

**IDENTIFICATION OF READING READINESS AND
NUMERACY READINESS OF CLASS-I ENTRANTS
- A STUDY**

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PREFACE

One of the most significant things we have done as we head towards the 21st century is setting our primary education on the ascent. A massive programme for qualitative improvement of primary education has also been launched in our country. Under the SOPJ, thousands of teachers are being trained in the use of child-centered, activity-based and joyful learning experiences for ensuring the achievement of minimum levels of learning. More recently, the Government of India, launched the District Primary Education Programme (DPEP) in 43 districts located in 7 states and it is likely to include more and more districts and states to give a fillip to the programme. The NCERT has formed national level and regional level DPEP core groups in the areas of Curriculum, Teacher training and Research. A number of research-based intervention programmes/activities have been undertaken in the areas of curriculum planning, textbook/instructional material preparation, teacher training programmes and a host of other critical areas of concern in the field of primary education.

This report embodies the details of one of the studies related to Reading Readiness (RR) and Numeracy Readiness (NR) levels of Class 1 entrants. 'Readiness' is an important phenomenon in all learning. Unless the child is ready to learn no learning can take place. Readiness was measured in this study by a specially designed test. The readiness in reading and numeracy were studied as a function of such variables as age, gender and exposure to pre-school education. The data was based on a sample of 400 1st standard children drawn from two DPEP districts in Karnataka, Mandya and Kolar. The sample represented 74 schools located in 15 blocks of the two districts.

The study has revealed the following: a statistically significant positive correlation between Reading readiness and Numeracy Readiness; no difference in the levels of performance between children who underwent pre-schooling and those who did not, although the performance of the latter had an edge over the former; boys excelled girls in performance both in the Reading and

Numeracy readiness tests; and only 50% of children displayed the required readiness.

The findings of the study have far reaching educational implications and it is hoped that the readers will find this report meaningful and useful in designing strategies for enhancing the child's readiness.

I take this opportunity to thank Prof. A.N. Maheswari, Joint Director, NCEERT, whose initiative and commitment kindled the enthusiasm and the research potential of the RIE faculty for taking up studies of the kind reported here. Dr. U.U. Anand who carried out the project deserves special commendation for so meticulously and succinctly laying bare before the readers the facts and findings of the study in much the same way as a dispassionate pursuitor of truth does. This work, I believe, is likely to be a never-fading present to posterity in attempts to bring in optimum readiness levels for teaching millions of our poor, yet capable and beaming children in primary schools.

Nothing pleases us more than the constructive remarks of the readers.

22nd January 1996

*Prof. S.T.U.S. Acharyulu
Principal*

ACKNOWLEDGEMENT

I wish to thank all the team members for making this an enjoyable and productive joint effort. I acknowledge with gratitude the invaluable help rendered by each one of them. I express my sincere thanks to the Principal, Dean of Instructions, Administrative officer and his Staff for their encouragement and administrative help. I am greatly indebted to Dr. G. Ravindra, Head, Dept. of Science, and Dr. S. N. Prasad, Professor of Physics, who assisted me at various stages during the project. I also wish to thank Dr. Venita Kaul and Dr. Upadhyay, Dept. of Pre-school and Elementary Education, NCERT, New Delhi, for their constructive suggestions and help. I am indebted to Sri R. Raj Kumar, Sri D. Nagaraj and Sri C. S. Kashyap for their invaluable help in data entry and secretarial assistance. I also thank my other colleagues in the institute who have directly or indirectly helped me.

I would like to acknowledge the excellent work done by all the field investigators, faculty of DDPI and DIET of Mandya and Kolar districts, without whose active cooperation data collection would have been impossible. I also wish to thank all the schools and children who willingly cooperated during the test.

The report in its present form is the workmanship of a group of highly skilled and dedicated staff of Primetech Computers, Mysore, to whom I owe a special word of praise and gratitude.

It is all the above that has made this study a "Labour of Love".

