THE 3D LANGUAGE ACQUISITION TEST AND THE MENTALLY RETARDED

Reg. No. 8404

Kamalini Pillai

A Dissertation submitted in part fulfilment for the Degree of Master of Science (Speech and Hearing)

UNIVERSITY OF MYSORE

ALL INDIA INSTITUTE OF SPEECH AND HEARING
MYSOFE-570 006

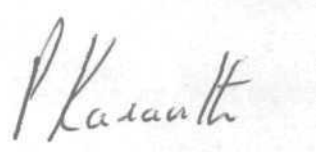
May 1986

DEDICATION

To the parents of all mentally retarded children and to My own parents.

CERTIFICATE

This is to certify that this Dissertation entitled "THE 3D LANGUAGE ACQUISITION TEST AND THE MENTALLY RETARDED" has been prepared under My supervision and guidance.



Dr.PRATIBHA KARANTH
Reader and Head
Department of speech Pathology
All India Institute
of Speech and Hearing
Mysore-570 006 .

DECLARATION

I hereby declare that this dissertation entitled " THE 3D LANGUAGE ACQUISITION TEST AND THE MENTALLY RETARDED" is the result of my own study undertaken under the guidance of Er.Pratibha Karanth, Reader and Head, Department of Speech Pathology, All India Institute of Speech and Hearing, Mysore-6, and has not been submitted earlier at any University fox any other diploma or degree.

Mysore-6 Register No.8404
May 1986.

ACKNOWLEDGEMENTS

To my guide. Dr. PRATIBHA KARANTH, my sincere gratitude for her constant help and encouragement.

My thanks to Dr.NITYA SEBLAN, Director, All India Institute of Speech and Hearing, Mysore, for giving me an opportunity to do this study.

I thank Dr.R. NARASIMHAN, TIFR, Bombay, and Dr.B.VAIDYANATHAN, Assistant Professor in Linguistics, AST School, Bombay for their guidance.

My thanks to the Director, NIMHANS, Bangalore, Dr.H.S.NARAYANAN, Associate Professor of Psychiatry, NIMHANS, Bangalore and the members of his unit for their cooperation in obtaining subjects for my study.

I thank the parents of the retarded children who were patient in answering all my questions.

My thanks to all my friends who helped in numerous ways.

I thank my family for their support and encouragement.

My thanks to Ms.RAJALAKSHMI R. GOPAL and Mr.RAMAKRISHMA, B. for typing my dissertation.

C O N T E N T S

INTRODUCTION

Language is a highly complex phenomenon and much of its processes is still not fully understood. Children in the process of language acquisition go through a variety of stages of development with amazing ease, considering the multifarious nature of language. Several conditions can, however, disrupt this smooth course of development. One of them is mental retardation.

Because of its intricate nature, testing or ascertaining the level of language functioning of a particular child is an involved process. Earlier tests tended to test the language abilities by using a simple vocabulary test. This was soon found to be inadequate and was replaced by other methods. Presently, the impact of linguistics is being felt and the language abilities are tested under phonology, semantics and syntax, and more recently, under pragmatics.

The formulation of the test items are quite complicated as they have to be graded in terms of difficulty and take into account the familiarity of the task. The numerous dialectal variations in India do not simplify matters. Another problem is the varying degree of urbanization of the children which further complicates selection of test items.

The situation becomes even more problematic in the case of the retarded child. For one, the language of the retarded show a wide range - a continum which extends from no language at all at one end, to near normal language at the other. The degree of retardation, the amount of stimulation given to the child, the training he received, will all contribute to his language learning and level of language functioning.

In addition, testing the retarded child is a formidable task as they are often less forthcoming with strangers. Their attention span is reduced, which draws out the whole testing procedure. Test materials are often abstract representations of concrete things and the retarded child has trouble in generalization - the child would probably perform better in a real life situation.

Due to the variety of speech and language disorders that can exist in a retarded child, we need to make a thorough assessment of the child's linguistic abilities. This is a must not only as an indicator of the child's general level of a functioning but also as a guide to the course of the intervention from program. We tend to use the MA of the child as an indicator of his latng. age and use that as a base line for therapy. Usually the child comes to

us with an IQ score which tells us very little of his speech and language status by itself. However, in combination with the language scores the IQ or cognitive score will aid in differential diagnosis and will alert us to the possibility of comcomitant disorders like hearing loss or cerebral palsy.

Though a positive correlation has been established between MA and the language age of a retarded child, the relationship between the two is not clear. For example, does a five year old child with a mental age of three years, behave linguistically like a normal three year old? Is the language merely delayed, or is the whole language acquisition process different in a retarded child?

The 3D Language Acquisition Test (3D LAT) has been designed to overcome some of the difficulties inherent in testing young children including retarded children. The test items have been selected from a corpus of interactions between a child and the examiner over a 27 month period.

The test is in the form of a questionnaire which has to be answered by the parents of the child to be tested, in an interview with the clinician. The information about the child's language behaviour is collected from the parents. This eliminates having to build rapport with the child but at the same time enables one to get information on his communicative behaviour in real-life situations.

The test also provides an idea of the level of language functioning in the child. This gives a useful baseline fog beginning therapy. The 3D LAT will also be useful as a tool to assess progress over time and will indicate the areas of deficit.

Another advantage of this test is that it can be translated into any language as the items are related to the kinds of linguistic structures the child uses. The examples can be modified depending on the background of the child. The 3D LAT can be easily administered and in a short time. Scoring is also simple.

REVIEW

The lack of an adequate theory of mental retardation has resulted in scanty definitions of the problem. For a long time, intelligence was defined as what intelligence tests measure, The psychometric approach emphasized the contents of behaviour rather than the cognitive processes which mediate behaviour. Presently, both intellectual deficiency and social adjustment are used to categorize the retardate. Das (1973) suggests that intelligence should be defined in terms of the competence in the utilization of information for goal attainment.

