CHAPTER FOUR  RESULTS AND DISCUSSION OF FINDINGS

4.1 INTRODUCTION

This chapter reports the results and discussion of the findings from the Behavioural Language Assessment Form, the interviews with the teachers and the observations of the researcher according to the research questions in Chapter One.

The findings are first presented in this order the Profile Levels, the Communication Skills, the interviews with the teachers and the researcher’s observations. Then, the findings are discussed.

Firstly, the general observations together with the pre-test and the post test results of the students in the Behavioural Language Assessment Form are presented.

4.2 PRESENTATION OF THE PRE-TEST AND POST TEST RESULTS

Student A

General Observation

Student A is an eight year old boy. The second in a family of six children. He lives with his businessman father and housewife mother. His parents are too busy with their other children to pay much attention to him. Most of the time, he is left alone in a room. They do not follow up on any of the lessons done in school. He is also frequently absent from school.
Figure 4.2.1 : Pre-test and Post test results of the Communication

Skills of Student A

Pre-test Profile Level : 1

Student A has scored a one in 12 of the skills.

Post test Profile Level : 2

Student A has scored a two in 10 of the skills.

1. Cooperation with Adults

Pre-test(Level 1) : He avoided work. He refused to look at the teacher especially when she approached him for one-to one sessions. He did not like to move from the place where he was seated.

Post test(Level 2) : He cooperated to a certain extent but had the tendency to lie on the table whenever the teacher's direction was diverted. He made eye contact whenever he was called.

2. Requests

Pre-test(Level 2) : Student A did not use words to ask for his needs. His method of asking for his needs consisted of pulling his teacher to the desired
object. Attempts to get Student A to use words resulted in student running away.

Post test (Level 2): Student A still remained in level 2 but now he does not run away when asked to use words. Occasionally he says 'ee' pointing to the object he wants; and 'ne' when the teacher gives him the wrong object.

3. Motor Imitation

Pre-test (Level 1): Student A cannot imitate fine motor skills but can imitate one gross motor which is clapping. He does not show interest in action done by others.

Post test (Level 2): He can imitate a few gross motor movements, but requires a fair amount of physical prompting. He is able to imitate clapping and putting his hands on his head. He is able to imitate fine motor skills such as tapping thumbs and opening and closing his hands.

4. Vocal Play

Pre-test (Level 1): Student A does not make any intelligible sounds. He screams and cries when asked to do some task.

Post test (Level 1): He has stopped screaming and crying. Most of the time he grins to himself. He still does not make any intelligible sounds.

5. Vocal Imitation

Pre-test (Level 1): Student A does not repeat any sounds or words. He starts to cry when attempts are made to make him repeat.

Post test (Level 1): He does not repeat any sounds but he does not cry. Instead, he smiles throughout the session.
6. Matching to Sample

Pre-test (Level 2): Student A can match 2 objects with their pictures. He can match a picture of a table and ball to the real object with substantial amount of prompts.

Post test (Level 2): He can match objects with a fair amount of prompts. However, he makes a lot of errors.

7. Receptive

Pre-test (Level 1): Student A can only understand 2 instructions. ‘eat’ and ‘sit’. He does not react much to other words. He sits in one place unless someone physically prompts him to move.

Post test (Level 2): He follows a few instructions like ‘wash hand’, ‘go to the toilet’ and ‘put your bag here’ when given in context to what is happening at the moment.

8. Labelling

Pre-test (Level 1): Student A cannot name common items or actions verbally. He usually throws a tantrum when asked to label items.

Post-test (Level 1): He cannot label but he has stopped throwing tantrums when asked to label items.

9. Receptive by Function, Features and Class

Pre-test (Level 1): Student A is unable to identify items based on information about the item.

Post test (Level 1): He is still unable to identify items based on their description

10. Conversational Skills

Pre-test (Level 1): Student A cannot fill-in missing words or parts of song.

Post test (Level 1): He cannot fill-in missing words or parts of song.
11. Letters and Numbers

Pre-test (Level 1): Student A can identify 1 number and 2 letters but he cannot say the numbers and letters.

Post test (Level 2): He can identify 3 numbers and 2 letters. He is very slow in identifying the numbers and letters.

12. Social Interaction

Pre-test (Level 1): Student A does not initiate interactions with others but he approaches adults just to sit next to them.

Post test (Level 2): He does not initiate interactions but likes to be with people, touching them and smiling at them.

13. Greeting

Pre-test (Level 1): Student A does not look at the person who is talking to him.

Post test (Level 2): He makes eye contact and smiles at adults who greet him.

14. Gestures

Pre-test (Level 1): Student A does not wave or use gestures at all.

Post test (Level 2): He waves at his teacher and parents with an intensive amount of physical prompts.

Student B

General Observation

Student B is also 8 years old. His parents are concerned about his education and are constantly carrying out the lessons at home. Being the youngest of three children, he gets a lot of help from his siblings.
Figure 4.2.2: Pre-test and Post test results of the Communication Skills of Student B

Pre-test Profile Level : 4

Student B has obtained a four in 7 of the skills.

Post test Profile Level : 5

Student B has scored a five in 7 of the skills.

1. Cooperation with Adults

Pre-test (Level 4) : Student B works well for 5-10 minutes without any disruptive behaviours, but he likes to take short breaks to play with his toy.

Post test (Level 5) : He worked well for more than 10 minutes with no disruptive behaviour.

2. Requests

Pre-test (Level 4) : Student B is able to use about 10 words to ask for objects but sometimes he has to be prompted.

Post test (Level 5) : He is able to use more than 10 words to ask for objects without any prompting. Sometimes he uses the phrase “I want…” to request for objects.
3. **Motor Imitation**

**Pre-test (Level 4):** Student B is able to imitate others quite well, especially when doing gross motor movements such as jumping and clapping. He has difficulty imitating fine motor movements such as facial expressions and mouth movements.

**Post test (Level 5):** His ability to imitate gross motor movements of others is good. He imitates the behaviour of others spontaneously and frequently.

4. **Vocal Play**

**Pre-test (Level 3):** Student B produces many speech sounds with varied intonation but the sounds do not resemble words.

**Post test (Level 4):** He frequently babbles with varied intonation and says a few words such as ‘ma’, ‘papa’ and ‘ba’ especially while playing with toys.

5. **Vocal Imitation**

**Pre-test (Level 3):** Student B will repeat or sometimes closely approximate the sounds that he hears, with a lot of prompts.

**Post test (Level 3):** He can repeat words without any prompting.

6. **Matching to Sample**

**Pre-test (Level 4):** Student B is able to match more than 10 objects, colours and shapes. He enjoys doing this task.

**Post test (Level 5):** He can match most of the objects found in the classroom, bathroom and kitchen without prompting.

7. **Receptive**

**Pre-test (Level 4):** Student B can follow a few instructions without contextual cues. For instance, he can follow instructions such as ‘clap hands’ ‘raise your arms’ without gestural prompts.
Post test (Level 5) : His receptive language skills are fairly strong. He can easily follow instructions and discriminate at least 100 objects but he cannot respond to instructions involving multiple parts such as, ‘Wash your hands and put on your shoes’.

8. Labelling

Pre-test (Level 4) : Student B is able to label about 4 common objects and actions. He is quiet and keeps much to himself.

Post test (Level 5) : He can label about 15 items and actions. His responses are quick but there are errors. He is typically quiet and does not spontaneously identify items or activities outside his classroom.

9. Receptive by Functions, Features and Class

Pre-test (Level 2) : Student B is able to identify 5 items given one function or features. For instance, “pencil” when the teacher says “You write with a ____”.

Post test (Level 3) : He can specifically point to 10 items when the items are described by their functions. For instance: Touch the one you eat or touch the one you play with. But, he is still unable to correctly select items from a large array of pictures and objects.

10 Conversational Skills

Pre-test (Level 2) : Student B can fill in a few missing words in nursery rhymes such as ‘Baa baa Black Sheep’. He prefers to be silent most of the time.

Post test (Level 3) : He can correctly respond to some fill-in-the-blank questions involving words from familiar songs and phrases such as: “You sleep on your _____.”. He can also give his name upon request.

11. Letters and Numbers

Pre-test (Level 4) : Student B can identify 8 words and count up to 10. He can do
simple arithmetic involving addition and subtraction.

Post test (Level 5) : He can read more than 25 words and count up to 25. His arithmetic skills involves addition and subtraction with two digit numbers.

12. Social Interaction

Pre-test (Level 3) : Student B does not initiate interaction with others. He only reacts when his teacher starts to teach him.

Post test (Level 4) : He approaches others, sits with them while watching television but does not interact with the other children. He interacts with his teacher.

13. Greeting

Pre-test (Level 4) : Student B greets only when greeted by familiar adults. He just looks at the person who greets him for a few seconds and then repeats the greeting.

Post test (Level 5) : He greets teachers by making eye contact or walking towards them to touch them without any prompts.

14. Gestures

Pre-test (Level 3) : Student B uses simple gestures such as nodding and shaking the head to indicate agreement or disagreement.

Post test (Level 4) : He uses simple gestures such as pointing, saying no and pushing away to show dislike.

Student C

General Observation

Student C is an eight year old boy. He lives with his parents and siblings. His father is a labourer and his mother is a housewife. His parents are busy so he goes for tuition at the same centre after school hours three days a week.
Figure 4.2.3: Pre-test and Post test results of the Communication

Skills of Student C

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<td>Gestures</td>
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Pre-test Profile Level: 4

Student C has scored a four in 8 of the skills.

Post test Profile Level: 5

Student C has scored a five in 8 of the skills.

1. Cooperation with Adults

Pre-test (Level 4): He is prepared to do a task if it is short and easy such as motor imitation. He does not like to repeat activities but is comparatively easy to get to work.

Post test (Level 5): He has become more compliant although he becomes angry if tasks take a long time. He can work for at least 15-20 minutes without disruptive behaviour.