*V. V. Anand
Task Leader*

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CHAPTER I

INTRODUCTION

- 1.1 Background for the study
- 1.2 What 'readiness of learner' means to us
- 1.3 Title of the study
- 1.4 Objectives
- 1.5 Research questions and hypotheses
- 1.6 Over view of the report

INTRODUCTION

With the present century coming to an end, we are on the threshold of a new millennium. The young children in our schools are the country's future hope and they have to be shaped into responsible citizens of the 21st century. In the present century, man's intellectual horizon widened with industrialization, explosion of scientific knowledge and other related developments. We also mastered the art of exploiting the earth's resources. In the 21st century (educational era), we must further sharpen our intellect, learn to reason and learn to conserve the limited resources of our delicate fragile ecosystem. In this task, schools have a greater responsibility of nurturing children and making them rational, humane and peaceful members of the society. Thus, the future of our country is being shaped in classrooms and all our efforts must be concentrated on this arena. It is most appropriate to speed up our efforts in enhancing the quality of primary education because this forms the foundation on which an edifice will be built in future.

1.1 Background for the Study

In our country, a silent revolution is taking place in schools. It is a revolution of the intellect, placing a premium on our greatest natural resource, the human resource. This is clearly evident in the NPE 1986, which states that "a human being is a positive asset and a precious national resource which needs to be cherished, nurtured and developed with tenderness and care coupled with dynamism". The policy has also advocated "a child-centered and activity-based process of learning. It emphasized the need for laying down "Minimum Levels of Learning" (MLL) at each stage of education as a prerequisite for setting performance goals for both teachers and learners. The NPE 1986 also sets new directions for reorientation of both content as well as the process of education. Recently, in 1994, a decentralized scheme for improving elementary education, the District Primary Education Programme (DPEP) was launched by the Government of India. In its first year of activity,

43 districts belonging to seven states of our country have come within its ambit. The states and districts in which DPEP is implemented are actively engaged in several exercise for its effective implementation.

The NCERT, an apex organization at the national level for school education, has been entrusted with the responsibility of planning the required academic inputs and set appropriate guidelines for planning the curriculum to be implemented by the states. It has undertaken several research activities for effective implementation of the objectives of DPEP. One such research activity is the present study related to **Readiness of the Learner**.

1.2 What 'Readiness of Learner' means to us?

One of the most troublesome instructional problems, is determining the time when the individual is ready, i.e., when he is sufficiently mature to learn various subjects in a school. This aspect, called the 'Readiness' is to be considered as a critical factor in a teaching-learning situation. This is more so when the emphasis is on 'child-centered' and 'activity-based' learning strategies. In the present study, the term 'Readiness' has been operationalized as follows: **"Readiness is the extent to which an individual possesses the capacity (restricted to intellectual maturity) for learning new subjects"**.

The three factors which to a large extent determine 'Readiness' are :

- (i) the learner must be free from physical defects;
- (ii) his emotional maturity and
- (iii) his intellectual maturity.

Teachers have to identify the physical disabilities of a child at a very early stage and plan suitable remedial measures to off-set the disadvantages. The emotional maturity can be mainly judged by considering the inherent interest of the child, the span of attention he can devote and the ability to resist distraction, besides a few other factors.

The most decisive factor is the intellectual maturity which determines the **Reading Readiness (RR)** and the **Numeracy Readiness (NR)** of the child. The progress of those children who are inadequate in terms of RR and NR is obviously slow and may lead to further problems such as drop outs, low achievements, etc. Thus, there is a need to assess the RR and NR of class I entrants, and then establish criteria for planning a meaningful and functional curriculum. This, perhaps, in the long run, would alleviate some of the problems dogging our primary education system. It is to be mentioned here that the existing problems are not entirely academic in nature but also socioeconomic. The latter also significantly contributes to either the success or failure of a school system.

A review of related literature has revealed that readiness for instruction has not been studied as thoroughly as has been done in the case of 'Reading'. Numeracy readiness which is a prerequisite for learning arithmetic, is another area which has not been studied adequately. It is likely that the formal instruction commences too early in this subject, much before the child actually acquires the requisite quantitative experiences.