As long ago as 1836, Esquirol pointed out that the individuals use of language provides the most dependable criterion of his intellectual level and that it is useful in classifying the different degrees of retardation. Current criteria of the mentally retarded are also often linguistic. Present day intelligence tests are heavily loaded with verbal content.

While numerous studies have been conducted and several tests formulated to study language acquisition in the retarded, there are some barriers that prevent us from combining the data to hypothesize a theory of the nature of the language in the mentally retarded population. Mental retardation is a complex, multifaceted disorder with a wide range of aetiological factors and manifestations. It is possible that the

individual's use of language provides the most dependable criterion of his intellectual level and test it is useful in classifying the different degrees of retardation. Current criteria of the mentally retarded are also often linguistic. Present day intelligence tests are heavily loaded with verbal content.

While numerous studies have been conducted and several tests formulated to study language acquisition in the retarded, there are some barriers that prevent us from combining the data to hypothesize a theory of the nature of the language in the mentally retarded population. Mental retardation is a complex, multifaceted disorder with a wide range of aetiological factors and manifestations. It is possible that the basic characteristics of the disorder may change along a continue - what is true for mildly retarded individuals may not be applicable to the moderately retarded. The language of the children hence show a gamut of abilities - ranging from near normal speech and language to no speech at all. So what happens is that investigators restrict themselves to a particular group of mentally retarded and study a few aspects of their language. Thus, it becomes difficult to weld the information into a cohesive theory of language acquisition in mentally retarded children.

In spite of these difficulties however, we do know a good deal. However, any implications we infer must be after a

careful study of the population studied and the aspects of language that were dealt with.

The language disorder is an important aspect of mental retardation. It is often the lack of linguistic development that alerts the parents that something may be wrong with their child. It is this deficiency which worries them most and for which they seek professional help, Hence it becomes imperative that we are able to efficiently assess the child.

Our approach to language assessment must reflect a model of language that takes into account several considerations ranging from the purposes of assessment to one's conceptua-lization of the nature of language.

The purpose of assessment is to provide information concerning a particular still, so that decisions can be made concerning whether or not intervention is called for, and if so, what should be the focus of the intervention. To make these decisions we need a way of making sense of the data, so that the scores obtained, assume meaning. This requires the use of a model of language.

A model of language must include the communicative functions - it must be assessed in its social context.When assessing language, we cannot rely exclusively on structured task

each as imitation paradigms, object manipulation or picture identification. Though this is important, it is equally important to question how a child uses this knowledge in various social contexts. A related concern is how various social contents affect cognitive and communicative demands placed on the child.

Currently, pragmatics is receiving increasing attention for language assessment and remediation. Speech act usage and conversational skills should be considered as well as a child's cognitive and linguistic development. These skills are believed to contribute to communicative competence.

The pragmatics of early language development is of particular interest far several reasons l) Children may have command over a greater number of pragmatic functions at a time when vocabulary and syntax are quite limited (Dore, 1974, Ingram, 1974; Greenfield and Smith, 1976) 2) There is evidence that pragmatic development is an independent dimensions of development; 3) Pragmatic development is often thought to be one aspect of language that is closely related to cognitive development.

Piagetion theory has emphasized the importance of the developing cognitive abilities of the child (Piaget, 1970) In Piagets view language is dependent on and shaped by underlying cognitive structures, and it reflects the thought processes

made possible by those structures at different stages of development. Vygotsky claimed that linguistic growth facilitated cognitive development. The implication for language development in the retarded is that unless the child possesses the cognitive structures attained by children of normal intelligence at the end of the sensori motor period of development, language intervention programs would be of little benefit.

A child's development of language is dependent upon his knowledge of concepts, which in turn is dependent upon his level of cognitive development. As a result, there is a positive correlation between the degree of retardation and the level of language development in the retarded child (Schiefelbusch, 1972). The correlation is found to be higher in the less severely retarded child, with the language deficit becoming greater as the degree of retardation increases (Karlin and Strazzula, 1952).

The language development literature of the past decade has frequently focussed on two series. The first concerns the relationship between cognitive development and language acquisition (more specifically the onset of speech). A number of theorists have suggested that nonlinguistic sensorimotor development, particularly the attainment of Object permanence, is a determining factor in the onset of language (Bloomfield, 1973; Cromer, 1973; Edwards, 1973). The second area frequently discussed has been language comprehension.

Research and theory in this area have examined both comprehension development and the transition from comprehension to production (Benedict, 1979; Huttenlocher, 1974; Ingram, 1975). Despite widespread discussion of the relationship between cognition and language as well as the development of language comprehension, models and research integrating the two issues have yet to be presented. Smolak's (1982) findings suggest that nonlinguistic representation facilitates language acquisition

Many studies have found that a characteristic of mental retardation la that the developmental processes are the same as in normal children, but that they proceed at a slower rate (Karlin and Strazzula, 1952; Lenneberg et. al (1964), Graham and Graham, 1971). On the other hand, Spreen, (1965) reviewed a number of studies which led to the conclusion that retardates evidence small lag in such measures as sentence length, sentence complexity, discrimination of speech sounds and percentage of nouns used, as compared to matched mental age normals.

In considering whether the language in the mentally retarded is delayed or deviant there are some considerations 1) Given the variety of disorder; grouped under the category mentally retarded, it is some-what naive to expect the language development of all these groups to be the same. 2) Most of the research appears to be dons on children older than 6 years of age who reside in institutions.

3) Studies comparing a wide range of language skills in the same group of children are practically nonexistent.

Since all languages are acquired through a aeries of developmental phases, a model of assessment must take account of this factor at two levels - content and process. At the content level, consideration of this factor yields an assessment model that is not based on the assumption that child language is simply a quantitatively and linearly reproduced picture of adult language. There is evidence to show that linguistic rules governing child language are qualitatively different from those governing adult language. Also if the assessment is to have any relevance in the remediation program, than the content of assessment strategies must reflect the developmental sequence inherent in normal acquisition of language.

