

LOGOGRAPHIC READING SKILLS IN CHILDREN

Register No : M 6908

A Dissertation submitted as part fulfilment for

Final year MSc, [Speech and Hearing]

to the University of Mysore.

**ALL INDIA INSTITUTE OF SPEECH AND HEARING
MYSORE - 570 006
MAY-1991**

**DEDICATED TO MY BELOVED
PARENTS**

for what I am

The Exceptional children
who remind me to count
my blessings

CERTIFICATE

*This is to certify that the dissertation entitled **LOGOGRAPEIC READING SKILLS IN CHILDREN** is the honafide work in part fulfilment for the degree of Master of Science (Speech & Hearing), of the student with Register No. M 8908.*

MYSORE

1991




Director

**All India Institute of Speech & Hearing
Mysore - 570 006**

CERTIFICATE

This is to certify that the dissertation entitled
"LOGOGRAPHIC READING SKILLS IN CHILDREN"
has been prepared under my supervision and guidance.

MYSORE
May 1991


DR.PRATHIBHA KARANTH
Guide

DECLARATION

*I hereby declare that this Dissertation entitled **LOGOGRAPHIC READINGSKILLS IN CHILDREN** is the result of my own study, undertaken under the guidance of **Dr PRATHIBHA KARANTH**, Prof. & HOD Speech Pathology, All India Institute of Speech and Hearing, Mysore, and has not been submitted earlier at any University for any other Diploma or Degree.*

MYSORE
MAY 1991

Reg. No. M 8908.

ACKNOWLEDGEMENTS

Gurur Brahm, Gurur Vishnu, Gurudevo Mahesawara:
Gurur Sakshat Para:brahma
Tasmyai Shri Gururve Namaha___

.... To a person who is undoubtedly an embodiment of knowledge and a constant source of inspiration; my guide **DT.PRATHIBHA KARANTH**, Prof, and HDD, Dept of Speech Pathology, AllSH, Mysore.

I'm grateful to Dr(Miss) S.NIKAM, Director, AIISH, Mysore for permitting me to take up this study

As the saying goes "child is the father of man'.being the subjects of this study, the tiny tots have indeed enlightenced me on reading skills. Thank you. Shweetus

This would not have been possible if not for the kind consent of the Principal and teachers of Play House' Mysore Thank you.

My sincere gratitude to a couple beyond compare **Dr PRAKASH**, and **Dr.SHYAMALA**, for their invaluable guidance and time during the entire course of the study

I would have been upstream in a boat without a paddle., if not for Mr **MEWA SINGH**, Reader, Dept of Psychology, Mysore University, who gave meaning to the figures.

My sincere gratitude to you sir, **Dr.N.P NATARAJA**, Prof, and HOD, Dept. of Speech Sciences, for his help when I was in a tight corner.

A big thank you to all my friends in the Girls Hostel who generously lent their collection of magazines for this study.

The nicest way to thank someone
Who gives your heart a song
is to odd a little harmony
and pass the tune along. ___

... Thank you SONU, RAJI, SANJAY, SURESH, SUCHA, NANDU and ASH and all my classmates for being with me during the course of this study

The very presence of a few special people has been a pillar of strength to me beyond their knowledge: My brothers PEKKI, SHEKHAR, KHIROD, BISWAS DA, and SHANKAR. Thanks a million

One would have heard of secret seven - but not of the incredible super eight. Thank you "Eight Busters for being real Boosters".

*Sincere and kindly thoughts
are like flowers fragrant, rare
making of a wilderness a garden
sweet and fair.....*

Thank you is not the word for all that you have done, AKKA, the major task being to put up with me and my absent mindedness... and making order out of chaos.

Last but not the least, my sincere thanks to Mr Ravi for having lent life to the manuscript

TABLE OF CONTENTS

| CHAPTER | PAGE NO. |
|----------------------------|----------|
| I. INTRODUCTION 1-8 | |
| II. REVIEW OF LITERATURE | 9-14 |
| III. METHODOLOGY | 15-17 |
| IV. RESULTS AND DISCUSSION | 18-27 |
| V. SUMMARY AND CONCLUSION | 28 |
| VI. BIBLIOGRAPHY | 29 - 30 |
| VII. APPENDICES | 31 |

LIST OF TABLES

| | PAGE NO. |
|---|----------|
| TABLE - 1 : Scores obtained by the three groups of children | 19 |
| TABLE - 2 : Analysis of variance - Scheffe's test for Format-1 (P+W) | 20 |
| TABLE - 3 : Analysis of variance - Scheffe's test for Format-2 (LW) | 21 |
| TABLE - 4 : Spearman's rand correlation in Format-1 (P+W) | 22 |
| TABLE - 5 : Spearman's rand correlation in Format-2 (LW) | 23 |
| TABLE - 6 : Items which obtained a response in all the four formats in all the three groups | 25 |

INTRODUCTION

Knowledge advances on a ladder of new insights. New insights are merely new ways of looking at old problems. Such flashes of intuition are most likely to occur when human interaction permits one person to see the problems through the eyes of another; thus he becomes aware of aspects of the problem to which he was previously oblivious. So, it has been with the ability to learning to read.

