

CHAPTER 3

METHODOLOGY

3.0 INTRODUCTION

This chapter describes the various stages undertaken in the study. The main purpose of the study is to identify the communicative abilities of children with Down Syndrome.

This chapter presents details of the subjects which consists of children with Down Syndrome, that is a group that has not undergone any form of formal programme before enrolling in the Early Intervention Programme. The method used for collecting the data, the design of the test instrument, the process of data collection and the pilot study of the test will also be described.

3.1 THE RESEARCH DESIGN

Based on the objectives of the study, identifying the communicative disorders of children with Down Syndrome involved adapting the behavioral approach checklist for the sub-skills of communication and analyzing the results to diagnose the children's strengths and weakness.

The checklist used was the Behavioral Language Assessment form (Sundberg, M.L. and Partington, J.W. 1998:15). Then a table of specification showing aspects of the skills tested was drawn up and the test instrument was adopted. A 5 – band profile format for scoring was adapted from the Behavioral Language Assessment. (Sundberg, M.L. and Partington,

J.W. 1998:36) so that the results could be analysed and calculated as the profile. This analysis helped the researcher to identify the strengths and weaknesses of the children in the various skills of communication.

The parents of the six children in the study sample were interviewed after the intervention based on a prepared set of open-ended questions. Their opinions on when and why their children communicated were noted.

The two teachers were also interviewed pertaining to the perception of the children. The observer's perception of the children in the study sample were also recorded.

3.2 SUBJECTS OF RESEARCH

For the purpose of this study, Sekolah Menengah Sagil in Tangkak Johor was chosen. This school has a special class which caters for special children with mental retardation. The special class was started in 1996 with a total enrolment of 20 children with varying degrees of Down Syndrome. As this is a secondary school the age range of the children is between 13- 18 years.

The subjects are 6 children with Down Syndrome who have just been enrolled into this special class. These children have not been exposed to any form of formal teaching and training as they live in the outskirts and thus transporting these children was difficult in the initial stages. They comprise Malay, Chinese and Indian children ranging from 13 to 18 years of age. The children were accepted by the school without any formal medical examination and thus their level of difficulty was unknown.

The above children come from a low to middle income group. The low income group consists of children whose parents are estate labourers. The middle income group consists of children whose parents are teachers, estate staff and soldiers.

3.2.1 SUBJECT VARIABLES

The subjects were selected with the following variables:

The first variable was **age**. Only children between the age of 13 – 18 were selected as the study sample. This age range was chosen because the children who registered at the special class at that time of this study were between this age group.

The second variable was **gender**. The subjects for the study sample were all males. This variable was controlled as the majority of the children in the special class were males.

The third variable was the **hearing status** of the study sample. The hearing status of the study sample was normal. The subjects were tested by teachers through audio sound tests to prove that there was no degree of hearing impairment. This variable was vital as impaired hearing could affect their communication skills.

The fourth variable was the **self –help skills** of the study sample. A study sample with adequate self help ability was selected. This was determined by how the study sample responded to their personal needs.

Subjects who threw tantrums to fulfill their needs were not selected for the study sample. This was to ensure that the sample did not display any inappropriate behavior.

The fifth variable was the **physical ability** of the subjects. Subjects with no physical disabilities were selected. This variable was controlled to exclude any differences in language abilities which might be caused by the children's physical condition.

The sixth variable was the **speech ability** of the subjects. A study sample with limited speech ability were selected. Limited speech ability refers to the ability of the sample to make sounds and use gestures to communicate. This was to reduce the degree of differences in their language abilities.

The seventh variable was the **language ability**. All the subjects selected have some exposure to Bahasa Malaysia. This was to ensure the results of the study were not influenced by differences in language abilities.

Many studies have been done on the speech and language intervention through a multifaceted program of medical therapy, parent involvement and coordination with the educational programme.

The end goal of therapy is for the child to gain communicative competence in order to successfully function in a variety of settings.