2. Requests

Pre-test (Level 4): Student C is able to make requests by saying 4 words which are ‘toilet’, when he wants to ease himself, ‘toy’ when he wants to play, ‘eat’ when he wants food, ‘colour’ when he wants to colour.
Post test (Level 5): He uses more than 10 words to make requests and if the listener or teacher does not understand him, he points to a picture to show what he wants.

3. Motor Imitation

Pre-test (Level 4): Student C is able to imitate several fine and gross motor movements on request only. He does not imitate spontaneously. He waits for prompts before imitating the action.

Post test (Level 5): His motor imitation is very good. He imitates spontaneously and on requests. New actions are imitated correctly on first trial without prompts.

4. Vocal Play

Pre-test (Level 2): Makes a few speech sounds but is generally quiet. He makes these sounds when his classmates take his toys.

Post test (Level 3): He babbles many speech sounds with varied intonation while engaged in activities. Some of the sounds are very close to words such as 'papa' and 'ma'.

5. Vocal Imitation

Pre-test (Level 3): Student C can repeat words after much prompting. However, he often lengthens the vowel sounds in words.

Post test (Level 3): He can repeat the words he hears either from his teacher or the television. Some of these words are repeated in the form of delayed echolalia.

6. Matching to Sample

Pre-test (Level 4): Student C is able to match more than 10 objects according to colours and shapes. The task is performed with least amount of
resistance. He can sit for 15-20 minutes doing this task.

Post test (Level 5): He is able to match most of the objects found in the classroom, bathroom and kitchen.

7. Receptive

Pre-test (Level 4): He can follow many instructions and point to at least 25 items. He can discriminate between a variety of objects, pictures and people.

Post test (Level 5): He can point to at least 90 items, actions and persons. His responses are quick and does not need prompting.

8. Labelling

Pre-test (Level 2): Student C can label 4 food items, such as ‘rice’, ‘water’, ‘bread’ and ‘chicken’.

Post test (Level 3): He can now label almost 10 objects, actions and people. His responses are slow but without much errors or prompts.

9. Receptive by Functions, Features and Class

Pre-test (Level 3): Student C is able to identify 8 items which are described by their functions. However, he is unable to identify the correct object from a wide selection. For instance, if there are two types of food, and teacher says, “Touch the one you eat”, he only touches one.

Post test (Level 3): He is able to identify 10 items when 1 or 2 functions and features are given. But he is still unable to select the correct item from a large number of things.

10. Conversational Skills

Pre-test (Level 3): Student C is able to fill-in missing words and sounds of animals like ‘meow meow’ in parts of songs with prompts. He is also able to answer 3 questions pertaining to name, age and family.

Post test (Level 3): He is able to fill-in missing sounds and words without prompts and
answers 4 questions pertaining to name, age and family.

11. Letters and Numbers

Pre-test (Level 4) : Student B can read 8 words and identify 8 numbers.
Post test (Level 5) : He can read about 25 words and count up to twenty. He can also do simple arithmetic involving addition and subtraction.

12. Social Interaction

Pre-test (Level 3) : Student C asks the teacher for reinforcers. He likes to be with his classmates but does not interact with them.
Post test (Level 3) : He is slowly interacting with his peers by touching, pulling toys and grabbing food.

13. Greeting

Pre-test (Level 4) : Student C greets the teachers when he comes to school. He also greets his peers during the morning activity called ‘The Morning Cycle’.
Post test (Level 5) : He greets familiar adults and his classmates without any prompts.

14. Gestures

Pre-test (Level 4) : Student C is able to use simple gestures when interacting with his teachers. He nods and shakes his head and does other gestures with his hands.
Post test (Level 5) : He is able to use at least 5 gestures such as nod and shake his head, wave and point to interact with his teachers and peer groups. He likes to shake hands with strangers.

Student D

General Observation

Student D is an eight year old boy. Being the eldest of two children, he has to look after his three year old sister. His father is a supervisor while his mother is a clerk.
Although his parents do not spend much time going through his lessons he is able to perform well in all the skills. He is eager to learn.

**Figure 4.2.4: Pre-test and Post test results of the Communication**

**Skills of Student D**

![Bar chart showing communication skills of Student D](chart)

- **Pre-rest Profile Level**: 4
  - Student D has scored a four in 9 of the skills.

- **Post test Profile Level**: 5
  - Student D has scored a five in 9 of the skills.

1. **Cooperation with Adults**

   **Pre-test (Level 4)**: A compliant child but likes to have many short breaks while doing tasks or in between tasks. He gets back to his task without a fuss.

   **Post test (Level 5)**: He showed no disruptive behaviour the whole day. He could do all the tasks given to him as well as clean the rooms after recess.

2. **Requests**

   **Pre-test (Level 4)**: Student D is able to use 8 words but with prompting. He is able to
say the names of food items better than other categories.

Post test (Level 5): He is able to make requests using 14 words such as ‘toilet’, ‘water’. He uses the phrase, “I want…. ” frequently without prompts.

3. Motor Imitation

Pre-test (Level 4): Student D imitates several fine and motor movements on request. He does not imitate without prompting, neither does he imitate without proper training.

Post test (Level 5): His ability to imitate fine and gross motor movements of others is good. He easily imitates the movements spontaneously and on requests.

4. Vocal Play

Pre-test (Level 3): Student D babbles many speech sounds with varied intonation. Most of the sounds are comprehensible words such as ‘cikgu’, ‘pukul’.

Post test (Level 4): He babbles frequently with varied intonation and says a few words. Some of the words are ‘book’, ‘baby’, ‘TV’ and ‘ball’.

5. Vocal Imitation

Pre-test (Level 4): Student D’s echoic skills are quite strong. He can repeat any word on request but sometimes he becomes totally silent and puts his head down when strangers are present.

Post test (Level 5): He can repeat any sound that he hears. He likes to sing the theme song of the television programme, ‘Scenario’.

6. Matching to Sample

Pre-test (Level 4): Student D is able to match objects found in the kitchen and bathroom with the appropriate pictures. He enjoys doing this activity.
Post test (Level 5): He is able to match the objects found in the classroom, kitchen and
bathroom according to their colours and shapes.

7. Receptive

Pre-test (Level 4): Student D can follow many instructions and point to at least 20
items. He knows all the body parts and colours. He can select the
stated item from an array of 3 items.

Post test (Level 5): His receptive language skills is stronger. He can discriminate
between 80 objects without prompts. He does not show any
negative behaviour.

8. Labelling

Pre-test (Level 2): Student D can label 5 objects and actions. He is able to identify
items such as toys and food.

Post test (Level 3): He can now identify more than 15 items, actions and places. He
can respond immediately without many errors or prompts.

9. Receptive by Functions, Features and Class

Pre-test (Level 3): Student D can identify 10 items when functions of the items are
stated. He is also able to identify items according to their colours.

Post test (Level 4): He can correctly point to a few specific items. When the items are
described by their function. However, he is unable to identify items
when given general features of the items. For instance, ‘touch the
furniture’, whereas he touches the chair when you say that ‘it has
four legs’.

10. Conversational Skills

Pre-test (Level 3): Student D can fill in a few non-reinforcing phrases and answer
questions regarding his age, parents, house and school.

Post test (Level 3): He can fill in a few non-reinforcing phrases and answer at least 10
questions but he is not quick to answer and sometimes requires prompting.

11. Letters and Numbers

Pre-test (Level 4) : Student D can read 10 words and count up to 10. He does not require prompting. He is also quick in his work.

Post test (Level 5) : He can read more than 25 words and is able to do filling in the blank exercises. He is also able to do arithmetic involving addition and subtraction.

12. Social Interaction

Pre-test (Level 3) : Student D is able to interact with adults. He approaches other students during activities but does not talk to them.

Post test (Level 3) : He regularly initiates verbal interaction with his teachers and calls his peers by name but does not hold conversations with them.

13. Greeting

Pre-test (Level 4) : Student D can greet familiar adults and peers especially during the Morning Cycle activity. He greets strangers when prompted by the teachers. He likes to shake hands and 'salam' (a form of greeting among the Malays).

Post test (Level 5) : He greets familiar adults and peers without any prompts.

14. Gestures

Pre-test (Level 4) : Student D is able to use and understand simple gestures like nodding, shaking and waving.

Post test (Level 5) : He is able to use at least 5 gestures such as waving, nodding, shaking his hand and head when interacting with people. He gets frustrated when some of his classmates do not understand his
gestures.

Student E

General Observations

Student E is an eight year old boy. He has two brothers and one sister. His father is a shopkeeper whereas his mother is a housewife. The only form of instruction he receives is the one he gets in school. His parents do not go through the lessons at home. His siblings do not spend much time with him.

Figure 4.2.5: Pre-test and Post test results of the Communication Skills of Student E

Pre-test Profile Level : 1

He has scored a one in 9 of the skills.

Post test Profile Level : 2

He has scored a two in 10 of the skills

1. Cooperation with Adults

Pre-test(Level 1) : He is not compliant but does not show destructive behaviour. He likes to be left alone.
Post test (Level 1): He has just started to make eye contact and manages to sit still for five to ten minutes but he is still uncooperative.

2. Requests

Pre-test (Level 1): Student E does not ask for reinforcers. If his reinforcer is kept out of his reach, he throws a tantrum after failing to get it. However, he takes it on his own if it is within reach.

Post test (Level 2): He does not use words to ask for what he wants. His usual method of asking is by pulling the adult to the object he needs.

3. Motor Imitation

Pre-test (Level 2): Student E can imitate a few gross motor movements without physical prompting and reinforcers. The teacher had to hold both his hands in hers to make him clap. He stopped as soon as the teacher withdrew her hands.

Post test (Level 3): He can imitate several gross movements like clapping and putting his hand on his head. He requires a fair amount of physical prompting. He is unable to imitate fine motor movements.