The second level of a developmental assessment Model relates to assumpti ns concerning process, i.e. how language is learned. This means we should assess not only language structures, but also cognitive abilities. This can be done by comparing how a child's performance in a given area of language conforms to the norms of a given age group. It can also provide information on which linguistic structures the child has mastered. This evaluation is facilitated when items are developmentally sequenoed.

There are several advantages to using the 3D—LAT to assess the language of mentally retarded children.

1. The teat is based on a pragmatic model of language
2. The test items are developmentally sequenced
3. Besides receptive and expressive skills, cognitive abilities are also assessed.
4. The test does not require any active participation on the part of the child (such as object manipulation, or verbal responses). Instead the interview technique is used with the parents. The language is used by the child in real situations is assessed.
5. The test indicates the basal level of the child and thus helps in planning a remediation program.
6. The test is easy to administer and is not time-consuming.
7. The test can be frequently readministered to assess progress without the test introducing any artifacts to the assessment procedure.
8. The test can be used to assess a child speaking any language as it primarily taps how language is used and not specific linguistic structures.
9. The results of the test can be used as a tool in the better understanding of cognition and language.

THE CURRENT STUDY – METHODS

AIM AND SCOPE

In speech and language pathology, mental retardation forma a significant part of the caseload. Hence, there is a need to develop language assessment procedures for these cases, based on which diagnostic and therapeutic decisions may be taken. The test should be such that it provides a standardized means of investigating the linguistic abilities of the child and will later help in assessing the effects of remdiation.

Of late, increasing attention is being paid to the role of pragmatics in language assessment. Speech act usage and conversational skills are indicative of the communicative competence of the child.

The role of cognition in language acquisition is well established. As a child's linguistic development is dependent upon his knowledge of concepts, there is a positive correlation between the degree of retardation and the level of language development in the retarded child (Schiefelbusch, 1972)

Normative data on the 3D-LAT has been obtained for normal children aged nine months to thirty six months. In this study, normative data was drawn on the test for a mentally retarded population with the same mental age range for purposes of comparison.

This teat is easy to administer, does not require any participation on the child's part and is not time consuming. It will assess the child's abilities on three dimensions - verbal expression, verbal reception and cognition.

TEST

The test is in the form of a questionnaire in a developmental sequence and is to be answered by the parents in an interview with the clinician. The test has been standardized for children with normal language development. The test taps the expressive receptive and cognitive skills of the child. The test items are arranged in 3 month age groupings.(Refer Appendix A)

SUBJECTS

The criteria for selection of the children were:

1. The mental age and degree of r tardation of the children were controlled. The mental age of the children corresponded to the 3-month groupings of the test. Moderate degree of retardation (50-80 IQ) was the criterion for selection.
2. They had no obvious emotional disorders
3. Had hearing within normal limits

Mental age measures were determined using a developmental schedule already standardized on an Indian population.

live children for each of the nine age groups were selected. In an interview with the parents of these 45 children information regarding the child's behaviour was

collected to arrive at the language age of the child.

THE ESTABLISHMENT OF NORMS

Standardization implies uniformity of procedure in administering and scoring the test. If the scores Obtained by different individuals are to be comparable, testing conditions must obviously be the same for all.

Another important step in the standardization of a test is the establishment of norms. In this process, the test is administered to a large representative sample of the type of subjects for whom the test has been designed. This group, known as the standardization sample which will serve to establish the norms, has already been defined. However, as this was a time bound study, it was possible to collect data on only 5 children for each age group. This study therefore ia only a preliminary step in the process of standardization of a test. Hence the same test will have to be administered to a larger population.

Scores are interpreted with reference to the norms established for children with normal speech and language development. The norms for the deviant population will thus be empirically established by determining what a representative group of persons actually do on the test.

ADMINISTRATION OF THE TEST

Collection of data was done over a 3 month period in Bangalore and Mysore. If the child met the required criteria, the parents/guardian were informed that some information on the child's language behaviour was required to form a language test for the retarded.

The difference between receptive items and expressive items were clearly explained. Examples, were modified wherever necessary to suit the background of a particular child. No difficulty was experienced by the interviewee in comprehension of what was required of them and they were in general able to give the information with ease.

Other than the test items, the interviewees were asked a few questions on the background of the child about his problems eatriological factors, associated problems etc. besides some demographic information.

The data thus obtained was then subjected to analysis.

ANAIYSIS OF THE DATA

The children were assigned scores on the 3 dimensions. They scored 2 points if they passed an item* i point if they were in the process of acquiring it and 0 if they failed that item. These scores were then tabulated and the means and SDs were obtained.

This was done to examine the relationship between MA and the language score, to see which of the three measures is a better indicator of MA and to draw inferences on the language of the retarded from the data obtained.

RESULTS ANT DISCUSSION

The purpose of this study was to establish some norms for a mentally retarded population on the 3D-LAT. The mental age of the retarded children was matched with respect to the chronological age of the normals (the subjects from whom normative data was drawn) to compare their performance on the test.

The raw data was subjected tc statistical analysis. Means and standard deviations for each group on the three dimensions were computed. Graph I shows the scores obtained on the retarded population in contrast to the scores obtained by the 'normal' population.

Considering that the groups were matched for mental ape, it was expected that the scores would be a close match as the phrase 'mental age of 3 yrs.' conjures an image of 3 child acting like a 3 year old in every aspect including language. However, this is clearly not true as we see a definite discrepancy right through all the age groups.