This study includes a wide spectrum of communicative skills, including receptive language skills, expressive language skills and social development skills. A descriptive and qualitative approach is adapted in this study.

3.2.2 EARLY INTERVENTION PROGRAMME

The Early Intervention Programme is carried out by the teachers in the special class five days a week from 8 a.m to 12 noon. The class follows the school calendar and the duration of Early Intervention Programme is one school year.

The parents of these special children are allowed to be in the class for the first few days until the children are familiar with the teacher and the physical setting of the classroom.

The children are taught various skills in groups or individually to help them in their overall development. The school has adopted the behavioral approach curriculum advocated by Skinner in Sundberg, M.L. & Partington, J.W.(1998:35)to train the children .Since there are various skills included in the syllabus, various kinds of interaction take place between the teacher and the children.

The interactions include formal, semi-formal and informal interactions.

Through formal interaction, each teacher assists the children to achieve cognitive and communication skills by teaching basic skills such as listening, speaking, reading and writing. The teachers get the children to listen to their instructions, ask for or say their needs, read simple words and even write, developing from letters of the alphabet to words.

The teacher and the children interact informally through play skills such as board games, naming body parts, colours, shapes, sizes, matching and colouring so that the children can acquire the skills systematically, and become more independent and sociable.

The children are also taught daily living skills, teamwork and creativity through semi-formal interaction. The children are taught to do things on their own and also to share. The children are also trained to sing and to do actions.

The formal language used in the classroom is Bahasa Malaysia. This is to prepare the children for formal education.

The children were given an assessment through the researcher's observation at the beginning of the study, a year later.

3.2.3 THE STUDY SAMPLE

The study sample comprises six children with Down Syndrome who were not given any form of formal education prior to attending the class. Four of the children were left at home at the prime age of schooling either because the parents were ignorant of the existence of the class in this school or there were other factors such as distance which made it difficult to bring the child to the school.

The children faced difficulty adapting to the new environment initially but most of them overcame this problem when they were more familiar with the environment and people.

The parents attended the sessions with the children for the first week to allow the children to adapt to the new environment.

A total of ten visits were made to the class regularly to familiarize the researcher with the children. When the children adapted themselves to the environment after about three weeks, the children were observed for their interactive ability using an observation checklist. The checklist was marked individually according to the ability of the children before undergoing the Early Intervention Programme.

These children were then trained under the Early Intervention Programme carried out at the centre. The teachers exposed the children to various skills to help the children develop their ability to communicate.

The children were taught for a school year under the programme before another assessment was carried out to identify their ability after undergoing the programme.

3.3 RESEARCH INSTRUMENT

The main research instruments were observation of the subjects via (i) a set of questions from the Behavioral Language Assessment and (ii) interviews of the parents and teachers.

The questions were adopted from the Behavioral Language Assessment form (Sundberg, M.L. and Partington J.W. 1998:36).

The Behavioral Language Assessment questions are divided into three sections. Section A is Receptive Language which covers 6 skills. Section B is Expressive Language which

covers 5 skills and Section C is Social Development which covers 4 skills. The 15 questions in the test instrument test 15 skills as stated in the Table of Specification. (Table 3.1)

Each skill has a 5 – band profile. Band 1 indicates the lowest level of achievement and Band 5 the highest level of achievement. A score of 5 in a specific area may indicate that the particular skill area may not require as intensive intervention as those skills with a lower score. A detail description of the profile was adapted for the study.

Table 3.1: Table of Specification

SECTION	AREA	SKILLS	QUESTIONS
A	Receptive Skills	1. Motor imitation- involves gross and fine movement. Gross motor movement – jumping, clapping, running. Fine motor movement – pointing at items, facial expressions, mouth movements.	Does the learner copy actions?
		2. Matching –To-Sample – matching and discriminating visual stimuli.	Will the learner match objects, pictures and designs to presented samples?
		3. Receptive- Understanding and responding to words or phrases.	Does the learner understand any words and follow instructions?

Table 3.1, continued.

