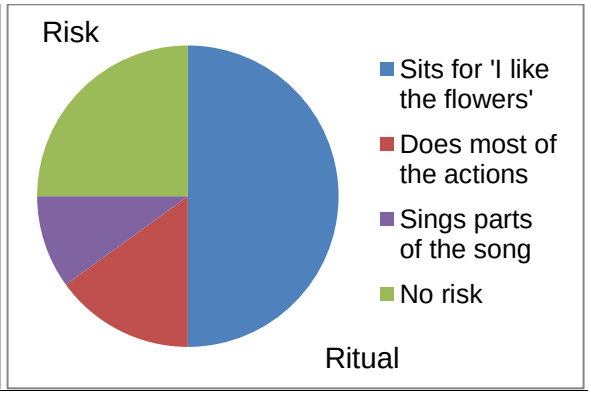
Session 1



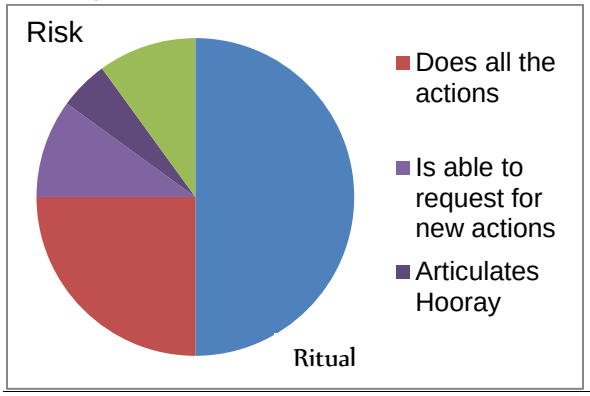



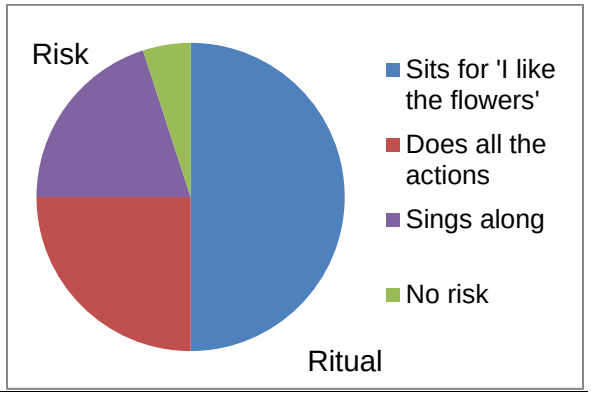

Session 2




Session 3




| | |
|---|---|
| Vocalisation and Breath work | Gross Motor and Limbic Coordination |

# SECTION 5: Discussion

5.1 Limitations
5.2 Learning
5.3 Future

## 5.1 Limitations

As fulfilling this experience has been there have been limitations concerning the project. Clear and primary limitation is perception of individuals. Perception changes with each and every person as there is differential

mental orientation and mental formations about an image object or a person. Objectivity of the results and project can be limited to a great extent .
There are children who go for therapies, progression and development in the child in these therapies could also affect the results which cannot be credited to ABT intervention. Extent of development and improvement through ABT and other therapies is not easy to quantify.
The ABT tool seemed greatly subjective in nature as each child's ability to take risk greatly differs and this could give skewed results. This is a clear contrast to the observation sheets where there was gradual progression.
Working with a mixed group wasn't very easy. Finding activities that both the cerebral palsy and the ADHD and autistic kids are interested in were difficult. The cerebral palsy children preferred group activities where as the others preferred one on one and in the group activities they showed limited participation.
Working with children beyond the study group can limit the freedom as their needs have to also be considered and addressed.
Experiences in open spaces close to Nature seemed to be a fine teacher in itself. These children loved the freedom experienced outdoors as compared to a confined indoor space.and a closed room sapped their energies.
3 month duration, starting June, of action research project is very limited to do justice to all art forms as constant repetition is needed for the kids. The need for the facilitator to be more equipped in art forms in depth is very high to get the best results from the children and self.
The 2 month summer break in April and May between the pilot and action project broke the momentum and the children had to be reoriented after the long break. A month's time had to be given to the children to settle down and regain the momentum lost, which was half way into the project which could have also affected the results.
What was most disheartening was children not coming back after the summer break. A new child had to be included in the project to replace those who left. This child had an uphill task to keep up with the others already oriented in the ABT routine.
Irregularity in the children during the project also affected the general energies in the group and the final outcome for the child.
Another limitation was the inability to capture children vocalizing through video recording.