4. Vocal Play

Pre-test (Level 1): Student E does not say any words. He remains silent even when other students touch his things.

Post test (Level 2): He makes a few sounds when you try to take something which he is holding.

5. Vocal Imitation

Pre-test (Level 1): Student E does not repeat any sounds.

Post test (Level 2): He repeats a few words after extensive prompting and strong reinforcers. He frequently runs away from the class when asked to
repeat a sound.

6. Matching to Sample

Pre-test (Level 2) : Student E can match only 3 objects to the appropriate pictures. However, he needs substantial amount of prompting and reinforcement to do this task.

Post test (Level 3) : He can match 8 objects to their pictures. He readily matches pictures to their objects, especially if the object is something that he is interested in such as ball and colour pencil.

7. Receptive

Pre-test (Level 1) : Student E can only understand 3 instructions: ‘Wash hands’, ‘Sit’ and ‘Eat’. He can follow these instructions due to contextual cues. He can only identify ‘hand’ and ‘head’. He is unable to distinguish between items when asked to do so.

Post test (Level 2) : He can follow 6 instructions, identify 10 body parts and 2 colours.

8. Labelling

Pre-test (Level 1) : Student E can identify only 2 actions and 2 objects: ‘sit’ and ‘eat’, ‘water’ and ‘pencil’. He gets angry and pushes away the teacher hand when he is forced to work for long periods.

Post test (Level 1) : He can now label a few items including some reinforcing items such as: ball, song, cat and dog. However, he is unable to label objects, people and colours.

9. Receptive by Functions, Features or Class

Pre-test (Level 1) : Student E cannot identify items based on information about them but he can pick out the item when the specific name is stated.

Post test (Level 2°) : He is still unable to identify the items when one function is given but he is able to distinguish items through colour.
10. Conversational Skills

Pre-test (Level 1): Student E cannot fill in missing words of parts of a song.

Post test (Level 2): He can fill in missing animal noises when nursery rhymes are sung.
                   He can fill in one or two words if prompted by saying the initial sounds.

11. Letters and Numbers

Pre-test (Level 2): Student E can identify only 2 numbers and 2 letters. He goes into a tantrum when forced to work for more than five minutes.

Post test (Level 3): He can identify 8 numbers and 8 letters. He has stopped throwing tantrums and is willing to work when reinforced.

12. Social Interaction

Pre-test (Level 2): Student E approaches teachers but not peers. He likes to be far away from his peers.

Post test (Level 3): He asks the teacher for reinforcers if she is holding what he wants.
                   He also likes to touch the teacher’s hands in order to gain attention but does not interact with strangers.

13. Greeting

Pre-test (Level 2): Student E makes eye contact with the person who greets him.
                   Frequently, he returns the greeting with extensive prompting.

Post test (Level 2): He greets his teachers by making eye contact when he sees them.
                   He will also verbally return the greeting without prompting.

14. Gestures

Pre-test (Level 2): Student E can wave at his parents and teachers when prompted.

Post test (Level 2): He is able to wave without prompts. He also waves at strangers when prompted.
Student F

General Observation

Student F is a nine year old boy. He lives with his parents and three siblings. His father and mother are clerk and housewife respectively. According to the teachers he has shown improvement since he joined the centre.

Figure 4.2.6: Pre-test and Post test results of the Communication Skill

Of Student F

Pre-test Profile Level 4

Student F scored a four in 8 of the skills.

Post test Profile Level : 5

Student F scored a five in 8 of the skills.

1. Cooperation with Adults

Pre-test(Level 4) : He is cooperative and works well without disruption. He likes to take short breaks while doing his tasks to observe others.

Post test(Level 5) : He works very well for fifteen to twenty minutes. He does not exhibit negative behaviours. He helps in cleaning the table after recess.
2. Requests

Pre-test(Level 4) : Student F can ask for a number of reinforcers but it is sometimes difficult to understand what he says. When the adult does not understand, he either points to the object or picture if they are available.

Post test(Level 5) : He can easily ask for numerous reinforcers and does so frequently without prompts. Usually he uses sentences like “I want go toilet”, “I want colour”. However, he cannot ask simple ‘Wh’ questions.

3. Motor Imitation

Pre-test(Level 4) : Student F imitates fine and gross movements but on request only. He neither imitates without prompts nor specific training.

Post test(Level 5) : He is able to imitate fine and gross motor movements spontaneously and on request.

4. Vocal Play

Pre-test(Level 3) : Student F engages in babbling while watching television or playing with his toys.

Post test(Level 3) : The sounds that he makes are sometimes recognizable as words, such as ‘papa’, ‘book’, ‘see’, ‘look’.

5. Vocal Imitation

Pre-test(Level 3) : Student F repeats certain sounds that he hears without prompting. He does not engage in disruptive behaviour when asked to imitate.

Post test(Level 4) : He is able to imitate sounds and he enjoys imitating the sounds.

6. Matching to Sample

Pre-test(Level 4) : Student F is able to match 12 objects according to colour and shapes without much resistance.
Post test (Level 5) : He is able to match most of the items found in the kitchen, bathroom and classroom.

7. Receptive

Pre-test (Level 4) : Student F can follow simple instructions and discriminate between a variety of objects. Sometimes he can distinguish between items that are similar such as dog/cat and pen/pencil.

Post test (Level 5) : He can follow instructions and discriminate between 90 objects but has difficulty understanding complex instructions such as: 'Wash and dry your plate'. He also has problems following stories.

8. Labelling

Pre-test (Level 2) : Student F can label 4 objects and 4 colours. He is also able to identify similar items of with different colours.

Post test (Level 3) : He can identify 15 objects, colours, people and places. He can respond quickly without many errors.

9. Receptive by Functions, Features and Class

Pre-test (Level 2) : Student F is able to correctly point a few items given one function of the item. For instance, he is able to identify vegetables and fruits.

Post test (Level 3) : He is able to identify about 10 items given two functions and colours. Sometimes he selects the wrong item if too many items are placed together.

10. Conversational Skills

Pre-test (Level 2) : Student F can provide the sounds of animals in familiar nursery rhymes while watching them on television.

Post test (Level 3) : He can fill in 10 non-reinforcing phrases with a fair amount of prompts. He can also answer a few questions about his name, age
and parents names.

11. Letters and Numbers

Pre-test (Level 4) : Student F can read about 10 words and count up to 10. He can also do very simple addition with some help.

Post test (Level 5) : He can read more than 25 words and identify 25 numbers. He can do simple addition and subtraction.

12. Social Interaction

Pre-test (Level 3) : Student F can verbally interact with his teachers but does not interact with his peers. He likes to watch his classmates play.

Post test (Level 3) : He interacts with his peers when prompted by his teacher. He is hesitant about seeking out his peers to play or talk to them.

13. Greeting

Pre-test (Level 4) : Student F can greet his teachers but has to be prompted to greet his peers.

Post test (Level 5) : Student F can greet familiar adults and peers without prompts but is hesitant with strangers.

14. Gestures

Pre-test (Level 4) : Student F is able to use simple gestures when interacting with his teacher. He can nod and shake his head.

Post test (Level 5) : He is able to nod, shake his head, wave and point when interacting with his teachers and peers.

Student G

General Observation

Student G is a ten year old. He lives with his parents and three siblings. His father is a mechanic and his mother is a housewife. His parents try to go through the lessons with him at home but they complain that he frequently throws tantrums.
Figure 4.2.7: Pre-test and Post test results of the Communication Skills of Student G

Pre-test Profile Level: 3

Student G scored a three in 9 of the skills.

Post test Profile Level: 4

He scored a four in 8 of the skills.

1. Cooperation with Adults

Pre-test (Level 3): Student G is not always cooperative. He will give four or five responses but withdraws if an activity is carried out for more than five minutes. He likes to lie down on the floor at least four or five times a day.

Post test (Level 4): He is usually cooperative with adults and follows instructions but cries if he does not want to do what the teacher is telling him to do. He does his work but if the teacher does not allow him to get up from his chair, he rolls on the floor. His tantrum stops as soon as the teacher puts him back on the chair physically.
2. Requests

Pre-test (Level 3) : Student G is able to request for 4 items and activities using words and pictures. He requests for ‘eat’, ‘ball’, ‘book’, ‘colour’. He says ‘pen’ when prompted. He cries and hits the adult when unable to communicate his needs.

Post test (Level 4) : He asks for some reinforcers. Sometimes prompts are required but usually not. He is very confident when asking for food. Sometimes he tries to hit the adult when he does not get what he wants.

3. Motor Imitation

Pre-test (Level 3) : Student G imitates the motor behaviour of others, but only does so when he is prompted physically. He has difficulty with fine motor movements and often cries when attempts are made to improve his skills.

Post test (Level 4) : He imitates more fine and gross motor movements. He does not need much prompting but imitates on request only.

4. Vocal Play

Pre-test (Level 2) : Student G makes a few speech sounds which usually occur when he is having fun, playing with his toys.

Post test (Level 3) : He says a few speech sounds like ‘a’, ‘ba’ with variation in intonation.

5. Vocal Imitation

Pre-test (Level 3) : Student G echoes several words and phrases, but they are only approximations to the presented model. For instance, he says ‘top’ when the teacher says ‘stop’. He becomes totally silent if asked to repeat many times.
Post test (Level 3): His echoic imitation skills are strong. He can repeat or closely approximate the sound. He enjoys imitating songs.

6. Matching to Sample

Pre-test (Level 3): Student G matches six objects to pictures which are identical to the objects. He cannot match items and pictures which are not identical in colour and shape.

Post test (Level 4): He matches objects to pictures which are not identical in colour, for instance, he matches a picture of a red chair to any chair in the room. He enjoys doing this activity.