Never before has the ability to read been such a major influence on the individual's affluence. Science has crossed numerous milestones since the times of acquiring knowledge by word of mouth, authority, tenacity and intuition to scientific empirical methods which believe in the printed word. In the race for life and with the concept of survival of the fittest, the acquisition of skill in reading has become imperative. Increase in modern discoveries, inventions and urbanization has made the skill in reading a necessity. This is well evident from the fact that the educational systems extend the transmission and exchange of information mainly through books and hence, the printed word. Therefore, an individual with a deficit in the ability to read is bound to incur heavy loss in terms of education and consequently in terms of a job for his livelihood.

The discovery of deficits in language skills brought about a flourish of scientific activity in delineating the

underlying cognitive processes and their function. Following the 19th century, which evidenced a neuroanatomical approach, there was a gradual shift towards a neuropsychological and cognitive approach. The major focus became in constructing models to account for the language processes. Then, amidst these, little was heard of reading. While researchers were busy probing into nature's largesse, little did they question nature's lack of bounty.

It was only in the 20th century that investigations began to be directed towards language disabilities which, surfaced in the absence of blatant brain insults and psychological instability.

The sphere of reading disability seemed to be narrow due to a search for a single simple explanation and dearth of theoretical assumptions and operational models. In contrast, new theories and recent research developments strongly indicated the language (including reading), cognitive processes and the brain to constitute a highly complex arena.

The recent progress in the understanding of dyslexias and hence reading, has not been just due to collection of empirical data but rather due to the fruitful application of detailed information processing models to reading and reading failure. Thus it called for a conglomeration of explicit theoretical assumptions of both the nature and development of reading skills.

With the advent of a neuropsychological and neuro-cognitive mode of thinking, developmental models of reading have gained acclaim. It has become imperative for any model of reading to consider an array of factors, including maturational processes and their complex interaction with the environmental, social, cultural and educational factors that influence the acquisition of literacy.

The simplest model of developmental change has been one of a steady and gradual improvement over time. This model has had to be rejected as investigations have shown plateaux, sudden improvements, gradual increases and drops in performances (Bower, 1974; Bever, 1981; Dowling and Leong, 1982; Strauss, 1982). This in turn has led to the contention that reading involves a developmental sequence of steps, with new strategies introduced at different points in the sequence (Frith, 1985). Also, that there are connections, however complex, between the earlier and later phases of acquisition of reading.

Among the few satisfactory theories of literacy acquisition, Marsh and his colleagues (1977; 1980, 1981, 1983) have presented a cognitive developmental theory. They have postulated four stages in the development of reading in terms of the four learning strategies with specific predictions for reading unknown words to known words in isolation and in context. They have provided empirical

evidence for the existence of the four stages and their successive emergence over the school years. The stages are:

- a) Rote learning complimented by linguistic guessing (i.e. the child often tries to predict the word from context)
- b) Guesses based on visual letter cues as well as linguistic context.
- c) Sequential decoding in letter by letter and phoneme by phoneme fashion.
- d) Hierarchical decoding followed by-analogy strategy.

Evidence from reading and spelling errors support this model very well, as do observational studies of young readers (Biemiller, 1970; Weber, 1970; Soderbergh, 1971; Francis, 1982).

In Frith's (1985) version of the above theory, the development of reading is divided into three phases identified with three strategies:

- i) Logographic skills - characterized by instant recognition of familiar words.
- ii) Alphabetic skills - refers to knowledge and use of individual phonemes and graphemes and their correspondence.

iii) Orthographic skills - refers to the instant analysis of words into orthographic units without phonological conversion. It is distinguished from the logographic skill by being analytic in a systematic way and non-visual. It is distinguished from alphabetic one by operating in bigger units and by being non-phonological.

The three strategies defined can be readily related to components in current models of skilled reading (Morton and Patterson, 1980; Shallice, Warrington and McCarthy, 1983) eg. word form analysis might be derived from early logographic skills; grapheme to phoneme skills would need to have been constructed out of alphabetic knowledge; word component analysers traced to orthographic skill acquisition.

Frith (1985) found the three phase model to be unsatisfactory, for a number of specific variables (for instance major division of literacy skills into input and output components, word recognition i.e., reading and word production i.e. writing) that are all performance aspects of literacy skills was not considered. Hence she redesigned the model with the hypothesis that normal reading and writing development proceeds out of step (Frith, 1979, 1980). In this model, each phase is divided into two steps with either reading or writing as the pacemaker of the strategy that identifies the phase. The theory states that at each phase, there is a first step involving a divergence between the strategies used for reading and writing, then a step

involving convergence. Developmental progress is envisaged as an alternating shift of balance between reading and writing. Reading is the pacemaker for the logographic and orthographic strategy and writing for alphabetic strategy.

THE 6-STEP MODEL

| Step | Reading | Writing |
|------|---------------|---------------|
| 1a | LOGOGRAPHIC1 | (Symbolic) |
| 1b | Logographic2 | Logographic2 |
| 2a | Logographic3 | ALPHABETIC1 |
| 2b | Alphabetic2 | Alphabetic2 |
| 3a | ORTHOGRAPHIC1 | Alphabetic3 |
| 3b | Orthographic2 | Orthographic2 |

(NOTE: The division into steps allows a differentiation in terms of level of skill in a particular strategy, here symbolized by number subscripts. Thus, Level-1 would imply the skill to be present in a very basic form; Level-2 [more advanced, and so on). Thus it implies that only when logographic skill reaches Level-2 in reading is it ready to be adopted for writing.