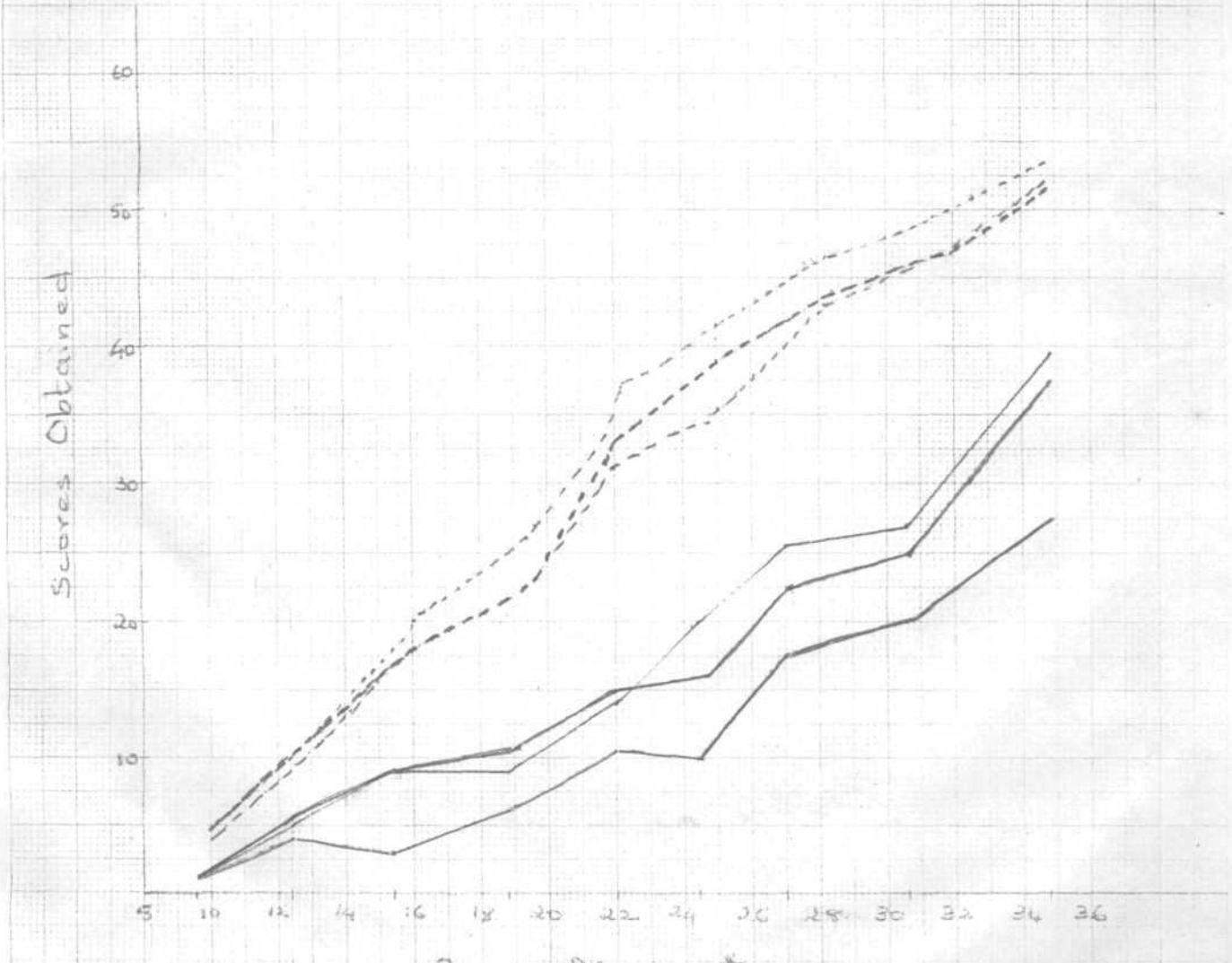
Mental age measures are often accepted by speech and language pathologista to determine the language age of the child. This data, however, shows how wrong this notion is, with reference to the mentally retarded population. This also emphasizes the importance of making a separate language assessment of every child.

Graph 1: Comparison of the Performance of the Retarded Group and the Normals on the three dimensions

Cognition (normals) ------ Cognition (MR) ——

Reception (normals) ------ Reception (MR) ——

Expression (normals) ------ Expression (MR) ——



* Refers to Chronological Age in the case of Normals and the Mental Age in the case of the Retarded Group

It waa felt that this test could also be used to make assumptions or the MA of the child based on the language scores as a speech-language, pathologist often works independent of a psychologist. However, we find there is too much of a discrepancy between the language scores and the MA. It was expected that even if the receptive and expressive scores of the two groups do not match, at least the cognitive scores would match. This was not found as is evident from Graph I. It is probable that the cognitive items in this teat axe highly language dependent and no significant differences was seen between the cognitive scores and the scores on the other two dimensions as shown in Table 1.

With the exception of Group I with an average MA of 9.6 mths. it was seen that the cognitive and receptive scores were higher than the expressive scores. This was seen in the data collected by Geeta Herlekar (1986) on normal children as well as shown in Table 1. (P.T.O)

Table 1: Comparison of the Mean Scores obtained by the Retarded Croup and the Normals.

Dimension	Retarded group			Normal group			
				Average			
Average MA	Reception	Expression	Cognition	Age	Reception	Expression	Cognition
9.6	1.2	1.4	1.4	10	5.1	3.7	5.2
12.4	5.6	3.8	4.6	13.2	12.2	11.3	12.7
15.4	9.2	2.8	9.0	15.8	20.4	17.9	17.7
18.8	9.2	6.0	10.8	19.6	27.4	23.3	23.3
22.0	14.0	.10.4	15.0	22.2	37.4	30.8	33.3
24.4	20.0	10.0	16.0	25.0	41.5	35.6	39.0
27.0	25.6	17.6	22.6	28.2	46.7	43.1	43.5
30.6	27.2	20.0	25.2	31.3	49.1	47.6	47.6
34.8	38.6	27.6	37.6	34.7	53.5	52.0	51.4