## *5.2 Learning*

The best take back from this whole project is how inborn music and rhythm is in a child. The more attuned the child is to his musical side the faster and more ardent he/she wants to push his/her boundaries. 100% of the cerebral palsy in the study are extremely musical in nature.
What is interesting to note is that the more agile the kids get, more sounds they emanate. Development and the awareness of the body does help the less verbal children to verbalise more. Clear example would be Ishaan and Adiy, who have verbalized more once they had clearer understanding of their bodily capabilities.
As stated in the literary review I would have to agree with Gregory L Lof that non-speech related oral motor exercises have no direct relation to development of speech. In the project there did not seem to be a direct relation between breath work and vocalisation. 1 out of 5 showed an inverse relationship. 2 out of 5 showed a direct relationship and another 2 out of 5 showed no relationship at all. So it inconclusive that non speech oral-motor exercises aid vocalization.

Personally there has been a lot of learning and understanding of the self better through these children. These children are healer by themselves. Their energy and enthusiasm to not see themselves as 'unable' has showed how strong their souls are. These children epitomize the concept of pushing boundaries.

## *5.3 Future*

I have enjoyed working with these children and it is wonderful to see a part of me in them, how much of their lives have imprinted on me I am not sure but I would be glad if it has. For the future, I do believe there is a clear need to equip myself better in different art forms beyond my comfort zone of music and movement and work at honing those skills and not resorting to the overly tried and tested means.

For the immediate future I will continue working at using movement, music and theatre to assist those who have difficulty in mobility and vocalization. There is also a need to verify if the results of this project can be replicated with similar results with a different group of individuals.

Possibilities for future research would be to understand the direct or indirect relationship between movement and vocalization, through different art forms over a larger span of time. Another field of interest is effectiveness of theatre and musical vocal exercises compared to Oro motor exercises to develop speech.

In the long run I could see myself using ABT to continue working with children of special needs from more financially weaker backgrounds. There is also a need to work with a group of adults using ABT to make them more aware of themselves and give them a mode and medium for expression of self and to understand for myself the dynamics that adults and children bring to the table and then working at improving my relationship with each population using the knowledge I have gathered.

Arts based therapy work at my strengths and to sustain this level of work over years constant need to equip and reinvent myself is priority.

I intend on enjoying and cherish this journey in the world of arts and the world that these children allow me to be part of.

# SECTION 6: Appendix

6.1 Appendix A- Bibliography
6.2 Appendix B- Observation Formats
    3.3(b) ABT tool- Ritual and Risk
    3.3 (a) Observation charts
        Gross motor movements
        Breath work
        Biparietal motor coordination and other limbic movements
        Vocalisation of sounds
6.3 Appendix C: Results (outcome)
    4.1 Results summary
    4.2 Results detailed
6.4 Appendix D: Glossary of words
6.5 Appendix E: Session Record Sheets (SRS)
    6.5(a) SRS format
    6.5(b) Record