Based on ideas proposed by many authors (Marsh, Friedman, Welch and Desberg, (1981); Seymour and McGregor (1984); Frith (1985); Seymour and Elder (1985) a third model was proposed by Harris and Coltheart (1986). They proposed the acquisition of reading skills in children to proceed through four broad phases, viz.

1. Sight vocabulary phase (whole word reading).
2. Discrimination - net phase (word recognition using fragmentary cues).
3. Phonological recoding phase (Reading using phonics procedure).
4. Orthographic phase (phase in which words are spelled rather than the way they sound).

Thus, in sum though the terms used to describe the acquisition of reading are varied, the basic tenet seems to be the same. Although the theories and models are only rough sketches and would need further detailed investigation and elaboration, they do provide a guide for looking at developmental reading disorders. Attempts have been made to accommodate what is known about reading disorders/developmental dyslexia within the available framework.

Of the different phases, the logographic (sight vocabulary) phase probably has been the least investigated. The few instigations carried out so far have been with children learning to read English in Europe and North America. Hardly any work on logographic reading has been done on children learning to read in other parts of the world. It could be possible that a child fails to acquire any sight vocabulary and this could in turn impede further development in the acquisition of reading. An extensive study of this phase is therefore undertaken to determine

whether it is a phase universally demonstrated by all children in the initial stages of learning to read, the age upto which they persist and the nature of logographic skills.

Thus the current study was undertaken to add to the available sketchy framework on logographic reading. The objectives of the study are:

Objective-1: To determine whether preschool aged children demonstrate logographic reading skills.

Objective-2: To determine whether the logographic skills are seen only in one of the age groups considered for the study.

Objective-3: To determine whether the reading skills of children show a developmental trend.

Objective-4: Can some features in words be identified which seem to facilitate logographic reading.

REVIEW OF LITERATURE

Researchers, teachers and parents have frequently affirmed the existence of a sight vocabulary or logographic phase, as a very early stage of reading, a stage which may even be attained by a child before any explicit teaching of reading has begun.

For any child during the developmental stages of learning to read, there emerges an initial phase wherein the child reads a small set of words (sight vocabulary). The ability to read this small group of words may have been acquired through teaching or acquired spontaneously through their own observations of pairings of particular printed words and particular pronunciations. The logographic strategy might be thought of as capitalising on the basic and impressive memory skills that the child brings with him when starting to learn to read. According to Frith (1975), logographic skills refer to the instant recognition of familiar words. Salient graphic features may act as important cues in this process. Letter order is largely ignored and phonological factors are entirely secondary. In other words the child pronounces the word after he or she has recognised it. If the child does not know the word, he or she will refuse to respond. However, the child will often be prepared to guess on the basis of contextual or pragmatic cues.

While discussing the phases in the development of learning to reading, Harris and Coltheart (1986) imply the second phase - the discrimination net phase to be a part of the logographic phase. The characteristic behaviour of the child in this phase is said to be that he makes use of fragmentary cues (eg. initial letter) from each word which is in turn responsible for increases in the number of words which the child can read aloud. The term discrimination net phase is said to be used, for during this phase, the child seems to behave as if the task of reading single words is the task of deciding which of the words in the child's reading vocabulary is the item which has been presented.

Though, very little is known about the logographic phase of reading since it has not been systematically studied, literature does evidence some investigations:

Case studies of children as young as two years of age have found them to have had established sight vocabularies of some hundreds of words (Fowler, 1962).

Soderbergh (1971), reported that her three year old child acquired a sight vocabulary of 120 words within three months. Smith (1971) suggested that this may be an exceptional case, but eventually this sort of achievement may not be uncommon among four and five year olds.

Marsh et al (1981) based on the literature, believe the first letter of a word to be an important cue for word recognition and have suggested this to be one way through which logographic strategy might become viable for quite advanced reading. Considering the analysis of the written word, Frith (1985) has hypothesized that the child selects the graphic features that are salient to him and uses them as critical identifiers.

Informal studies of a four year old child Alice (Harris and Coltheart, 1936) who when studied was in the sight vocabulary phase of reading. She could read:

- about 30 words; some of which she had been taught to read, whilst,
- others had simply been 'picked up' eg. Harrods (which she read from the sides of buses and store's shopping bags)
- unfamiliar and non-words could not be read at all.

The item 'Harrods' and other such items were used to investigate the nature of her whole word reading. The items were presented to her in three conditions:

- i) In the original familiar visual format.
- ii) In a changed visual pattern (to test the hypothesis that the items were being recognised in terms of their overall shape) (eg. hArRoDs).

iii) The item in a changed format along with similar looking words eg. She could read Max, mAx; it was then presented with alternatives; mAx; rAx; mOx;

(This was to determine whether words were being recognised by identifying only some or even just one of their letters).

Alice succeeded in all the three conditions to read the items which suggested she was not using the whole word procedure but all the constituent letters in word recognition.

Based on these, the proposition that the child may be using fragmentary cues to read was investigated by Marsh et al (1981) and Seymour and Elder (1985). Their study demonstrated that when the child was asked to read single words or non-words aloud, the response produced was virtually always a choice from amongst the set of words which they already knew. It would appear that the quantity of information from the printed stimulus that was needed to select an item from the reading vocabulary would be very small. Seymour and Elder (1985) found that the child may simply use word length: one of the children read 'television' as 'children' because according to the child 'children' was a long word; or the child may use single letters - for the children read any letter string containing k (likes, blakl, pjoek) as 'black' or a child read 'smaller' as 'yellow' because it had '2 sticks'.