7. Receptive

Pre-test (Level 3): Student G is able to touch and pick items when instructed without prompts. He is also able to follow instructions given by his teacher and parents.

Post test (Level 4): He discriminates between 30 items. He is also able to distinguish between items that are similar such as dog/cat and pen/pencil. He also follows simple instructions.

8. Labelling

Pre-test (Level 1): Student G cannot label common objects and people. However, he asks for some things. Only a person who knows him well can easily understand what he is saying.

Post test (Level 2): He now labels 5 highly reinforcing objects. He responds without many errors or prompts.

9. Receptive by Functions, Features and Class

Pre-test (Level 2): Student G is able to identify 8 items when one function or feature is given. He gets confused when too many items are placed in front of him.
Post test (Level 3): He identifies about 13 items when a function or feature is given. He gets confused if one item is given two descriptions.

10. Conversational Skills

Pre-test (Level 2): Student G fills in a few missing words or provide sounds of animals while singing songs.

Post test (Level 3): He fills in 8 non-reinforcing phrases and answers 5 questions pertaining to his daily life activities.

11. Letters and Numbers

Pre-test (Level 3): Student G identifies at least 15 letters and counts up to 10.

Post test (Level 4): He reads three or four letter words like 'cat', 'dog', 'mama' and 'papa'. He also counts up to 20.

12. Social Interaction

Pre-test (Level 2): Student G likes to approach adults but does not interact with them. He usually tries to grab the reinforcers in their hand. He does not interact with his peers.

Post test (Level 3): He likes to be with people. He readily approaches adults to ask for reinforcers. He also approaches his peers but does not interact with them.

13. Greeting

Pre-test (Level 3): Student G greets familiar adults by making eye contact.

Post test (Level 4): He greets familiar adults and peers by making eye contact. He also returns greetings with prompts.

14. Gestures

Pre-test (Level 3): Student G uses simple gestures such as shaking or nodding head to indicate agreement or disagreement.

Post test (Level 4): He uses simple gestures with his head and hands when interacting
with his teacher and peers

Student H

General Observation

Student H is a 10 year old boy. He lives with his parents and three siblings. He is the youngest. His parents and siblings are constantly talking to him so, he is cooperative and willing to learn.

Figure 4.2.8: Pre-test and Post test results of the Communication

Skills of Student H

Pre-test Profile Level : 4

Student H scored a four in 10 of the skills.

Post test Profile Level : 5

He scored a five in 8 of the skills.

1. Cooperation with Adults

Pre-test (Level 3): Student H normally complies with instructions or requests. He gives 4 to 5 responses without any disruptive behaviour. Negative behaviour occurs if he is asked to give up reinforcers or forced to do an activity for more than ten minutes.
Post test (Level 5) : He is cooperative with his teacher. He sits at a table and works on language and other tasks for up to 20 minutes. He rarely engages in disruptive behaviour during this time.

2. Requests

Pre-test (Level 4) : Student H asks for a number of reinforcers using words. Sometimes the teacher prompts him.

Post test (Level 5) : He easily asks for reinforcers but often does so in fragmented phrases and incomplete sentences. He rarely asks questions but does ask questions pertaining to food or play. For instance, he will ask, "What I eat?" or "What I play?" However he does not ask questions to seek information.

3. Motor Imitation

Pretest (Level 4) : Student H imitates fine and gross motor movements on request without much prompting. He finds it difficult to imitate some fine motor skills.

Post test (Level 5) : He imitates fine and gross motor movements easily. He imitates on request and also spontaneously.

4. Vocal Play

Pre-test(Level 4) : Student H babbles frequently with varied intonation and volume. Sometimes he produces sounds which are recognizable as words.

Pro-test(Level 4) : He engages in a substantial amount of vocal play especially while watching television. These sounds are usually identifiable as words.

5. Vocal Imitation

Pretest (Level 4) : Student H has good echoic skills, however he tends to swallow the
final sounds. For instance he says ‘sto’ for stop.

Post test (Level 4): He can easily repeat many words or phrases. He enjoys imitating words and sounds.

6. Matching to Sample

Pre-test (Level 4): Student H matches about 8 objects to pictures without prompting. He is more interested in pictures such as ball, refrigerator, bathtub and bed perhaps because they bring fond memories to him.

Post-test (Level 5): He matches pictures to objects of different colours, shapes and designs without prompts.

7. Receptive

Pre-test (Level 4): Student H follows simple instructions as well as point to at least 30 items but he is unable to distinguish between items that are similar such as dog/cat. He complies with instructions without much prompting or negative behaviour.

Post test (Level 5): He can follow many simple instructions and discriminate between 100 items, actions and persons. His acquisition of new receptive skills is fast and he can respond with minimum prompting.

8. Labelling

Pre-test (Level 3): Student H identifies approximately 10 objects and people. He is unable to identify variations of objects and people. He identifies the items in his natural environment with a fair amount of prompts.

Post test (Level 3): He now identifies 15 objects and people. He responds immediately without much error and without prompts. He has the ability to acquire new words quickly.
9. Receptive by Functions, Features and Class

Pre-test (Level 2): Student H identifies five items when a function of each item is given. He is more confident with food items.

Post test (Level 3): He identifies 10 items when one or two functions of the items are given. Sometimes he identifies the items spontaneously.

10. Conversational Skills

Pre-test (Level 2): Student H fills in a few missing words in sentences and provides the sounds of animals in nursery rhymes that he watches on television.

Post test (Level 3): He fills in 10 non-reinforcing phrases such as ‘You write with a _____’. He also answers questions pertaining to his daily activities.

11. Letters and Numbers

Pre-test (Level 4): Student H reads about 10 simple words such as ‘cat’, ‘dog’ and ‘mother’. He also counts up to 20.

Post test (Level 5): He reads fifteen words. Sometimes he can read two words together such as ‘read book’. He counts up to 50 and does simple arithmetic involving addition and subtraction.

12. Social Interaction

Pre-test (Level 4): Student H interacts with adults but needs to be prompted to interact with peers.

Post test (Level 4): He interacts with his teachers regularly. He seeks out his peers but does not talk to them as much as he talks to his teacher.

13. Greeting

Pre-test (Level 4): Student H greets familiar adults but has to be prompted.

Post test (Level 5): He is able to greet familiar adults without any prompts, but he is
shy with strangers.

14. Gestures

Pre-test (Level 4): Student H makes simple gestures with his head and hands while interacting with his teachers.

Post-test (Level 5): He is able to nod, shake his head, wave and point with his hand when interacting with familiar people.

Student I

General Observation

Student I is an eleven year old boy. His father is a shopkeeper while his mother is a housewife. His siblings are younger than him and his parents are busy with their work.

So he goes through the programme only in school

Figure 4.2.9: Pre-test and Post test results of the Communication Skills of Student I

Pre-test Profile Level: 2

He has scored a two in 14 skills.

Post-test Profile Level: 3

He has scored a three in 10 skills
1. Cooperation with Adults

Pre-test (Level 2): Student I does an easy task quickly if he is shown a reinforcer. He needs a lot of prompting before he complies.

Post test (Level 3): He complies with instructions during short work periods. He gives five or six responses without disruptive behaviour but frequently gets out of his chair to lie on the floor.

2. Requests

Pre-test (Level 2): Student I usually stands by the item that he wants but usually he takes them if they are within reach. His attention goes to other objects which are nearby if he cannot get what he wants.

Post test (Level 3): He is able to ask for 2 objects which are 'colour' and 'ball' but the words sound like 'kalah' and 'bo'. He says 'bu' for book when prompted.

3. Motor Imitation

Pre-test (Level 2): Student I imitates a few gross motor movements modeled by the teacher. He has difficulties with fine motor movements.

Post test (Level 3): He imitates the motor behaviour of others when prompted. He is able to imitate some simple fine motor movements such as thumb tapping.

4. Vocal Play

Pre-test (Level 2): Student I makes a few speech sounds at a very low rate. Usually the sounds are not recognizable as words. The sounds occur when he is excited especially before recess, and while playing in the field.

Post test (Level 2): He makes a lot of speech sounds. The sounds are varied in pitch
and intonation but comprehensible words are rare.

5. Vocal Imitation

Pre-test (Level 2) : Student I occasionally produces a few sounds and approximations to words while watching television. When asked to produce specific sounds, he does not respond.

Post test (Level 3) : He often attempts to imitate a word when he is highly motivated especially when he wants to eat something. He says "ee" for eat. He will quickly attempt to leave a situation in which he is not successful in vocally imitating a word.

6. Matching to Sample

Pre-test (Level 2) : Student I only matches 3 pictures to objects. He cannot match objects and pictures which are not identical. He throws tantrums when forced to repeat.

Post test (Level 3) : He matches 5 pictures to objects. He is interested in objects such as: ball, chair and sink. He does not match pictures to objects which he is not interested in.

7. Receptive

Pre-test (Level 2) : Student I is able to follow 5 instructions related to daily routines such as: 'Wash hand', 'Eat', 'Sit', 'Wear your shoes', 'Put your bag'. He is able to discriminate only 5 body parts.

Post test (Level 3) : He is able to follow instructions to touch and pick items. He also follows a couple of instructions, which are given out of context. For instance, he is able to follow instructions which are not related to the activity that he is doing such as getting a plate from the kitchen while he is playing with a ball in the garden.
8. Labelling

Pre-test (Level 2) : Student 1 identifies 4 objects and actions which have contextual cues. For instance, he recognises the word 'wipe' after recess, because he has to wipe the table.

Post test (Level 2) : He can identify 5 objects and actions. Although responses occur immediately, he makes many mistakes. Moreover, he does not respond to variations in size or colour of the same object.

9. Receptive by Functions, Feature and Class

Pre-test (Level 2) : Student 1 is able to identify a few items when given their class. For example, 'food' and 'colour'.

Post test (Level 2) : He identifies a few items when one function of the item is given. He gets confused when too many objects are placed in front of him.