		4. Letters and numbers – identify A,B,C, and 123.	Does the learner know any letters, numbers or written words?
		5. Receptive by Function, Features, Class- naming objects by understanding functions or features of objects.	Does the learner identify items when given information about those items?
		6. Labelling – vocalizing the names of objects.	Does the learner label or verbally identify any items or actions?
B	Expressive Skills	1. Request –expressing wants/needs.	How does the learner let his needs and wants be known?
		2. Vocal Play-babbling, random mixture of sounds.	Does the learner spontaneously say sounds and words?
		3. Vocal Imitation-repeating sounds and words heard.	Does the learner greet a person upon arrival or departure?
		4. Greeting-acknowledging the existence of others	Does the learner greet a person on arrival and departure?
		5. Gestures-signs or gestures with speech to express oneself better.	Does the learner use gestures to express his needs and wants?

Table 3.1, continued.

C	Social Development	1.Cooperation with adults –reacting and responding to instructions given by adults.	How easy is it to work with the child?
		2.Conversational skills – responding verbally.	Can the learner fill in missing words or answer questions?
		3.Social interaction – interacting with adults	Does the learner initiate and sustain interactions with adults?
		4.Peer interaction- interacting peers.	Does the learner initiate and sustain interaction with other children?

3.4 DATA ANALYSIS

After observation for a few weeks, the performance was tabulated. A cross (X) was used to identify the profile level of the children **before** the intervention programme and a tick (✓) was used to identify the profile level of the children **after** undergoing the intervention programme.

Table 3.2: Sample Profile Band

FFC – Function, Feature , Class.

Skill	Motor imitation	Matching To sample	Receptive	Letters and numbers	Receptive By FFC	Labelling
Student Band	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
A	X √					
B		X √				
C						
D						

A frequency distribution table showing the number of students who obtained each profile was tabulated as in Table 3.3 below.

Table 3.3: Sample Frequency Distribution Table.

Skill	Before Intervention					After intervention				
	1	2	3	4	5	1	2	3	4	5
Motor Imitation										
Matching to sample										

A line graph in chapter 4 will illustrate the distribution of the profile band among the study sample.

To note the performance of the children as a group, a skills analysis was carried out. This was calculated and recorded according to the different profiles. The overall development of each study sample was also noted.

3.5 PROCEDURE

Application for permission to conduct the test in the classroom was made and was obtained from the principal of the school to do this research.

A number of visits were made to the class to enable the researcher to become familiarized with the children and to get to know the parents and teachers.

The first assessment was conducted at the beginning of the school term when the children were first registered in the class. The observation was personally conducted by the researcher.

The second assessment was carried out at the end of the school year to identify the skills learnt by the children and the skills they had difficulties in mastering. All data collected were recorded.

The parents of the students were interviewed to obtain feedback which was necessary to analyse the children's performance.

The teachers were also interviewed to get their opinions on the progress of the children.

3.6 THE PILOT STUDY

A pilot study was conducted for a period of one month prior to the implementation of the research by observing 2 male children with Down Syndrome and interviewing the parents. These children were not involved again in the main study. The children were 13 and 15 years old.

The pilot study was undertaken to assess the suitability of the questions for the interviews and the skills observed in the test instruments. The questions and skills were found to be suitable and they were used in the main study.

This study was carried out to gather information through observation in which skills such as motor imitation, gestures and greetings were used more frequently and the suitable order of skills to be presented.

Through this study, the possible responses and reactions of the study sample were noted.

This pilot study was necessary to make sure that the test was administered in a smooth and efficient manner.

According to the pilot study, it was obvious that the children needed time to be familiar with people apart from their parents. The older children with a substantial amount of self-help skills were able to perform better than one with limited self-help skills.

The 14 year old child was able to carry out the task given comparatively better than the 13 year old child. Therefore he was able to acquire the skill at a faster phase. However after two weeks the children showed some improvement. For example they were able to acknowledge the presence of others through gestures.

The pilot study enabled the researcher to anticipate the possible problems that could arise while handling these children. However no major problems were noted.