This seemed to indicate that the children knew which of the spoken words, that are familiar to them are the ones they have been taught to read and which are the ones they have not. This assumption though seemed implausible appeared true from the study by Seymour and Elder (1985) wherein, from the 36 spoken words all within the child's vocabulary, nine had been used in reading instruction in the first term of schooling, 9 in the third term and 18 not at all. The children were remarkably accurate in (90%) deciding whether or not the word had been used in reading instruction.

Thus if in the logographic and discrimination net phase, words are being treated as visual wholes and identified when their overall visual forms are familiar, then zigzag or vertical representation should have catastrophic effects on reading. Hence Seymour and Elder gave their children words to read in the three formats (a) normal (b) zigzag and (c) vertical and found reading accuracy for normal presentation to be 66.3% for zigzag - 60.4% and vertical - 49.7%. Format distortion thus had mirror effects on reading accuracy, supporting the view, that fragmentary features of words were the main basis of word identification and that overall word shape was unimportant.

Though the above studies indicate the existence of a sight vocabulary phase, the question of whether its a phase universally demonstrated by all children and if a child does

not pass through this phase will evidence some form of developmental dyslexia are aspects to be investigated.

However, there are lines of evidence which might be taken as indicating that normal learning to read does not depend crucially upon the logographic phase. Firth (1972) found that whether a child is good or bad at rote-learning, visual to word associations does not influence how rapidly progress has been made in learning to read by the age of eight. This conclusion is evidence against the view that the sight vocabulary phase is one the child must pass through normally if reading acquisition is to proceed at a normal rate. Similar evidence has also been found in the studies of Lynn (1963).

In sum, the evidence for, for or against the importance of logographic reading being very limited, more research into this stage is called for which will in turn consolidate one or the other view.

METHODOLOGY

The purpose of the present study was to determine whether logographic reading skill is evidenced in the developmental process of learning to read in children. The methodology used was as follows:

Subjects:

15 preschool children in three groups each with age range two to three and half years (play group); three and half to four and half years (LKG group); four and half to five and half years (UKG group) respectively of a school in Mysore, were considered for the study. The subjects were reportedly medically fit with no sensory-motor, or any other ailment and they belonged to the (upper) middle socio-economic class. Keeping in view the nature of the test items, subjects with adequate exposure to television were considered.

Materials:

A set of 47 advertisements (which are a regular feature on television) were the test items. (A list of these items is given in the Appendix). The items were presented in four formats:

Format-1: Picture + word (PW) (wherein the original form and features were retained). eg. for the item "LIRIL" the picture clipping of its advertisement was shown.

Format-2: 'Logo' word (LW) (the word in the original printed form). eg. a clipping of the item name "LIRIL" was alone shown from the advertisement.

Format-3: Word in a changed written format (W). eg. the item "LIRIL" was presented in the tester's handwriting.

Format-4: The item in Format-3 along with visually similar looking words/distractors (W with D) eg. the item "LIRIL" in the tester's handwriting was presented with three other alternative words which were visually similar ie Livil, Livid, Liril, Limil.

Test environment and duration:

- i) Quiet room with minimum distraction.
- ii) Each subject was tested individually.
- iii) Duration of test for each subject was 20 minutes.

Test administration:

To begin with, adequate rapport was built and the subject was introduced to the test informally. Then the subject was presented the test items, first in Format-1 and the responses noted.

Each format was tested individually. Also, only those items which obtained a response in the preceding format were included as test items in the following format.

FORMAT 1: PICTURE + WORD (PW)
e.g. LIRIL

New Look! New Perfume!



THE FRESHNESS SOAP

It's the freshest!

New Liril

Streaked through with
the exciting freshness
of limes.

New Liril
with the splashy

New Look
and the lively
New Perfume

to make you

Come Alive
as never before.

Freshness is the feeling of

Lirilfresh

THE EXCITING FRESHNESS OF LIMES

FORMAT 2: 'LOGO' WORD (LW)
e.g LIRIL



FORMAT 3: WORD (W)
e.g LIRIL

liril

FORMAT-4: WORD with DISTRACTOR
(W with D)
e.g: LIRIL

*liril
livid
liril
limil*

Response criteria:

When the subject named the item presented, it was considered as a response.

Based on the data, appropriate statistical analysis followed by a qualitative analysis was done.

RESULTS AND DISCUSSION

The study aims to determine whether children demonstrate logographic reading skills during the initial stages of learning to read. Following the administration of the test, the responses to the stimuli in the four formats were tabulated. The data obtained for the 3 groups in the four formats were subjected to statistical and qualitative analysis.

The maximum number of responses possible by any child in any group is 47. Table-1 indicates the mean response in the three groups in the four formats to be low. The mean responses across Group A, B and C in F1 are 7.8, 10.47; and 17.6 respectively; 2.73; 3.6; and 11.72 in F2. It can be observed that the mean response increases across the three age groups for format 1 and 2 ie. the increase in the two formats seem to run parallel to each other. It can also be seen that format 3 and 4 did not obtain a response by Group A and B. Only the subjects in Group C responded to items in format 3 and 4. The standard deviation values (for the groups in the different formats) are high which implies that the number of responses for the items by the subjects in a group are widely dispersed from the mean.