10. Conversational Skills

Pre-test (Level 2) : Student 1 fills in a few missing words when the teacher says the sentence. For example, when the teacher says: I drink _____', he says: water. He is only familiar with three sentences like this.

Post test (Level 3) : He fills in 10 non-reinforcing phrases, but is able to answer only

11. Numbers

Pre-test (Level 2) : Student 1 only identifies 5 letters and count up to 5.

Post test (Level 3) : He identifies 15 letters and count up to 15.

12. Social Interaction

Pre-test (Level 2) : Student 1 interacts with his teacher. He approaches his teacher when he needs something.

Post test (Level 2) : He asks adults for reinforcers. He only interacts with his peers when prompted by his teacher.
13. Greeting

Pre-test(Level 2) : Student I looks at a person for a short while when the person greets him by calling his name. Sometimes, he returns the greeting.

Post test(Level 3) : He makes eye contact or returns the greeting verbally when greeted by adults and peers.

14. Gestures

Pre-test(Level 2) : Student I waves at his parents and teacher without prompts.

Post test(Level 3) : He is able to do simple gestures like shaking and nodding his head and using his hand to point at something that he wants.

Student J

General Observation

Student J is an eleven year old boy. The oldest in a family of four, he lives with his family. His father is a carpenter while his mother is a housewife. He is usually left alone for most part of the day. He ends up wandering in the house eating whatever food he can lay his hands on.
Pre-test Profile Level : 3

Student J has scored a three in 6 of the skills.

Post test Profile Level : 4

He has scored a four in 5 of the skill

1. Cooperation with Adults

Pre-test(Level 3) : Student J is cooperative and manages to give at least 5 responses without disruptive behaviour. He only turns away from the teacher if the activity takes more than five minutes

Post test(Level 4) : He works without problems for about ten minutes but likes to take breaks frequently. He likes to walk around the room.

2. Requests

Pre-test(Level 3) : He is able to request 3 items and activities using pictures combined with the first sounds if the word. He requests to go to the toilet, and asks for water and ball. He allows the teacher to prompt him to say 'book' and 'pen' but starts muttering angrily and moves
away from the teacher when asked to repeat a few times.

Post test (Level 4): He uses about 8 words, especially food items to request. He has to be prompted to request for other items.

3. Motor Imitation

Pre-test (Level 3): Student J imitates several gross motor movement on request but requires a fair amount of prompts to imitate fine motor movements. He starts muttering when he is corrected too many times. Sometimes he stops trying altogether.

Post test (Level 4): He is able to imitate some fine motor skills with less prompting. Nevertheless, he imitates only on request.

4. Vocal Play

Pre-test (Level 2): Student J makes sounds but it is difficult to determine whether they are speech sounds because he is always muttering.

Post test (Level 3): He babbles a lot of speech sounds but these sounds are heard more as 'muttering'. He makes these sounds when he is angry. His babbling sounds like 'Chinese' words.

5. Vocal Imitation

Pre-test (Level 2): Student J is usually compliant but he does not like to imitate.

Post test (Level 2): He has started to imitate some sounds especially vowel sounds.

6. Matching to Sample

Pre-test (Level 3): Student J matches 6 objects to pictures which are identical. He starts muttering when a new object is introduced.

Post test (Level 4): He matches 8 objects to pictures with different colours and shapes. Sometimes he seems to be enjoying the task.

7. Receptive

Pre-test (Level 3): Student J follows simple instructions to engage in specific
behaviour out of context such as, ‘Put on shoes’, ‘Put up your arms’ during lessons in the classroom. Sometimes he goes into a tantrum when forced to repeat task many times.

Post test (Level 4): He follows instructions without contextual clues. He can 'clap' when instructed to clap.

8. Labelling

Pre-test (Level 1): Student J cannot label common items, people and actions.

Post test (Level 1): He has just started asking for food items. He pushes the item away if the wrong one is given.

9. Receptive by Functions, Features and Class

Pre-test (Level 1): Student J is not able to identify items based on their function and class.

Post test (Level 1): He tries to listen and pick up the object but he is always making errors.

10. Conversational Skills

Pre-test (Level 2): Student J is able to fill in a few missing words in phrases with pictures such as, "in the _____" (he says 'box' when the picture of a box is shown).

Post test (Level 3): He can fill in 5 non-reinforcing phrases such as 'You like to drink ______'. He says 'water'.

11. Letters and Numbers

Pre-test (Level 3): Student J identifies 15 letters and count up to 10. He is also able to read words such as 'dog' and 'mama'.

Post test (Level 4): He identifies all the letters and is able to read simple words. He can count up to 15.
12. Social Interaction

Pre-test (Level 1): Student I does not like adults or his peers. He likes to stand alone in a corner.

Post test (Level 2): He approaches adults but he does not interact with his peers.

13. Greeting

Pre-test (Level 2): Student J I only greets with a substantial amount of prompts.

Post test (Level 2): He makes eye contact when greeted by an adult, usually his teacher. He does not greet his peers at all.

14. Gestures

Pre-test (Level 1): Student J waves when he is physically prompted by his teacher.

Post test (Level 2): He waves at his parents and teachers with intensive prompts.

4.3 ANALYSIS OF THE TEST RESULTS ACCORDING TO THE PROFILE LEVEL

Table 4.3.1: Students Placing According to Profile Level

<table>
<thead>
<tr>
<th>Profile Levels</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test Results</td>
<td>A, E</td>
<td>I</td>
<td>G, J</td>
<td>B, C, D, F, H</td>
<td>-</td>
</tr>
<tr>
<td>Post test Results</td>
<td>-</td>
<td>A, E</td>
<td>I</td>
<td>G, J</td>
<td>B, C, D, F, H</td>
</tr>
</tbody>
</table>

The students were placed in the specific Profile Level based on the results obtained in the tests. For instance, Student A has obtained a score of ‘one’ in twelve of the skills during the pre-test (Figure 4.2.1), so he was placed in Profile Level 1 (Table 4.3.1) whereas Student B has obtained a score of a four in seven of the skills (Figure 4.2.2) so he is placed in Profile Level 4 (Table 4.3.1).

Referring to Table 4.3.1 above, all the students seem to have shown an improvement because they have moved up into the next Profile Level in the post test. Students A and E
who were in Profile Level 1 in the pre-test have moved up to Profile Level 2 in the post test. Student I has moved from Profile Level 2 to Profile Level 3; Students G and J have moved from Profile Level 3 to Profile Level 4 and finally Students B, C, D, F and H have moved from Profile Level 4 to Profile Level 5.

The students have shown an improvement in results between the pre-test which was conducted as they entered the ABA intervention programme at the beginning of the year and the post test which was conducted towards the end of the academic year. Therefore, it can be concluded that the students have improved in most of the communicational skills after undergoing the ABA intervention programme for about a year.

4.4 ANALYSIS OF THE TEST RESULTS ACCORDING TO THE SKILLS

Table 4.4.1: Skill - Cooperation with Adults

<table>
<thead>
<tr>
<th>Students</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
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<tbody>
<tr>
<td>Pre-test</td>
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<td>4</td>
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<tr>
<td>Post test</td>
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<td>5</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>4</td>
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<td>4</td>
</tr>
</tbody>
</table>

All the students except Student E have shown an improvement in this skill. This is an important skill because, if the students do not cooperate or are slow in cooperating with the teachers, they will have problems acquiring the other skills. This is clearly seen in the case of Students A and E (Table 4.4.15). They are not very cooperative with their teacher so their performance in the other skills is also not good, whereas Students B, C, D and F who are cooperative with the teacher (Table 4.4.15) have performed well in most of the other skills. Some children take about 3-4 months to cooperate with their teachers, whereas some like students B, C, D, F and H who have worked with adults at home do so in a month or two. Although all these children have been in the centre for about a year, some of them have not acquired this skill yet. There are various reasons for this.

Student A and E are usually absent from school (Table 3.2.2). This irregular attendance has affected their performance in all the other skills. In addition to this, both of
them are usually left on their own at home. Student A likes to tear papers so his parents supply him with a lot of paper which he tears for hours in a quiet corner of his house. On the other hand, Student E likes to play with his private parts. These two children throw tantrums when the teachers stop them from carrying out these activities. But, towards the end of the year, they managed to be cooperative to a certain extent.

Student I is not cooperative whenever he is not given what he wants. However, his tantrums reduced gradually as the teacher was firm and refused to give in. He was also given a sweet whenever he completed a task.

The other students were usually cooperative and could be trusted to do their work. Students B, C, D and F attend school regularly (Table 3.2.2) and have to perform certain chores at home so they have learnt to be cooperative with adults. Therefore, this skill, like all the other skills is easily acquired if the parents cooperate with the teachers. Students who are used to following instructions at home are more cooperative with the teacher in school.

Table 4.4.2: Skill - Requests

<table>
<thead>
<tr>
<th>Students</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
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</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>3</td>
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<tr>
<td>Post test</td>
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</tbody>
</table>

All the students except Student E have shown an improvement in this skill. Student A is very complacent. He prefers to sit quietly not wanting anything. Student E points to his favourite toy, a train whenever he wants to play with it.

Generally, all the students are able to request for food. They stand near the food and make some noise while pointing to it. Sometimes, the intensity of the sound they make and speed of the continuous pointing increases when they do not get the food quickly.

Students B, C, D, F and H are able to vocalize their requests. Food and toys help
these children acquire this skill because these create a need to communicate.

Table 4.4.3: Skill – Motor Imitation

<table>
<thead>
<tr>
<th>Student</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>3</td>
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<tr>
<td>Post test</td>
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</table>

All the students have shown an improvement in this skill. Students B, C, D, F and H are able to imitate most of the gross motor and fine motor skills such as jumping, waving, knocking and clapping. Sometimes, they carry out these actions without any models.