Item No.	Retarded group					Normals				
	25%	50%	75%	90%	100%	25%	50%	75%	90%	100%
1	-	10.8	14.8	18.8	24.4	-	-	-	-	10
2	-	12.0	17.8	21.0	24.4	-	-		10	13.1
3	13.8	20.1	26.2	28.8	30.6		10	11.6	13.1	15.8
4	14.6	20.4	33.3	24.0	24.4	11	11.8	12.8	14.0	19.6
5	15.8	19.0	22.0	23.4	24.4	11	11.8	12.8	14.0	19.6
6	11.8	14.2	17.2	20.6	24.4	10.6	11.4	12.6	13.1	15.8
7	13.0	19.0	23.0	24.0	24.4	13.1	14.0	14.8	15.8	19.6
8	18.4	22.2	24.6	26.1	27.0	13.1	14.8	15.6	18.2	22.2
9	13.0	16.5	19.4	21.3	22.0	13.1	14.0	14.4	15.0	15.8
10	23.6	30.5	34.4		-	15.5	17.3	19.4	21.0	22.2
11	22.3	29.0	33.8		-	16.8	18.2	19.6	31.0	22.2
12	24.2	27.6	33.0		-	14.1	15.1	16.3	18.5	22.2
13	24.6	26.6	30.1		-	17.9	19.6	20.6	22.2	25.0
14	22.1	26.1	31.2		-	14.9	16.6	18.6	22.8	28.2
15	24.6	30.6	-		-	15.9	17.6	19.8	24.2	31.3

contd....

...contd.

Item No.	Retarded group					Normals				
	25%	50%	75%	90%	100%	25%	50%	75%	90%	100%
16	26.9	31.2			-	19.0	20.5	21.4	22.2	25.0
17	29.6	33.4			-	21.2	22.4	23.0	26.0	28.2
18	30.4	37.2			-	20.3	20.9	21.7	22.9	25.0
19	31.4	34.0	-		-	21.9	22.9	24.2	26.0	28.2
20	31.7				-	22.8	33.9	24.8	26.0	28.2
21	31.4	34.0	-		-	21.4	24.0	26.8	29.4	34.7
22	92.2	33.7	34.7	-		23.3	26.5	28.8	30.2	31.3
23	31.2	33.0	34.5	-		23.6	26.5	2e.8	30.2	31.3
24	33.5					23.0	26.5	23.8	30.2	31.3
23	-	-		- -	-	30.0	31.5	33.1	34.2	34.8
26	-	-	—	-	-	32.7	33.5	34.4	34.8	35.1
27	-	-	—	-	-	30.0	32.7	34.2	34.8	35.1

Table 3: Comparison of Age in Months of Two Populations when given percent of Population Pass items (Expression)

Item	Retarded Group					Normals				
no	25%	50%	75%	90%	100%	25%	50%	75%	90%	100%
	2		4	S	6	7	8	S	10	11
1	-	15.2	20.8	23.2	24.4	-	-	-	11.2	13.1
2	-	11.1	14.8	17.2	18.8	-	-	11.3	12.4	13.1
3	20.6	23.7	27.5	31.2	34.4	-	10.8	13.1	15.0	19.6
4	15.2	22.1	25.8	28.8	34.8	10.3	10.6	11.8	13.1	15.8
5	19.8	22.7	23.6	24.0	24.7	11.1	12.1	13.7	15.2	19.6
6	13.6	23.5	24.2	28.8	27.0	13.1	12.3	14.6	17.3	19.6
7	18.8	23.7	28.1	29.9	34.8	12.4	14.5	15.3	17.4	19.6
e	17.8	23.2	26.8	28.6	34.8	14.7	14.1	16.3	18.7	22.2
9	24.1	27.6	34.0	-	-	17.3	16.6	18.3	21.2	28.2
10	27.7	33.0	-	-	-	15.5	18.9	21.3	24.8	28.2
11	29.9	33.9	-	-	-	14.3	16.2	17.9	19.8	22.2
12	24.4	28.9	32.0	-	-	19.9	15.5	19.6	21.6	22.2
13	30.0	32.7	-	-	-	19.9	21.5	23.4	25.8	28.2
14	-	-	-	-	-	21.5	22.9	24.8	26.7	28.2
15	33.4	-	-	-	-	18.0	20.4	23.4	25.8	28.2

Contd.....

....contd.

1	2	3	4	5	6	7	a	9	10	11
16	31.3	34.2				23.4	25.6	28.3	31.3	34.7
17	-	-	-	-	-	21.9	23.4	25.2	28.3	31.3
18	30.3	34.8	-	-	-	20.8	22.2	24.2	26.9	31.3
19	-	-	-	-	-	25.0	26.8	28.5	33.2	-
20	-	-	- -		-	23.3	25.5	27.3	30.7	34.7
21	-	-	-	-	-	22.6	24.6	27.0	29.5	34.7
22	-	-	- -		-	26.6	29.0	31.0	33.2	34.7
23	-	-	-	-	-	26.6	28.2	29.8	30.7	31.3
24	-	-	-	-	-	25.0	28.2	31.8	34.7	-
25	-	-	-	-	-	28.5	31.0	32.9	33.9	34.7
26	-	-	-	- -		32.9	34.2	34.7	35.0	35.2
27	-	-	-	-	-	34.7	-	-	-	

Table 4: Comparison of Age in Months of Two Populations when given percent of Populations pass items (cognition)

Item No.	Retarded Group					Normals				
	25%	50%	75%	90%	100%	25%	50%	75%	90%	100%
1	2	3	4	5	6	7	8	9	10	11
1	-	11.5	13.8	14.8	15.4	-	-			10
3	12.9	17.8	22.4	32.5	34.8	.		-	-	10
3	13.0	21.4	27.5	31.4	34.8	-	10.8	13.3	14.8	15.8
4	13.9	18.2	21.5	23.2	24.4	11.0	12.0	13.0	14.2	16.0
5	12.2	20.4	26.2	28.8	-	10.4	11.3	12.1	12.6	13.1
6	13.4	16.2	21.4	23.2	27.0	10.9	11.8	13.1	15.5	19.6
7	11.2	14.4	19.4	21.2	22.0	11.6	13.1	14.9	17.7	22.3
8	13.9	19.8	23.8	25.8	27.0	13.1	i6.1	19.1	20.8	22.3
9	14.0	17.6	21.8	25.7	30.6	11.6	13.0	14.5	15.4	16.0
10	22.5	26.2	31.5	33.6	34.8	16.3	18.0	19.1	20.6	22.3
11	26.8	31.8	-	-	-	16.3	18.0	19.8	22.5	25.0
12	25.6	28.0	33.6	-	-	17.0	18.6	20.5	22.5	21.6
13	29.0	32.0	34.4	-	-	18.9	20.5	21.5	23.8	28.2
14	27.4		-	-	-	18.9	.20.5	21.5	23.8	28.2
15	28.0	32.4				20.2	21.5	22.6	26.0	31.3

contd...