Furthermore, to determine whether the responses obtained were significant between and within the groups, the raw scores were subjected to analysis of variance. The Scheffe's

The data was compiled as shown in the following table

| GROUP * MEAN AGE | FORMAT - 1 (P+V) | | | | FORMAT - 2 (LW) | | | | FORMAT - 3 (W) | | | | FORMAT - 4 (W WITH D) | | | |
|---------------------|-------------------------------|-----------------------|------------------------|----------------------|-------------------------------|-----------------------|------------------------|----------------------|-------------------------------|-----------------------|------------------------|----------------------|-------------------------------|-----------------------|------------------------|----------------------|
| | MAX. RESP- POSSI- HE | MEAN RES- PONSE | STD. DEVI- ATION | RANGE CF RESP. | MAX. RESP- POSSI- HE | MEAN RES- PONSE | STD. DEVI- ATION | RANGE CF RESP. | MAX. RESP- POSSI- HE | MEAN RES- PONSE | STD. DEVI- ATION | RANGE CF RESP. | MAX. RESP- POSSI- HE | MEAN RES- PONSE | STD. DEVI- ATION | RANGE CF RESP. |
| A (2.8yrs) | 47 | 7.8 | 8.74 | 13 | 47 | 2.73 | 3.84 | 7 | 47 | - | - | - | 47 | - | - | - |
| B (3.9yrs) | 47 | 10.47 | 12.40 | 24 | 47 | 3.40 | 6.44 | 22 | 47 | - | - | - | 47 | - | - | - |
| C (5.1yrs) | 47 | 17.40 | 19.90 | 32 | 47 | 11.70 | 14.04 | 28 | 47 | 1.8 | 4.71 | 17 | 47 | 1.8 | 4.71 | 17 |

test was used for the same purpose, since it would aid in determining whether the difference between the independent (group) means are significant or not. However, since only Group C responded to items in format 3 and 4, responses in these two formats could not be subjected to statistical analysis.

Scheffe's test was first applied for format-1 (P+W) across the three groups, the results of which are tabulated below:

| Format-1: (P+W) | | | | | |
|---------------------|----------------|----|---------|---------|--------------|
| Source of variation | Among means Ss | df | Mean Sq | F-Ratio | Significance |
| Among Means | 770 | 2 | 385.09 | 7.19 | 0.01 |
| Within conditions | 2249.7 | 42 | 53.57 | | |

Table-2: Showing analysis of variance Sheffe's test.

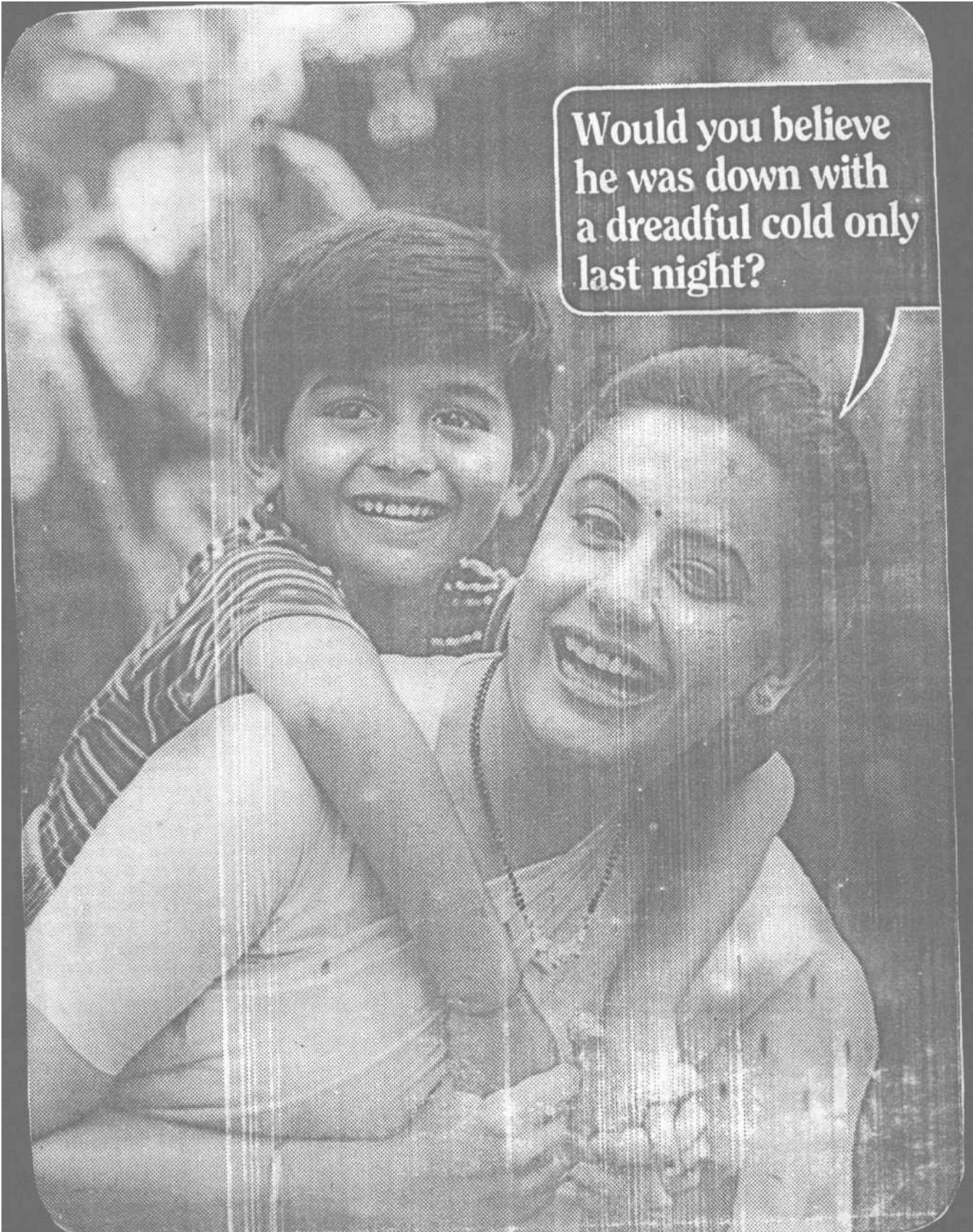
The results indicated no significant difference between Group A and B; and a significant difference between Group A and C and Group B and C at 0.01 significance level (with degree of freedom 45). This implies a significant increase in the number of familiar items in format-1 around age four and half years. This in turn suggests a developmental trend in terms of increase in the number of familiar items, wherein a plateau stage seems to be evident across Group A and B, followed by an increase in Group C.