# 6.1 Appendix A- Bibliography

***2.1 Larger Picture:***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***2.3 Literary Review:***


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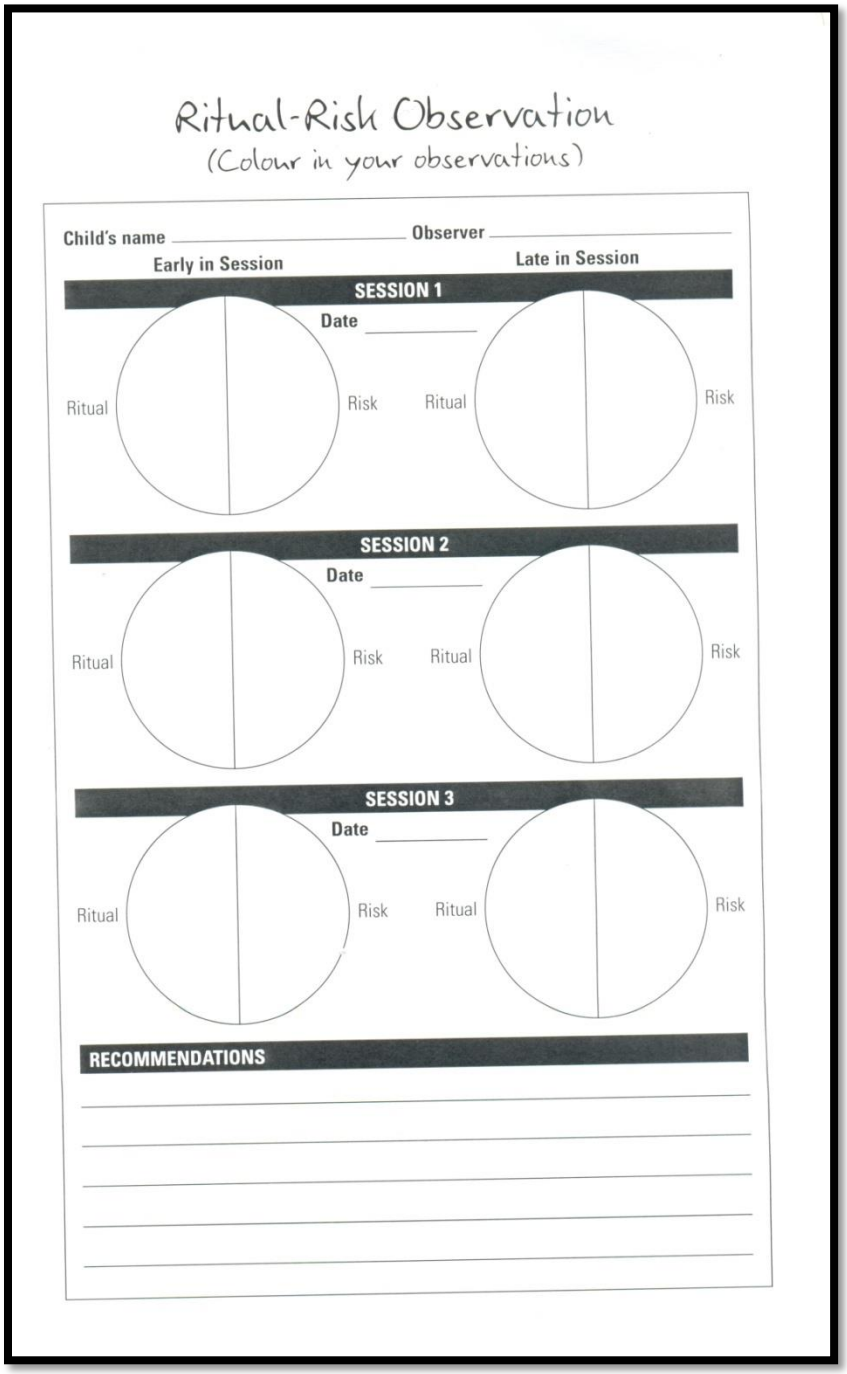
9. Serlin I. (1993). Root images of healing in dance therapy. *American Dance Therapy Journal,* 15, No. 2, Fall/Winter, 65-75

**3.3 (b) ABT tool: Ritual –Risk Observation**




**From**: Jennings,D (2004) Creative StoryTelling with Children at Risk, Bicester: Speechmark, Page 72

**3.3(a) Observation Formats**

| GROSS MOTOR MOVEMENT | Yes (2-7) | | | | | | Not Yet 1 |
|---|---|---|---|---|---|---|---|
| | Always 7,6 | | Often 5,4 | | Less often 3,2 | | |
| | NO help | With Help | No Help | With Help | NO Help | With Help | |
| Is able to sit upright | | | | | | | |
| Is able to sit upright without support | | | | | | | |
| Is able to stand with support | | | | | | | |
| Is able to stand upright for more than 10 seconds unsupported | | | | | | | |
| is able to walk | | | | | | | |
| is able to walk with balanced even gait | | | | | | | |
| Is able to run | | | | | | | |
| is able to walk or run in varying speeds | | | | | | | |
| Is able to jump on the spot | | | | | | | |
| Is able to climb stairs | | | | | | | |
| Is able to walk down steps | | | | | | | |
| is able to climb stairs while alternating footsteps | | | | | | | |
| Is able to walk down steps while alternating feet | | | | | | | |
| is able to climb stairs without the support of the rail | | | | | | | |
| Is able to pick himself off the floor | | | | | | | |
| is able to lift limbs above the ground in a supine position | | | | | | | |
| Is able to move from supine to sitting position | | | | | | | |
| Is able to move from sitting to supine position | | | | | | | |