...contd.

1	2	3	4	5	6	7	8	9	10	11
16	31.3	33.9	—	-	-	24.0	25.8	28.2	31.5	34.8
17	31.1	33.0	34.5	-	-	20.8	22.2	24.4	28.2	34.7
18	31.1	33.0	34.5	-	-	22.2	23.8	24.4	26.7	32.0
19	31.3	33.9	-	-	-	20.8	22.6	25.5	23.2	31.3
20	31.1	33.0	34.5	-	-	24.0	26.5	31.4	36.0	-
21	31.3	33.9	-	-	-	21.2	23.0	26.6	29.5	34.7
22	32.0	-	-	-	-	24.5	28.4	30.1	30.9	31.3
23	31.1	33.0	34.5		-	24.5	25.5	29.6	30.6	31.3
24	31.3	33.9	-	-	-	22.6	27.2	30.3	31.0	31.3
25	-		-		-	31.0	33.6	36.0	-	-
26	-	-	-	-	-	30.5	32.4	34.0	34.7	35.4
27	-	-	-	-	-	33.8			-	-

Smoothened curves for each item on each of the 3 dimensions was plotted using the data obtained on the retarded population. Prom these curves, the ages at which 25%, 50%, 75%, 90% and 100% pass were tabulated and compared with similar data on normal children. The data is given in Table 2, 3 and 4 on the 3 dimensions.

While drawing the curves, it was observed that the succee-ding curves for each item did not proceed horizontally as expected. Instead there was a lot of overlap with items occurring in later stages being acquired faster than items in earlier stages. Though some variation was seen in the normal population, the discrepancies were much more in the retarded population. Thus it is possible to infer from this that the acquisition process in the retarded is not merely delayed, but deviant. The way the retarded! child receives, decodes and assimilates language is probably very different from the normal child because of the very nature of his handicap. Hence the process of acquiring language is possibly quite different from that of the normal child.

From Table 2, 3 and 4, it is seen that there la a big gap between the ages at which a certain percentage ofboth the groups acquire a particular item. Several of the later items are not acquired even by 25% of the retarded group especially on the expressive dimension. This further emphasizes the fact that the MA measures of a retarded child are not indicative of the level of his language functioning.

As mentioned earlier, five children were selected in each age group. In spite of the fact that their level of retardation and their mental ages were matched, wide variance was seen in their performance on their test. For example the table below (Table 5) shows the performance of the five children A,B,C,D, and E on the three dimensions. The average mental age of this group was 22 months. This again underlines how unreliable MA is as a predictor of language function. This has important implications not only for assessment, but also for therapy. It shows that a language assessment procedure is a must before any decision about language management can be taken.

	Reception	Expression	Cognition
A	8	4	13
B	20	14	18
C	26	16	22
D	4	2	12
E	12	16	10

Table 5: Performance of 5 subjects of the group with an average MA of 22 months on the 3 dimensions.

language behaviour of the retarded that of its variability, i.$. given 2 children of the same chronological age and the same level of retardation, one child can show quite good language abilities, while the other has little or no language. This is indicative of the influence of factors other than level of retardation and age in determining the language functioning of a child. Probably factors like amount of stimulation, parental attitudes and physical environment play a greater role. Just what these factors are, and their exact influence on the child need to be empirically studied and clarified, as these are factors which can be manipulated and used to positively influence the child's language behaviour.

It was found that the test was easy to administer and score. The interviewees did not experience any real difficulty in understanding what was required of them and responding appropriately.

During the course of this study it was observed that children who were attending schools or were receiving some systematic training were doing better than comparable children who were not receiving any kind of training, also the children of highly motivated parents tended to do better.

The study was intended to provide norms for the 3D-LAT for the retarded population for purpose of comparison with normals as there are no teats of language for young retarded children.

Table 6: Comparison of the SDs of the Mean Scores obtained by the Retarded Group and the Normals

Average MA in months	Retarded Group Reception	Expression	Cognition	Average Age Normal Group in months	Reception	Expression	Cognition
9.6	1.79	1.67	1.67	10	0.99	2.16	1.75
12.4	5.90	2*68	4.85	13.2	2.66	3.06	2.79
15.4	4.76	2.28	4.69	15.8	3.30	3.73	2.00
18.8	4.15	4.69	4.82	19.6	3.53	2.31	2.99
22.0	8.94	6.84	4.90	22.2	4.20	4.98	4.52
24.4	5.83	4.90	4.00	25.0	4.32	7.79	5.33
27.0	0.17	5.18	2.79	28.2	2.31	3.03	2.59
30.6	8.44	9.49	13.9	31.3	1.37	1.26	2.76
34.8	12.84	8.26	12.60	34.7	1.26	1.76	1.43

SUMMARY AND CONCLUSIONS

The 3D-LAT was administered to 45 moderately retarded children, to study their performance on it and to make inferences regarding the language behaviour of retarded children.

The outstanding fact that emerged was that the children performed much below their age level in spite of the fact that they were matched with respect to their mental ages to the normal group. This emphasizes the fact that using MA to predict the language level of the child is an erroneous notion and that independent language assessment is a must.

This study also highlights the great variability of performance on the language test even when chronological ape and mental age are controlled. This indicates that factors other than mental age influence level of language development. These factors need to be emperically studied as these can be artificially manipulated in the clinical and therapeutic situation to aid language growth.

Since there were time constraints on this study, the population studied was necessarily small. The results seen here should be therefore confirmed by studying a much larger population.