Similarly, the Scheffe's test was applied for format-2 across the three groups. The results are tabulated (Table-3).

| Format-2: (LW) | | | | | |
|-----------------------|----------------|-----------|---------|---------|--------------|
| Source of variation | Among means Ss | df | Mean Sq | F-Ratio | Significance |
| Among Means | 739.5 | 2 | 270.00 | 10.83 | 0.01 |
| Within conditions | 1433.4 | 42 | 34.13 | | |

Table-3: Showing analysis of variance (Scheffe's test).

The analysis demonstrates no significant difference between Group A and B. However, there is a significant difference between Group A and C; and Group B and C at 0.01 significance level (with degree of freedom 45). This suggests that the children demonstrate some amount of logographic reading right from two years of age with a significant increase around four and half years. This increase could be due to the fact that logographic strategies begin to be coupled with alphabetic strategies at four and half years of age. eg. the item VICKS: Groups A and B responded to the item in F1 and F2, and some in Group C responded to all the four formats. ie., the word VICKS was presented as a part of the picture (F1) showing the mother and son together and the bottle with the VICKS label; and the logographic word 'VICKS' was presented in F2 by showing the item from the label. However, when the same word was printed in the tester's handwriting (F3) and was given



Would you believe
he was down with
a dreadful cold only
last night?

FORMAT 1: PICTURE + WORD (PW)
e.g VICKS

“Thank God, for Vicks VapoRub and the new way to use it for complete relief – three by three.



When I found him coughing and breathing heavily I knew his cold



1 On the chest,
it makes breathing easier

was really bad. But I also knew

Vicks VapoRub and I had heard about the new three by three way to fight colds. The three by three way is really simple and effective. All you have to do is rub

Vicks on three areas and feel three types of relief. So I rubbed Vicks VapoRub on the three areas – his chest, his neck and his



2 On the neck,
it calms coughs.

Yes, the same Vicks VapoRub more effectively. Vicks on my breathe more easily. On his

back. The action was immediate.

was working three times

son's chest helped him

neck, it relieved his cough.

And on his back, it soothed his aching little body. After last night, a little Vicks on the nose will never be enough. Now Vicks care means three by three.”

**The Vicks VapoRub three by three care.
For complete relief from colds.**



3 On the back,
it soothes bodyaches.

FORMAT 2: 'LOGO' WORD (LW)
e.g VICKS



FORMAT 3: WORD (W)
e.g VICKS

Vicks.

FORMAT 4: WORD with DISTRACTORS
(W with D)
e.g VICKS

Vocts
Vicks
Vuks
Vakhs

among vocts; vucks and vakhs (F4) for identification the children from Group A and B failed to read the word. In contrast some children in Group C correctly read the word VICKS in all four formats. Thus across the age groups there is not only an evidence for the use of logographic strategy but also the advent of new strategies, viz. alphabetic strategy. This in turn indicates a developmental trend in the acquisition of reading skills.

In order to determine whether some items consistently obtain a better response than the others across the three groups, the response scores were subjected to Spearman's rank correlation. The correlation for the responses in format-1 across the three groups is as shown in Table-4.

| Format-1 (P+W) | |
|----------------|-----------------|
| Groups | Correlation (r) |
| A Vs B | 0.622 |
| A Vs C | 0.765 |
| B Vs C | 0.740 |

Table-4: Showing Spearman's rank correlation in format-1

As evident, the rank correlation between the three groups is high at 0.01 significance level (with degree of freedom 45).

Spearman's rank correlation was also found across the three groups in format-2. The results are tabulated (Table-V).

Format-2 (LW)

| Groups | Correlation (r) |
|--------|-----------------|
| A Vs B | 0.7066 |
| A Vs C | 0.7020 |
| B Vs C | 0.7690 |

Table-5: Showing Spearman's rank correlation in format-2

Here again the correlation is high at 0.01 aignificance level (with degree of freedom 45).