Student A too has shown some improvement in the skill but he can only imitate gross motor skills. Sometimes, Student A and I need to be prompted physically to carry out this activity.

Besides being taught as lessons in the classroom, some of the movements are taught during outdoor activities such as physical education. Sometimes the teachers play some music while the students imitate the motor movements so students B, C, and D carry out the activities in the form of a dance.

Table 4.4.4: Skill - Vocal Play

<table>
<thead>
<tr>
<th>Student</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
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<td>Pre-test</td>
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</tbody>
</table>

All the students except Student A has shown an improvement in this skill. Student A makes very few noises. He prefers to remain silent, smiling all the time. Students D, F and H are able to speak. When they are not engaged in doing a language or colouring activity, they are constantly repeating what their teacher is saying.

Vocal Play is one of the difficult skills to teach and acquire since these children prefer not to speak. But, there are isolated cases like Student D whom the parents thought to be mute but was able to carry out vocal imitation activities after being at the centre for two
months.

Students E and I have shown an improvement. They utter speech like sounds such as ‘aa’, ‘ba’ when they are playing. Students B, C, G and J tend to become very “vocal” when they are not given what they want.

Table 4.4.5: Skill - Vocal Imitation

<table>
<thead>
<tr>
<th>Student</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>1</td>
<td>3</td>
<td>3</td>
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<tr>
<td>Post test</td>
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<td>4</td>
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<td>4</td>
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</tr>
</tbody>
</table>

Students C, G, H and J have remained in the same level. Their improvement has been very slight. Vocal imitation is also a difficult skill to teach and to acquire. Students B, C, D, F and H who have scored well in the other skills, have not performed well in this skill although some of them have shown an improvement.

Table 4.4.6: Skill – Matching to Sample

<table>
<thead>
<tr>
<th>Students</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
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</thead>
<tbody>
<tr>
<td>Pre-test</td>
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</tr>
</tbody>
</table>

All the students except Student A have improved in this skill. This skill is considerably easier to teach as the students seem to enjoy the matching activities. Students B, C, D, F and H are able to match pictures of objects in the kitchen, bathroom and classroom to the real objects. They are even able to say some of the names of the objects and colour them. Besides this, they are able to return the objects to the appropriate places. Students G and J are also able to do the matching activities even though they are generally weak in other skills.

Students A, E and I are quite slow in this skill because they prefer to play with the pictures and objects. Sometimes they go into tantrums when they are not allowed to play.
Table 4.4.7: Skill - Receptive

<table>
<thead>
<tr>
<th>Student</th>
<th>A</th>
<th>B</th>
<th>C</th>
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<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Post test</td>
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</tr>
</tbody>
</table>

All the students have shown an improvement in this skill. Students B, C, D and F and H have strong receptive skills. They are able to follow instructions. Students A and E have shown little improvement probably due to their uncooperative attitude (Table 4.4.1). Students A and E need more intensive intervention at home in order to improve but their parents are not able to spend more time with them. Students G and I have shown some improvement. Student G began to show improvement since he started attending tuition classes with the teacher from the centre. During the tuition classes he received intensive treatment (Table 3.2.2)

Table 4.4.8: Skill – Labelling

<table>
<thead>
<tr>
<th>Student</th>
<th>A</th>
<th>B</th>
<th>C</th>
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<th>J</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>

All the students excepts Students A, E, I, H and J have shown an improvement. Most of the students can vocalize the names of the objects or pictures shown to them. Due to the fact that they prefer to remain silent, students A, E and J do not perform well in this skill. Although they are able to identify the objects and follow instructions well, they are unable to verbally name common items and actions.

Students B, C, D, F and H are at a great disadvantage even though they are quite good in the other skills (Table 4.4.15) because they are unable to vocalise the words. They are able to imitate some of the words but they do not have the vocal control to independently pronounce the words. Student G has shown slight improvement but students A, E, H, I and J have remained in the same level from the beginning to the end of
the year. Labelling is another skill that needs a lot of reinforcement, which some of these children are not getting at home.

**Table 4.4.9: Skill - Receptive by Function, Feature and Class**

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<tr>
<th>Student</th>
<th>A</th>
<th>B</th>
<th>C</th>
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</tbody>
</table>

Students A, E, I and J have not shown any improvement in this skill. Moreover, Students A and J were unable to perform this skill. Students B,C,D,F,G and H are able to identify some objects because they are fairly good in the receptive (Table 4.4.7) and labelling skills (Table 4.4.8).

The same children who are able to identify the object by name are unable to identify the object based on information about the object. They are unable to process the information and make connection between the object and the function of the object in labeling skills (Table 4.4.8). Student C and I have remained at the same level. They are not familiar with the functions of new objects.

**Table 4.4.10: Skill – Conversational Skills**

<table>
<thead>
<tr>
<th>Student</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
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<th>J</th>
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</tr>
</tbody>
</table>

Students A, C and D have not shown any improvement. Student A is unable to hold a conversation. However, students B,C, D, F,G, H,I and J are able to answer simple questions pertaining to their names, age, and parents. Their answers are usually 'one word utterances' and the questions have to be repeated a few times. Sometimes gestures have to be used to convey meaning.

The students do not initiate conversation but say some words associated with the person when they see the person. For instance, students B,C,D,F, and H say the word
‘cikgu’ whenever they see the researcher coming to the centre.

**Table 4.4.11: Skill - Letters and Numbers**

<table>
<thead>
<tr>
<th>Student</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
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</thead>
<tbody>
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</tbody>
</table>

All the students except Student E have shown improvement perhaps because he does not cooperate with the teacher. Since most of the students have performed well in this skill, it can be said to be one of the easier skills to acquire. Students B, C, D, F and H are able to read the numbers and words even though they are weak in labelling and conversational skills.

**Table 4.4.12: Skill - Social Interaction**

<table>
<thead>
<tr>
<th>Student</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
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<tr>
<td>Post test</td>
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</tr>
</tbody>
</table>

Students B, C, D, F, H and I have not shown any improvement but only Students A, E, I and J have performed poorly in this skill. Students B and H are quite sociable and do attempt to interact or be near adults and their peers. Due to language deficits students A, E, I, G and J do not interact with others, but do not mind sitting together while watching television or during recess.

**Table 4.4.13: Skill – Greeting**

<table>
<thead>
<tr>
<th>Student</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
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<tbody>
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</tbody>
</table>

All the students except Students E and J have shown improvement in this skill. The students are able to return the teacher’s greetings either verbally or by looking at the teacher. Students B, C, D, F and H are able to greet the teacher and peers when prompted. Students A, E, and J remain silent but make eye contact when their names are called.
Table 4.4.14: Skill - Gestures

<table>
<thead>
<tr>
<th>Students</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
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<th>J</th>
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</thead>
<tbody>
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<td>Post test</td>
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</table>

All the students except Student E have shown an improvement. The students use gestures to show dislike or when they do not want to be disturbed. Student J always pushes away the hands of anyone who tries to touch him. He also shakes and points with his hands while muttering under his breath especially if he is not in favour of that particular activity.

Students B, C, D, F, G and H are able to understand simple gestures. They respond appropriately when someone uses the hand gesture to signal to them to come closer. However, these children are neither able to show facial expression nor understand it. But, they know that their teacher is not pleased with them when the teacher raises her voice. All the students listen to their teachers most of the time.

Table 4.4.15 in the next page shows the overall performance of the students in all the skills during the pre-test and the post test. Although all the students have shown a general improvement in their performance (Table 4.4.1.5), they are still weak in some of the skills.
<table>
<thead>
<tr>
<th>Student</th>
<th>Skill</th>
<th>C</th>
<th>R</th>
<th>MI</th>
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<tr>
<td>J</td>
<td>Pre-test</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Post test</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

C — Cooperation with Adults  
R — Request  
MI — Motor Imitation  
VP — Vocal Play  
VI — Vocal Imitation  
MS — Matching to Sample  
R — Receptive  
L — Labelling  
RI — Receptive by functions, features and class  
CS — Conversational Skills   405+  
LN — Letters and Numbers  
SI — Social Interaction  
GR — Greeting  
GE — Gestures

Students B, C, D, F and H who are in Profile Level 5 (Table 4.3.1) after the post test are still weak in skills such as Labelling, Receptive by Functions, Feature and Class, Conversational Skills and Social Interactions. Students A, E, G, I and J have performed poorly in the above skills. Their performance in other skills is not as good as Students B, C, D, F and H. Therefore, it can be concluded that the high achievers and low achievers have not done well in the above skills. It can also be concluded that when the students are weak in Labelling, they are also weak in Conversational Skills and Social Interaction because these skills are interrelated (Table 4.4.15). In order to perform well in these three skills, the students have to speak. Although Students B, D and H engage in vocal play
while performing their task in class, they do not say the necessary words during the Labelling activities. They are able to identify the objects during the Receptive activity (Table 4.4.15) but are unable to label the same objects during the Labelling activity. This shows that they know the name of the object but cannot or do not vocalise the name.

All the students sit next to each other during recess and while watching television. Like normal children, they fight for more space on the sofa, for better view of the television set or to sit next to their teacher. Student B and Student D who like to organise the seating arrangement of the other students do so without uttering a word. They just push or pull the student to the required position. If a particular student is not cooperative, they seek help from the teacher by calling her. These instances show the presence of social interaction but the students do not show conversational skills. They perform certain tasks without uttering any words.