Other Observations

| BREATH WORK | Yes (2-7) | | | | | | Not Yet 1 |
|---|---|---|---|---|---|---|---|
| | Always 7,6 | | Often 5,4 | | Less Often 3,2 | | |
| | No help | With Help | No Help | With Help | No Help | With Help | |
| Is able to blow | | | | | | | |
| Is able to blow a bubble | | | | | | | |
| Is able to whistle | | | | | | | |
| Is able to puff cheeks | | | | | | | |
| is able to purse lips | | | | | | | |
| Is able to strectch lips | | | | | | | |
| Is able to lick own lips | | | | | | | |
| Is able to move tounge from side to side | | | | | | | |
| Is able to suck air or liquids | | | | | | | |
| IS able to chew food | | | | | | | |
| Is able to swallow food | | | | | | | |
| Other Observations | | | | | | | |

| BI-PARIETAL MOTOR COORDINATION AND OTHER LIMBIC MOVEMENTS | Yes (2-7) | | | | | | Not yet 1 |
|---|---|---|---|---|---|---|---|
| | Always 7.6 | | Often 5,4 | | Less Often 3,2 | | |
| | No Help | With Help | No Help | With Help | No help | With Help | |
| Is able to walk or run in varying speeds | | | | | | | |
| Is able to spin around in circles | | | | | | | |
| Is able to rock from one foot to another while standing straight | | | | | | | |
| Is able to run and suddenly stop without losing balance | | | | | | | |
| Is able to turn without stoping | | | | | | | |
| Is able to navigate oneself around objects or obstacles | | | | | | | |
| Is able to kick the ball | | | | | | | |
| Is able to hop | | | | | | | |
| Is able to balance on one foot | | | | | | | |
| Is able to climb stairs with alternating feet | | | | | | | |
| Is able to walk down stairs using alternative feet | | | | | | | |
| Is able to climb stairs without support of the rail | | | | | | | |
| Is able to bend over and touch toes | | | | | | | |
| Is able to spread arms | | | | | | | |
| Can lift hands above the head without losing balance | | | | | | | |
| Is able to pick up a ball or object | | | | | | | |
| Is able to throw an object | | | | | | | |
| Is able to catch a ball | | | | | | | |
| Is able to lift objects of varying weights | | | | | | | |
| Is able to move with heavy object in hand | | | | | | | |
| Is able to pick self off the floor | | | | | | | |
| Is able to move from supine to sitting postion | | | | | | | |
| Is able to move from sitting to supine position | | | | | | | |
| IS able to lift limbs above the ground in a supine position | | | | | | | |
| Is able to stand on an object or raised platform | | | | | | | |
| Is able to climb onto a raised surface | | | | | | | |
| Is able to get down from a raised platform | | | | | | | |

Other Observations

| VOCALISATION OF SOUND | Yes (2-7) | | | | | | Not Yet 1 |
|---|---|---|---|---|---|---|---|
| | Always 7,6 | | Often 5,4 | | Less Often 3,2 | | |
| | No Help | With Help | No help | With Help | No help | With Help | |
| is able to bite lips | | | | | | | |
| Is able to rumble lips | | | | | | | |
| Is able to drop jaws forming big O | | | | | | | |
| Is able to cringe face | | | | | | | |
| is able to imitate sound | | | | | | | |
| Imitates the concept of textures | | | | | | | |
| able to articulate vowels a | | | | | | | |
| able to articulate vowels e | | | | | | | |
| Able to articulate o | | | | | | | |
| able to articulate i | | | | | | | |
| Able to articulate u | | | | | | | |
| Is able to articulate sounds m, b, p, w | | | | | | | |
| Is able to articulate sounds t, d , n | | | | | | | |
| Is he able to articulate k, g, ng | | | | | | | |
| Articulates f, v | | | | | | | |
| Articulates s, z, sh, zh, ch, j, th, l, r | | | | | | | |
| Articulates fl, st, sl,pr | | | | | | | |
| Is able to imitate the concept of pitch | | | | | | | |
| practices the concept of pitch | | | | | | | |
| Imitates the concept of volume | | | | | | | |
| Practices concept of volume | | | | | | | |