The high rank correlation between the three groups in F1 and F2 when Spearman's rank correlation was applied suggests that the sight vocabulary of children continues to be limited and therefore, the same set of items demonstrate a logographic response over the three age groups. Thus this implies that the children continue to use logographic reading skills at four and half to five and half years of age.

However, this does not imply that the children are solely dependent on logographic strategies, since, as the age increases, they also seem to be using all the constitutional letters in word recognition. This is evident from the emergence of response to format-3 and format-4 (to a minimal extent) by children of Group C (Table-1).

Added to these, the emergence of response to format-3 and format-4 by subjects of Group C indicates the transition from use of one strategy to another while learning to read. For eg. the items like Vicks, Joy, 5 star obtained a response

in all the four formats by subjects of Group C. This can be explained when one considers, that, that is the age (four and half to five and half years) of phoneme awareness.

Furthermore, when one examines the items which have obtained a response from children of Group C in Format-3 and Format-4, it will be seen that, those are the items which have been read by the other groups (A and B) in F1 and F2. This could imply that during the developmental process of learning to read the children attempt new strategies of reading on the words with which they are well familiar. In other words the alphabetical strategy is applied to words that are already a part of the child's sight vocabulary (Table-6).

Considering the features in a word, which seem to facilitate logographic reading, no specific common word feature could be identified as attributing to the children's logographic reading skills. This could probably be due to a large and varied set of items used in the study. However, children seemed to demonstrate a relatively greater number of response for edibles than other articles (the two broad categories into which the items could be classified). This could be due to the fact that during the early years, children's vocabulary is dominated by content words (especially, items which satisfy their basic needs) and specifically, items of food.

| Item Name |
|-----------|
| Marie |
| Liril |
| Horlicks |
| Colgate |
| Lux |
| Vicks |
| Bournvita |
| Wheel |
| 5 Star |
| Frooti |
| Nirma |
| Rin |
| Leo |
| Joy |

Table-6: Showing the list of items which obtained a response in all the four formats in all the three groups.

To conclude, the objectives and findings of the current study are listed below:

Objective-1: To determine whether preschool children demonstrate logographic reading skills.

Result: Preschool age children do demonstrate logographic reading skills, as evident from their responses to items in format-2.

Objective-2: To determine whether the logographic skills are seen only in one of the age groups considered for the study.

Result: Logographic skills do not pertain rigidly to any one of the three age groups considered. But, the children in all the three groups demonstrate logographic reading skills, though the extent varies in each.

Group-A (Mean age 2.8 years) and Group-B (Mean age 3.9 years) show a similar performance on logographic skills, while Group-C (Mean age 5.1 years) demonstrate a greater response in comparison with Group-A and Group-B.

Objective-3: To determine whether the reading skills of children show a developmental trend.

Results: The nature of responses and the kind of differences among the three groups strongly indicate a developmental trend.

Objective-4: Can some features in words be identified which seem to facilitate logographic reading.

Result: No specific word feature(s) could be identified, but accurate responses were more for items in the food than other household articles category.

SUMMARY AND CONCLUSION

The aim of the study was to determine whether children demonstrate logographic reading skills during the initial stages of learning to read.

Logographic reading has been postulated as an early stage of reading acquisition by current theories in the area. However, the few empirical studies carried out have produced equivocal results. Further these investigations have been mainly carried out in English in Europe and North America.

45 preschool children in three groups each, in the age range two to three and half years; three and half to four and half years, and four and half to five and half years were the subjects for the study. 47 items (which consisted of familiar television advertisements) were presented to the children in four formats and their responses noted. The data was tabulated and the statistical and qualitative analysis was done.

The results indicated the presence of logographic reading skills and a developmental trend in the acquisition of reading skills.

However, the study needs to be carried out on a larger population, with more varied stimuli and older children be included to identify the age at which logographic reading skills are overtaken by new strategies.

Thus, in sum, the study seems to provide evidence for logographic reading and the underlying developmental process of learning to read; in agreement with the first stage of reading acquisition postulated by Frith (1985).

However, the study needs to be carried out on a larger population with more varied stimulus words. The age range of subjects studied should be extended to include older children to identify the stage at which logographic reading is overtaken by the stage of alphabetic reading.

SUMMARY AND CONCLUSION

The aim of the study was to determine whether children demonstrate logographic reading skills during the initial stages of learning to read.

Logographic reading has been postulated as an early stage of reading acquisition by current theories in the area. However, the few empirical studies carried out have produced equivocal results. Further these investigations have been mainly carried out in English in Europe and North America.

45 preschool children in three groups each, in the age range two to three and half years; three and half to four and half years, and, four and half to five and half years were the subjects for the study. 47 items (which consisted of familiar television advertisements) were presented to the children in four formats and their responses noted. The data was tabulated and the statistical and qualitative analysis was done.

The results indicated the presence of logographic reading skills and a developmental trend in the acquisition of reading skills.

However, the study needs to be carried out on a larger population, with more varied stimuli and older children be included to identify the age at which logographic reading skills are overtaken by new strategies.