Finally, the result of the high achievers in the Receptive by Functions, Features and Class skill is also not good. Students B, C, D, F and H have scored a 4 and a 5 in the pre-test and post test result for the Receptive skill (Table 4.4.15). This shows that the students are able to identify the objects when the specific name is given. The same students are able to identify the objects when one function, feature or class is given but they are unable to identify the object if a function and class of the object is given simultaneously. Students A and J are unable to make connections between objects and their functions, features and class whereas Students E, G and I are able to identify common objects when the class or function is given.
4.5 ANALYSIS OF INTERVIEWS WITH TEACHERS

Table 4.5.1: Personal Details of Teachers

<table>
<thead>
<tr>
<th>Teachers</th>
<th>Name of Students</th>
<th>Qualification</th>
<th>Duration of Training</th>
<th>College</th>
<th>Refresher Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>C, G</td>
<td>Advanced Certificate in Autism &amp; Severe Communication Disorder</td>
<td>3 years</td>
<td>Christchurch, College of Education New Zealand</td>
<td>No</td>
</tr>
<tr>
<td>II</td>
<td>A, D, F</td>
<td>&quot;</td>
<td>3 years</td>
<td>&quot;</td>
<td>No</td>
</tr>
<tr>
<td>III</td>
<td>H, I, J</td>
<td>&quot;</td>
<td>3 years</td>
<td>&quot;</td>
<td>No</td>
</tr>
<tr>
<td>IV</td>
<td>B, E</td>
<td>Undergoing Training in ABA</td>
<td>--</td>
<td>--</td>
<td>No</td>
</tr>
</tbody>
</table>

Four teachers were involved in carrying out the pre-test and post test. Being the class teachers of the 10 students, they were familiar with them. Three of the teachers have undergone in service training conducted by Christchurch, College of Education, New Zealand at the NASOM Centre. One of them is still undergoing training. Teachers I, II and III have had experience in teaching autistic children before undergoing the training (Table 4.5.1).

Table 4.5.2: Duration of intervention according to teachers opinion

<table>
<thead>
<tr>
<th>Teacher</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 - 6 hours</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 - 9 hours</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12 hours</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>14 - 15 hours</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4.5.3: Change in students communication skills according to teachers

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Student</th>
<th>Communication Skills After the Programme</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No Change</td>
</tr>
<tr>
<td>I</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>G</td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>A</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>H</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I</td>
<td></td>
</tr>
<tr>
<td></td>
<td>J</td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>B</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td></td>
</tr>
</tbody>
</table>

All the four teachers agree that the performance of the students depends on the time spent on intervention programmes. Teachers I, III and IV state that each student should receive at least 11-12 hours of treatment whereas Teacher II states that each student should receive 14-15 hours of treatment (Table 4.5.2). Children who are exposed to the programme at school and at home perform better than students who receive instruction at school only. Students B, C, D, F and G perform better (Table 4.4.15) than the others because they receive extra coaching from parents or tuition teachers (Table 3.2.2). According to the teachers, these students who get extra guidance at home have shown a lot of improvement in the course of the year (Table 4.5.3).

Table 4.5.4: Problems faced by the teachers

<table>
<thead>
<tr>
<th>Teacher Problems</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Students</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Temper Tantrums</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>b. Not Cooperative</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>c. Not toilet trained</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>d. Aggressive</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Centre</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Space</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>b. Lack of teachers/teacher aids</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Parents</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Not cooperative</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>b. Demanding</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

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The four teachers at the centre agree that they can improve the performance of the children if the parents cooperate and work closely with them. For instance, it is easier to toilet train a child if the parents follow at home what the teachers are doing in school. However, some of the parents use pampers because they do not want to spend time monitoring the child’s bowel movements. So, the teachers take a longer time to train the child. Therefore, time which could be spent on training other skills is spent on toilet training. Parents attitude towards the programme and their child’s education is also important. Students B, C, D, F and G perform well (Table 4.4.15) because their parents are supportive and follow the programme at home (Table 4.5.5).

Lack of teachers and teacher aids and space is another major problem faced by the teachers at the centre. The ideal teacher student ratio is 1:1 but, at the centre it is 1:4 or 1:5. Therefore, when a teacher has to take one child to the toilet, the other students are left unattended. If the teacher has an assistant to help her then, this problem would be solved. However, this is not possible due to financial constraints.

**Table 4.5.5: Details about the Students**

<table>
<thead>
<tr>
<th>Students</th>
<th>Question 1</th>
<th>Question 2</th>
<th>Question 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td></td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>H</td>
<td>✔</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>I</td>
<td></td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>J</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Question 1:** Which student’s parents continue the ABA programme at home with the child?

**Question 2:** Have they seen an improvement in their child’s communication skills?

**Question 3:** Which student attends extra classes?
Table 4.5.5 shows that eight of the ten parents have informed the teachers that their child can communicate better after enrolling into the ABA programme. Therefore, their children, Students B, C, D, E, F, G, H and J perform better than Students A and I (Table 4.4.15) whose parents who do not have a positive attitude towards the programme. Moreover, Students B, C, D, F, G, H receive guidance at home or go for tuition (Table 4.5.5) which exposes them to longer hours of treatment. So, they perform better.

The centre is not a suitable place for conducting classes because it is small and congested. There are too many unwanted pieces of furniture belonging to the owner which the teachers cannot get rid off. The rooms are too small to divide them into corners for different activities. The teacher has to sit at the same table as the students so, it is not conducive to teach the students to be independent. Practical activities such as going to the next class, knocking the door to seek permission to enter the room cannot be practised because the classrooms have no doors. The centre is too small to set up mock stations such as ‘shop’ and ‘bus stop’ to give the students simulation activities.

In conclusion, all the teachers agree that the students progress in communication skills depends largely on parents involvement in the individual education plan of the child. The parents should be involved when the teacher plans the Individual Education Plan (IEP) so that they can carry out the activities at home. This will standardise the instructions that the child receives and thus, reinforce the skills. Performance of the child is directly dependent on the hours of treatment. So, parents and teachers have to work together for the child’s success.
### 4.6 ANALYSIS OF THE RESEARCHER’S OBSERVATIONS

**Table 4.6.1: Researcher’s observations**

<table>
<thead>
<tr>
<th>Students</th>
<th>Child’s behaviour</th>
<th>Relationship between teacher and child</th>
<th>Interaction among students in school</th>
<th>Interaction among students outside school</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Quiet. Always smiling. Likes to lie on the table. Indifferent towards peers.</td>
<td>Indifferent towards his teacher.</td>
<td>Does not interact with peers.</td>
<td>Stands wherever he is made to stand while playing.</td>
</tr>
<tr>
<td>B</td>
<td>Makes comments and complains to the teacher. Requests for objects from teacher and parents. Sweeps, wipes table, puts away things.</td>
<td>Friendly with his teacher.</td>
<td>Likes to watch his peers. Talks non stop with his teacher.</td>
<td>Smiles at other children.</td>
</tr>
<tr>
<td>C</td>
<td>Always seeks teachers and parents attention. Asks for food and toys. Able to sweep and arrange things.</td>
<td>Likes to sit next to the teacher.</td>
<td>Likes to watch his peers but gradually started fighting by pulling things.</td>
<td>Ignores children whom he has never met before. Asks food from Adults.</td>
</tr>
<tr>
<td>-----</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>----------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------</td>
</tr>
<tr>
<td>D</td>
<td>Quiet while working. Active during break time. Request for food and toys. Able to sweep, wipe table and put away toys. Able to dress his sister.</td>
<td>Very friendly with his teacher.</td>
<td>Likes to attract peers attention.</td>
<td>Plays with children he has never met before. Asks for toys from other children. Orders food at KFC outlets.</td>
</tr>
<tr>
<td>E</td>
<td>Quiet inside and outside class.</td>
<td>Indifferent towards teacher.</td>
<td>Does not interact with peers</td>
<td>Quiet, does not interact with strangers and peers</td>
</tr>
<tr>
<td>F</td>
<td>Friendly with</td>
<td>Friendly with his</td>
<td>Goes</td>
<td>Likes to play</td>
</tr>
<tr>
<td>G</td>
<td>Quiet during class but slightly noisy outside class.</td>
<td>Quite friendly with his teacher.</td>
<td>Likes to disturb peers by snatching things.</td>
<td>Likes to run away from teachers during activities. Enjoys water activities.</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------------------</td>
<td>--------------------------------</td>
<td>------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>H</td>
<td>Quiet inside and outside class.</td>
<td>Friendly with his teacher.</td>
<td>Smiles and stands near peers.</td>
<td>Likes to play with small children.</td>
</tr>
<tr>
<td>I</td>
<td>Very quiet inside and outside class.</td>
<td>Indifferent toward his teacher.</td>
<td>Does not interact with other students.</td>
<td>Does not mix around with outsiders.</td>
</tr>
<tr>
<td>J</td>
<td>Keeps mumbling. Appears to be angry all the time.</td>
<td>Not friendly with his teacher.</td>
<td>Does not interact with peers.</td>
<td>Remains by Himself.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Does Not interact At all.</td>
</tr>
</tbody>
</table>
DISCUSSION OF FINDINGS

Research Question 1

Which type of skill is easily acquired by the autistic children? What are the factors which influence the acquisition of each skill?

The students were tested on 14 communication skills. The results of the tests show that skills such as Requests, Motor Imitation, Matching to Sample, Receptive, Letter and Numbers, Greeting and Gestures are acquired faster than skills such as Cooperation with Adults, Vocal Play, Vocal Imitation, Labelling, Receptive by Function, Conversational Skills and Social Interaction (Table 4.4.15). Various factors influence the acquisition of these skills.

Students are able to request for objects because there is a need for them to communicate. They want to eat or play. According to Schopler (1980), children with autism are likely to be successful communicators if they can see a reason to communicate. So, most of the students perform well in this skill (Table 4.4.2). Skills such as motor imitation become part of their routine as they keep repeating the actions. Since routines are of high interest to children with autism (Restricted repertoire of activities and interests, Appendix 1), they perform well in this skill. The students are also able to perform well in Matching to Sample, Receptive, Letters and Numbers, Greeting and Gestures because these skills are quite straightforward. The students do not have to process information cognitively to perform these skills. Children with autism are able to memorise certain information which interest them. Moreover, constant repetition during teaching helps them to perform well in these skills.