BIBLIOCRAHHY

Anaataal, A. (1976): "Psychological Testing? Collier MacMillan International Edn. TV Edn. USA.

Berry, P.(Ed.) (1976): "Language and Communication in the Mentally Handicapped", Edward Arnold, London.

Beveridge, M. (1976) : "Patterns of interactions in the Mentally Handicapped* in Language and Communication in the Mentally Handicapped. Edward Arnold, London.

Bryen, D. (1974):Znauirles into child Language". Allyn and Bacon, Inc. Maaaachusetta.

Chapman and Nation (1981): "Patterns of Language Performance in Educable Mentally Retarded Children" JCD 14, 245-254.

Dale, (19801: "Is early Pragmatic Development Measurable?" J. of Child Lang. 7(1), 1-12.

Divilliers and Devilliete, (1978): "Language Acquisition" Harvard University Press, London.

Ceeta, H. (1936):"3D Language Acquisition Test" Unpublished Master's Dissertation, University of Mysore.

Heilenman, L.K. (1981): "Do Morphenes Mature? The Relationship between Cognitive Maturation and Linguistic Development in Children and Adults,Language Learning, 31(1). 51.

Kaktoe, 0. (1970): "Teaching Educable Mentally Retarded Children", Holt, Rinehart Winston Inc.. USA.

Lado, R. (1961): "Language Testing" Longman Group Ltd., London.

Lee and Ashmore, (l983):"Receptive and Expressive Wh-Question Performance by Language Delayed Children", JCD 16, 99-109.

Menyuk, P. (1980):"Non-linguistic and Linguistic processing in normally developing and language disordered children" in Speech and Language. 1, Bd.Lass, Academic Preas.

Minifie and Lloyd (Eds.)(1976): "Communicative and Cognitive Abilities - Barlv Behavioural Assessment;" University Park Press, Baltimore.

Hitler, P. (1976): "Assessment for Language Learning in Language and Communication in the Mentally Handicapped", Edward Arnold.

Narasimhan, R. (1981): "Modelling Language Behaviour" Springer Service in Language Communication, 10, Springer Verlag, Heiderberg.

Narasimhan, R and Vaidyanathan, R. (1984): "Language Behaviour Interaction between a child and the parents" - An extended corpus.

Rom and Bliss, (1981):" A Comparison of verbal communicative skills of language impaired and normal speaking children" JCD 14, 133-140.

Shiefelbusch and Lloyd, (1974): "Language Perspectives - Acquisition Retardation and Intervention" University Park Press, Maryland.

Smolak, (1982): "Cognitive Precursors ofReceptive Vs Expressive Language" J. ofChild Language, 9, 13-22.

Stevens, M. (1976): " Implications of language research for teacher training" in "Language and Communication in the Mentally Handicapoed", Edward Arnold.

Van Hattum, R.J., (1980): " Communication disorders", MacMillan Publ.Co., Inc., NY.

THE 3D LANGUAGE ACOUISITION TEST

APPENDIX A

RECEPTION	EXPRESSION	COGNITION
Age 9-11 Months		
1. Does the child point to or indicate in some way when an object is named? Eg: Where is the light? Where is Ram?	1. Does he point to and name father and mother some-time?	1. Does he engage in somewhat structured play? Eg: Hide and Seeky throwing/kicking ball accom anied by much vocalization but no verbalization.
2. Does he comprehend simple commands suchh as "say. Bye Bye?"	2. Does he ask for desired things by pointing, stret-ching hand or sometimes accompanied by 'give?'	2. Does he make attempts to sing? (Vocalise tunefully?
3. Does he mime when an action is named? Eg: How does a car go?	3. Does he say "finished" to signify completion of action (eating)?	3. Is he beginning role playing with dolls with vocalization and some verbalization? Eg; Getting it to sleep 'Powders its face".
Age 12-14 Months		
4. Does he point to named body pacts?	4. Does he express need by saying 'give' or naming the object eg. bikki?	4. Is he interested in looking at picture books? Does he pretend to read verbalizing name words, papa, mama, etc.

contd.

5. Does he point to himself when ashed such questions as 'whose shirt is this'?	5. Does he begin naming objects, animals, eatables, etc.?	5. Does he show increased activity in manipulating objects. a) turning on the radio b) picking up a shoulder bag and swinging it on shoulder?
6. Does he follow simple commands that require action or verbalization on his part? eg. Good Bye, Bring (your) shoes, singer-song (child says a-a-a)	6. Does he describe an event by naming the person involved along with some action? Eg.'Daddy' + waving of hand.	6. Does he show better structured dance movements in Flay? Eg. Ring-a-Ring -a-Roses
Age 15-17 Months		
7. Does he respona appropriately to 'where' question? Eg. Where is mama? -taa-taa where is papa? -Office	7. Does he make appropriate animal and vehicle noises when asked?	7. Does he identify familiar voices by naming the individual concerned.
8. Does he underatand"Who and what" questions? Eg. Who/What is this? "hat is in the bottle? Medicine	8. Does he repeat when asked to repeat?	8. Does he see reflection of himself in mirror or aspetalce and utter his name?
9. Does he understand instructions like 'call Mummy', Wash your face. Bring a plate'?	9. Does he signify disappearance with one-two word utterances? eg.Papa goat	9. Is he interested in using a pencil,pen for more sustained scribbling on paper/walls?

contd.

Age 18-20 Months

10. Does he comprehend questions querying action of agents in pictures? (Responds either by naming the action-baby talk form- or more of ten by miming) Eg. What is this man doing? - Bathing (BT form)

10. Does he ask for objects using 'where' Eg. "Where ball?"

10. Is he increasingly moving away from baby talk to more standard forms of vocubulary?

11. Does he comprehend questions concerning habitual behaviour of named agents? Responds with one word answers Eg. What does mummy cook?' chappati

11. Does he use possessor/ possession relation-ship? eg. Mummy chappal

11. Does he remember past events in which he was a participant and respond to queries about details? Eg. Where did we go yesterday?