Other Observations

# Appendix C: Results (Outcomes)

### 4.1 Results Summary

| Observation Format | Growth % | | | | |
|---|---|---|---|---|---|
| | Adiy | Anish | Ishaan | Ullas | Yashas |
| Gross Motor Movement and Bi-parietal Motor Coordination and Other Limbic Movements | 16 | 21 | 18.5 | 27 | 21 |
| Vocalisation of Sound and Breath Work | 19.5 | 7.5 | 27.5 | 16 | 21 |

| Risk And Ritual | Growth % | | | | |
|---|---|---|---|---|---|
| | Adiy | Anish | Ishaan | Ullas | Yashas |
| Gross Motor Movement and Bi-parietal Motor Coordination and Other Limbic Movements | 45 | 10 | 30 | 5 | 40 |
| Vocalisation of Sound and Breath Work | 20 | 5 | 10 | 5 | 20 |

| Comparison of Growth between Tools: Gross Motor Movement and Bi-parietal Motor Coordination and Other Limbic Movements | | | | | |
|---|---|---|---|---|---|
| | Adiy | Anish | Ishaan | Ullas | Yashas |
| Gross Motor Movement and Bi-parietal Motor Coordination and Other Limbic Movements (Observation Format) | 16 | 21 | 18.5 | 27 | 21 |
| Gross Motor Movement and Bi-parietal Motor Coordination and Other Limbic Movements (Ritual and Risk) | 45 | 10 | 30 | 5 | 40 |

| Comparison of Growth between Tools: Vocalisation of sounds | | | | | |
|---|---|---|---|---|---|
| | Adiy | Anish | Ishaan | Ullas | Yashas |
| Vocalisation of Sound and Breath Work ( Observation format) | 19,5 | 7.5 | 27.5 | 16 | 21 |
| Vocalisation of Sound and Breath Work ( Ritual and Risk) | 20 | 5 | 10 | 5 | 20 |

| Observation format | Growth % | | | | |
|---|---|---|---|---|---|
| | Adiy | Anish | Ishaan | Ullas | Yashas |
| Gross Motor Movement | 16 | 19 | 18 | | |
| Bi-parietal Motor Coordination and Other Limbic Movements | 16 | 23 | 19 | 27 | 21 |
| Vocalisation of Sound | 29 | 8 | 29 | 13 | 32 |
| Breath Work | 10 | 7 | 26 | 19 | 10 |

## *Appendix D: Glossary of words*

ABT- Arts Based Therapy

ADHD- Attention deficit hyper activity disorder

Bi-parietal Motor coordination-Voluntary motor coordination from inputs from multisenses. Abiltiy to function with both the left and right side of the body

Developmental Delay- Delay in a child achieving developmental milestone within a specific period of time

Myoclonic Seizures- Seizures that cause sudden jerks in the muscles.

Vestibular disorder- Inability of the inner ear to process sensory inputs concerning balance and eye coordination.

SRS- Session Record Sheet

# *Appendix E: Session Record Sheet (SRS)*

SRS Format

SRS record

## SESSION RECORD SHEET (SRS)

| | | |
|---|---|---|
| *Roll No:* | *Day & Date :* | *Session No:* |
| *Facilitator/s:* | *Time:* | *Group:* |
| **PRE SESSION** | | |
| **DOING SUBTLE WORK:**<br><br>Reiterate Intent, Remove Interferences, Intuitive Imagery | | |
| **REVIEW & REFLECT**<br><br>Ideas from last session<br><br>Review of assessment inputs | | |

**PLAN & PREPARE**

Therapeutic Goal

Metaphor/s

Space and Materials Preparation?

## SESSION

**A. ARTISTIC COMMUNION**

Rituals

Artistic Preparation

**B. FOCUSSED CREATION**

Games / Activities / Exercises / Work

**C. REFLECTION & CLOSURE**

Reflections / Discussion / Comments / De-roling

Closing Rituals

## POST SESSION: THERAPIST'S NOTES

***Actual session sequence and summary:***

*(Planned v/s What took place)*

***Observations about clients / group:***

*i) Any key highlights of significance*

*ii) Thoughts on what needs more attention, what needs mulling over (for self as well as in relation to clients)*

*iii) Ideas for next session*

***Data Collection***