However, the students have problems in skills such as Cooperating with adults, Conversational Skills and Social Interaction (Table 4.4.15). They do not like to be with people so it is difficult for them to interact with adults to do activities in which they are
not interested. Almost 50 percent of autistic children remain mute and the rest do not
develop comprehensible speech. The inability could be due to a disorder in Form, Content
or Use (Figure 2.3.1, 2.3.2, 2.3.3,2.3.4 and 2.3.5). Usually people who are not used to
these children will not be able to understand what they are saying. According to Perne et
al.,(1989), Autistic children also lack theory of mind, so they are incapable of
understanding other people’s mental states which is crucial for conversation to occur.
Sometimes the students engage in echolalia which is instant or delayed. This deviant form
of speech does not encourage others to hold conversations with the autistic children or
even try to understand them.

Autistic children do not seek company. They prefer to be on their own, engaged
in whatever activity that catches their fancy. Unless, those around them make an attempt
to interact with the children, there is neither social interaction nor conversation. Since the
centre caters to only autistic children, there is minimum social interaction among peers.
Most of the social interaction is between students and the teachers.

As suggested by Ornitz and Ritvo (1968) autistic children are not able to establish
appropriate object relations and reality contact, so they are unable to perform well in
skills such as Receptive by Functions, Features and Class (Table 4.4.9) because they have
to establish relationship between the function of the object and the object cognitively
before they can give the answer. Besides this, autistic children are able to focus their
senses on only one cue at any one time. They are unable to process more than one piece
of information at one time according to Tigerman (1993). So these children are unable to
give the name of an object or action because they have to process more than one cue at a
time. They have to make connections between the feature of the object and the object in
order to give the answer.

Skills such as Vocal Play and Vocal Imitation are difficult to acquire because
children with autism prefer to remain mute (Appendix 1). Labelling is another difficult
skill because they have to vocalise the names of the object. These skills will be more easily acquired if parents cooperate with the teachers and practice at home. Besides the fact that some skills are difficult to acquire, there are other factors which influence the acquisition of the skills.

First, parents attitude towards their autistic child and their cooperation with the teachers. The teachers state that students whose parents believe in the programme and help them at home, perform better than students whose parents have a negative attitude and are not cooperative (Table 4.5.4). For instance, student B, D and F receive extra coaching at home so their performance is much better than students A, I and J. Some parents, who cannot guide their children at home, take them for extra tuition. Therefore, students C, G and H benefit from these tuition classes, conducted by the teachers at the centre.

Second, the age at which they were exposed to the ABA programme also plays a part in acquisition of skills. The earlier they start, the better for them. Students B, C, D and F who started at the age of 8 perform better than Students I and J who started the programme at the age of 11 (Table 3.2.1).

Third, the attendance of the student. A student who attends classes regularly performs better than students who come for a few days a week (Table 3.2.2). The ABA programme is about reinforcement through repetition. So, a particular skill will not be reinforced in a child because there is insufficient repetition as in the cases of Students A and E who do not get help at home.

Research Question 2

Do the children use the skills they have acquired to communicate inside and outside the classroom situation? What are the context in which the children use the skill?
Not all the students are able to communicate outside the classroom. Students B, C, D, F and H show some social interaction skills especially when visitors come to the centre. They shake hands and greet the visitors, they announce their arrival to the teachers. At the centre, they are cooperative with their teachers clean the classroom, sweep the floor, wipe the table after recess, put away the toys or things used during physical education lesson and arrange shoes in the appropriate places (Table 4.6.1). These students were also able to perform these chores at home.

During recess, they are able to request for food from the teachers. They are also able to request to watch certain programmes like Tom and Jerry and Nursery Rhymes or ‘Scenario’. All the 10 students are able to perform the necessary gross motor movements while playing outside with their teachers and peers. Their teachers incorporate the gross and fine motor skills such as threading beads, filling bottles with water and throwing balls into a basket, in the items prepared for sports. The students perform well in activities such as running with the ball, filling a bottle with water and throwing a ball into a basket. Besides this, Students B, C, D, F, H, I and J were able to bring the required item from the kitchen, bathroom or classroom to wherever the teacher was sitting. These students were also able to play ball in a swimming pool with normal children during an outdoor trip to Port Dickson. They were especially attentive to toddlers in the swimming pool.

The children usually use communicative skills when they need something or when they want to play. They also communicate with their teachers when they are not happy with what their classmate is doing. This is obvious when all the students sit down to watch television. The students get angry when another student stands in front of the television. This is in accordance with Schopler (1980) who stated that children with autism can communicate if they see a need to communicate. Student D may not tell the student who is blocking his view to move away but the fact that he makes noise or pushes him away shows that he is communicating his intention.
Research Question 3

What are the problems faced by the students and the teachers while learning/teaching these skills?

The problem faced by the teachers and students are many fold. The main problem being insufficient trained teachers. A teacher has to handle four or five children at the same time. If one child wants to go to the toilet or soils his pants, she has to attend to that child, leaving the others. Therefore a lot of precious time is wasted. Temper tantrums and crying sessions are sometimes contagious. She has to handle three or four children who want to roll on the floor or run away from the class. One or two children even go to the extent of biting the teacher or pulling her hair. Some students come to the centre without being toilet trained at home. Teachers have to spend time keeping track of the student’s bowel movements. But, if these things are not continued at home, the teacher takes months to toilet train a child.

Cooperation from the parents in continuing the programme at home is the biggest problem. As can be seen from the results, Students B, C, D, F and H receive tuition after school hours, therefore they perform better than students A, I and J. Since this is non-governmental organization, the centre depends a lot on the goodwill of the parents to run their activities such as camps and sports. Since parents play an important role in the running of the centre, some parents tend to dictate terms especially where teaching is concerned. This poses another problem.

Parents choose the medium of instruction to be used with the child. So, in a class of 4, the teacher might have to use Malay with two and English with the other two children. It would be much easier for the teacher if the medium of instruction was one language. Besides the medium of instruction, the teacher also has to handle children of
various degree of autism, from mild to moderate to severe. Therefore, the teacher is not always able to spend quality time with each of the student. Those who can be taught for longer periods of time per session do not get the teacher's attention because she has to keep an eye on the other children. Since the group is made up of children with different levels of autism, the teacher is not able to conduct group activities with them.

The teachers state that the centre, being a house is not a conducive place to conduct lessons (Table 4.5.4). The classrooms that teachers II and III use do not have doors. Therefore, practical communication lessons such as knocking the door before entering cannot be carried out. There is no place to set up mock supermarkets or other service stations to get the students to role play.

Lack of trained teachers and teacher aids is another problem. When one student in a group of four is doing the one-to-one session with the teacher, the other three are left to their own devices such as colouring or playing with toys. The presence of a teacher aid could help reinforce certain skills that the students have learnt.

The students too have problems learning the skills. Students I and J enrolled into the intervention programme at the age of 11. Until then, they were at home doing nothing. They could not cooperate with the teachers because they were taken out from their usual routine and put in a class where they had to sit continuously for 15-20 minutes. Besides this, Students E, I and J who are used to eating at all times had to wait for recess before they could eat at the centre. So, they frequently run out of the class and into the kitchen looking for food. The temper tantrums and crying sessions most probably convey that the student is experiencing some problem at the centre but the teachers are unable to interpret these problems.

Research Question 4

*How can teaching strategies be modified in order to enhance the acquisition of*
Despite these problems, the teachers have been able to teach and improve the communication skills of the children at the centre. However, there are various strategies that can enhance the acquisition of communication skills amongst the autistic children.

First, the teachers should standardize the medium of instruction to either Malay or English and instruct the parents to use the same language while guiding their child at home. It is difficult for a teacher who has four or five children in a class to instruct two in Malay and three in English.

Second, students should be put in classes according to their communication abilities and not their behaviour. This would facilitate teaching and learning process. The teacher would be able to plan group activities where all the students can participate. Group activities promote conversational skills and social interaction. In order to do this, the centre must be associated with a professional like a speech pathologist who could group the children into mild, moderate and severe categories.

Third, parents should be told to send varieties of food such as sandwiches or biscuits for recess which the students can handle on their own. The students are not able to handle food such as rice and curry so, the teacher has to lay out the food for them. This does not allow the student to become independent. Students should be trained to take their food from their bag, eat, clean up their place and go back to their classrooms. Once they are able to handle snacks, they can be taught to handle full meals.

Fourth, a canteen should be set up in the premises to sell tit-bits to the children. The students would be attracted towards it since it involves food. Buying food at the canteen would promote communication skills such as Requesting, Labelling, Conversational Skills and Social Interaction.

Fifth, the centre should be equipped with more up-to-date educational aids which
can be used to teach communication skills. The teachers should be sent for refresher courses so that they know how to use these aids. They should also go regularly for refresher courses so that they can get to know the latest methods of teaching communication skills to children with autism.

Sixth, mildly autistic children should be sent to mainstream kindergarten or primary schools (according to their age) for purposes of exposure. The normal children at the kindergarten or school would be able to help develop their communication skills further. Inclusion into a normal kindergarten or school should be done carefully so that the children with autism will not be frightened. The number of times per week should be increased gradually and the child should always be accompanied by a teacher or a teacher-aid. The support and help given by the teacher or teacher-aid should also be decreased gradually so that the children with autism can become independent. The normal children at the kindergarten or school can also be encouraged to help.

Besides all these strategies, the teachers should also enlist the help of the neighbourhood to provide real life situations in order to promote communication among the autistic children. Children can be taught to go to a shop to buy one or two items. They can be encouraged to go to the neighbour's house to borrow something; order food at the KFC restaurant; take a public bus to go home or to come to the centre. Teacher should strive to provide hands-on experience for the children so that they can be assimilated into society gradually. The above are several strategies to help improve the teaching and learning process.