BIBLIOGRAPHY

- Bever, T.G. (1981): "Regressions in development: Basic Phenemona and theoretical alternatives". Hillstdale, New Jersey, Lawrence Erlbaum Associates Inc.
- Biemiller, A.J. (1970): "The development of the use of graphic and contextual information as children learn to read". Reading Research Quarterly. 6, 75-96.
- Bower, T.G.R. (1974): "Repetition in human development". Merrill Palmer Quarterly. 20, 303-319.
- Downing, J., and Leong, C.K. (1982): "The Psychology of Reading". London: Collier MacMillan.
- Firth (1972): In M.Harris, and M.Coltheart (1986): "Language Processing in children and adults. An introduction". London: Routledge and Kegan Paul.
- Fowler (1962): In M.Harris, and M.Coltheart (1986): "Language Processing in children and adults. An Introduction". London: Routledge and Kegan Paul.
- Francis, H. (1982): "Learning to read: Literate behaviour and orthographical knowledge". Hemel Hempstead: George Allen and Unwin.
- Frith, U. (1979): "Reading by eye and writing by ear". In P.A.Kolers, M.Wrolstad, and H.Bouma (Eds). Processing of visible language. I. New York: Plenum Press.
- Frith, U. (1980): "Unexpected spelling problems". In U.Frith (Ed.), Cognitive processes in spelling. London: Academic Press.
- Frith, U. (1985): "Developmental Dyslexia". Chapter 13, 303, cited in K.E. Patterson, Marshall, J.C., Coltheart, M., Surface dyslexia. Neuropsychological and cognitive studies of phonological reading. London: Lawrence Erlbaum Associates, Publishers.
- Harris, M., and Coltheart (1986): "Language processing in Children and Adults: An Introduction". London: Routledge and Kegan Paul.
- Lynn (1963): In Harris, ML, and Coltheart, M. (1986): "Language processing in children and adults: An Introduction". London: Routledge and Kegan Paul.
- Marsh, G., Desberg, P., and Cooper, J. (1977): "Developmental changes in strategies of reading". Journal of Reading Behaviour. 9, 391-394.

- Marsh, G., Friedman, M.P., Desberg, P., and Welch, V. (1980): "Development of strategies in learning to spell". In U.Frith (Ed). Cognitive processes in spelling. London: Academic Press.
- Marsh, G., Friedman, M.P., Welsh, V., and Desberg, P. (1981): "A Cognitive developmental theory of reading acquisition". In T.G.Waller, and G.E. Mackinnon (Eds.), Reading Research: Advances in Theory and Practice. Vol.3, New York: Academic Press.
- Marsh, G., and Desberg, P. (1983): "Development of strategies in the acquisition of symbolic skills". In D.R.Rogers, and J.A.Sloboda (Eds.), The acquisition of symbolic skills. New York: Plenum Press.
- Morton.J., and Patterson, K. (1980): "A new attempt at an interpretation, or, an attempt at a new interpretation". In M.Coltheart, K.Patterson, and J.C.Marshall (Eds.), Deep dyslexia. London: Routledge and Kegan Paul.
- Seymour, P.H.K., and MacGregor, R. (1984): "Developmental dyslexia: A cognitive experimental analysis of phonological morphemic visual impairments". Cognitive neuropsychology. 1, 43-82.
- Seymour, P.H.K., and Elder (1985): In M.Harris, and M.Clotheart (1986): Language processing in children and adults: An introduction. London: Routledge and Kegan Paul.
- Shallice, T., Warrington, E.K., and McCarthy, R. (1983): "Reading without semantics". Quarterly Journal of Experimental Psychology. 35A, 111-138.
- Smith, F. (1971): Understanding reading: A psycholinguistic analysis of reading and learning to read. New York: Holt, Rinehart and Winston.
- Soderbergh, R. (1971): Reading in early childhood: A linguistic study of .a preschool child's gradual acquisition of reading ability. Stockholm: Almqvist and Wiksell.
- Strauss, S. (1982): U.Shaped behavioural growth. New York: Academic Press.
- Weber, R.M. (1970): "A linguistic analysis of first grade reading, errors:." Reading Research Quarterly. 5, 427-451.

LIST OF ADVERTISEMENT USED AS TEST ITEMS

- | | | |
|----------------|-------------------|---------------|
| 1. AMUL | 21. BOMBAY DYEING | 41. ECLAIRS |
| 2. LIMCA | 22. KELVINATOR | 42. SURF |
| 3. VIDEOCON | 23. COMPLAN | 43. THUMS-UP |
| 4. MARIE | 24. RASNA | 44. WHEEL |
| 5. ONIDA | 25. FAREX | 45. JOY |
| 6. TAJ TEA | 26. HORLICKS | 46. FIVE STAR |
| 7. PRUDENT | 27. BOOST | 47. FROOTI |
| 8. CINTHOL | 28. COLGATE | |
| 9. CLOSE-UP | 29. RIN | |
| 10. CERELAC | 30. NIRMA | |
| 11. HERO-HONDA | 31. MEDIKER | |
| 12. LIRIL | 32. LEO | |
| 13. KHAITAN | 33. LUX | |
| 14. KRACK JACK | 34. GLUCON-D | |
| 15. GARDEN | 35. BARBIE | |
| 16. BAYGON | 36. VICKS | |
| 17. HAMAM | 37. HAMAM | |
| 18. MRF | 38. MAGGIE | |
| 19. GWALIOR | 39. BOURNVITA | |
| 20. USHA | 40. CADBURY | |