12. Does he comprehend questions querying states (attributes) of objects? Responds with one word answers Eg. How does this coffee feel? Hot

12. Does he use more kinship terms eg. aunt, uncle, elder sister and proper names.

12. Does he comprehend one/ many distinction? Does he count 1-2-3 as a response to 'How many'?

Age 21-23 Months

13. Does he comprehend grammatically more complex 'who questions? Eg. Who gave the medicine?

13. Does he ask questions regarding names of objects involved in action Eg. What are you reading?

13. Does he remember past event and respond to queries appropriately Eg. Who is in the town? Younger sister.

14. Does he understand questions regarding object manipulation eg. Will you comb Daddy's hair?

14. Does he use future tense to describe events?

14. Does he involve in role switching games as 'mother/ father'? Eg. Plays using toy cooking set; pretends to prepare tea/coffee for others. Pretends driving, going to office etc.

contd...

15. Does he understand when asked to say something? Eg. Did you say 'Thank you?

15. Does he make assertive negative statements? Eg. You must not do that

15. Does he involve himself in more structured and imaginative play? eg. talks over the telephone pretends to hide things.

Age 24-26 Months

16. Does he comprehend questions with case markers and respond appropriately Eg. Whose is this? "Ramya's what happened to vinod? Vinod has pain in the ear.

16. Can he initiate conversative by asking a question, drawing attention to something in a book?

Eg. What is this?
Did you see, he is wearing a cap?

16. Does he use sophisticated tools? Eg. Pasting a paper, making arrow with paper.

17. Does he comprehend 'where' questions and respond using words/suffixes indicating spatial relations?

Eg. Where is he playing?
in the water

17. Does he use past present and future tenses in sentences to describe events?

17. Does he use basic colours (blue, green, red) and numbers upto 3?

18. Does he comprehends 'Now' questions and aspect evaluating its quality? Eg. How was that?
It was nice.

18. Does he use some preparations and adverbs?
Eg. up, down, behind, later afterwords

18. Does he exhibit social knowledge - knowing about holidays for people at home talks about letters, reprimands dolls etc,?.

contd.

Age 27-29 Months

19. Does he comprehend 'how' question and respond giving the cause? Eg. How did you get hurt? I fell likethis.

19. Does he use 'if-then' construction Eg. If the eyes hurt, they will put medicine.

19. Does he involve in pretended role switching activities in an extensive way?

Eg. mends clothes (shirt button) cleans utensils, washes clothes, involves in repair work (hammering etc.)

20. Does he comprehend 'What are you going to do and ~~xxxx~~ answer correctly?" I am going to write

20. Does he express-ability/ inability to do something- also queries this aspect of others?
Eg. Can't you do(action)?
I can't do it.
The baby is not standing

20. Does he join blocks and make configurations like chair, table, house, train?

21. Does he comprehend 'why/what for' questions and respond giving reasons?
Eg. What do you what the pen for? I am going to write.

21. Does he produce a sequence of instructions to get agent
Eg. I am going out
You get up
Put on your chappals

21. Does he imitate the mannerasims of others?
Eg. wears spectacles like teacher

Age 30-32 Months

22. Does he comprehend questions of all types and respond negatively?
Eg. What did you eat?
nothing
Who is there?
no one
Why did you bring this?
I did not bring it.

22. Does he use conversation increasingly to describe fantasized events?
Eg. When I go there I will.....
When I am big----

22. Does he exhibit the concept of reasoning while making statements?
Eg. Won't take bath
Have fever
I am hungry, I want to eat.

contd...

23. Does he comprehend 'how many' question and respond by counting? How many? Two

23. Does he involve himself in conversational epizodes over a longer period and with greater self assurance?

Eg. Child - I want sweets
Mother - When we go to the marker we will buy some
Child - When shall we go?
Mother - In the evening
Child - How shall we go - bus or walk?

23. Does he exhibit the concept of reasoning while asking or responding to questions?
Eg. Why don't you want that? It fell down. It is dirty.

24. Does he comprehend 'why question quering reasoning and give correct answer?
Why is the eye burning?
You applied medicine, did not you?

24. Does he ask 'why' questions asking for reasons?
Eg. Why are you pouring with the pipe why don't you wan't this?

24. Does he talk about people in their absence?

Age 33-36 Months

25. Is he able to comprehend questions on imaginary situations - eg. What will you do if it rains when we go out?

25. Does he demonstrate ability to imitate dramatically others behaviour including speech?

Eg. Imitating mother scolding the child or imitating the teacher in class.

25. Does he exhibit the concepts of job and salary?
Eg. If one goes to work, will give salary.

contd..

26. Can comprehend 2 or 3 sequential instructions?

27. Comprehends descriptive statements about object/ individuals eg. Who stops the buses and cars on the road?

26. Does he make use of complex sentential constructions?

Eg. What shall I do if my top gets spoilt?

27. Does he use time relationship terms such as 'next year?'

26. Does he plan about the future? Eg. Talks about schooling.

27. Does he ask questions about language usage?

Eg. Asks for equivalent meanings in another language that he knows or asks for help in expressing a particular thing.

"How do I say..correctly".

APPENDIX-B

Date of Testing

Name:.....

Age: Date of birth Sex F/M

Father's Name.....

Age: Occupation

Mother's name .....

Age: Occupation

Income: Language:

Problem:

Brief History of Problem:

Hearing Loss MA IQ

RLA: ELA: CLA:

SCORING SHEET

Item No.	Age range *	R	E	C
1.	9-11			
2.				
3.				
4.	12-14			
5.				
6.				

1.	2.	3.	4.	5.	6.
7.	15-17				
8.					
9.					
10.	18-20				
11.					
12.					
13.	21-23				
14.					
15.					
16.	24-26				
17.					
18.					
19.	27-29				
20.					
21.					
22.	30-32				
23.					
24.					
25.	33-35				
26.					
27.					

* in months