It is natural that two children of identical intellectual ability may not have the same level of of readiness. This may be due to several factors like their differing home background, parental education, occupation, income, etc. It is, therefore, essential that all children first go through a period of pre-schooling. Pre-school programmes such as Anganawadi/Kindergarten are meant to provide both **pre-reading experiences** such as, talking, expressing, looking at pictures and being read to; and **pre-mathematics abilities** like constancy of objects in space (Piaget), spatial conservation (Piaget), competency of abstract relations, inferential meaning and form reasoning. Pre-schooling, thus, sets the stage for the more formal schooling that the children will have to undergo subsequently.

The presence of other children of the peer group who evince keener

interest is another catalytic factor. The kind of reading materials available to them also contributes to learning. Though these are indirect influences, they are quite valuable in promoting learning. Hence, sufficient exposure in all these dimensions should be provided to children. Exerting undue pressure on children and hustling them towards formal schooling before the above inputs are provided defeats the very purpose of schooling.

The fore-going, clearly reflects a need for assessing the 'readiness levels' of children at the time when they enter into formal schooling. A survey revealed that such studies have not been undertaken in many of our schools. Hence the present modest effort.

1.3 Title of the Study

“IDENTIFICATION OF THE READING READINESS AND NUMERACY READINESS LEVELS OF CLASS I ENTRANTS - A STUDY”

1.4 Objectives

The main objectives of the present study are :

- ❑ to identify and assess the levels of Reading Readiness(RR) and Numeracy Readiness (NR) of class I entrants;
- ❑ to find the relationship between students with pre-school experience (PSE) and their level of performance in RR and NR;
- ❑ to find the relationship between children's age and the level of performance in RR and NR;
- ❑ to find the relationship between gender and the level of performance in RR and NR;
- ❑ to find the relationship between children with pre-school experience (PSE) and those with no pre-school experience (NPSE) and their level of performance in RR and NR;

- to find out the relationship of RR and NR with other predictor variables such as age, gender and social readiness (SR).

1.5 Research questions and hypotheses

The following basic research questions were formulated for the study:

- ◆ to what extent do class I children have Reading Readiness and Numeracy Readiness?
- ◆ to what extent does the Pre-school experience influence Reading Readiness and Numeracy Readiness?
- ◆ are there any significant differences in Reading Readiness and Numeracy Readiness between children with pre-school experience and those without pre-school experience?
- ◆ to what extent do age, gender and social readiness influence Reading Readiness and Numeracy Readiness?

The following hypotheses related to the above research questions were formulated:

- Hypothesis 1:** There is no significant difference between children with Pre-School Experience (PSE) and No Pre-School Experience (NPSE) on the level of - **1a)** Reading Readiness; **1b)** Numeracy Readiness and **1c)** Social Readiness;
- Hypothesis 2:** The performance of children in Reading Readiness and Numeracy Readiness test does not increase with age;
- Hypothesis 3:** The performance of children in Reading Readiness and Numeracy Readiness test is independent of gender;
- Hypothesis 4:** The performance in Reading Readiness and Numeracy Readiness test does not differ with age among Pre-School Experience (PSE) and No Pre-School Experience (NPSE)

children;

Hypothesis 5: The performance in Reading Readiness and Numeracy Readiness test does not differ with gender among Pre-School Experience (PSE) and No Pre-School Experience (NPSE) children;

Hypothesis 6 : There is a positive significant relationship between the three predictor variables (age, gender and social readiness) on the one hand and the following criterion variables , **6a)** Reading Readiness; **6b)** Numeracy Readiness, on the other.

1.6 Overview of the report

The present study progressed through different phases and the same has been presented in the subsequent chapters. This **chapter** is the introductory part which highlights the definitions, need and significance of the study. **Chapter II** presents the design and methodology of the study. The results of the study are presented in **Chapter III** followed by discussion in **Chapter IV**. Summary of the study and suggestions for further research constitute **Chapter V**.

CHAPTER - II

METHODOLOGY

2.1 Geographical area selected for the study

2.2 Sample selected for the study

2.3 Description of the tool

2.4 Data collection

2.4.1 Training of field Investigators

2.4.2 Nature of Data collection

2.5 Data processing and analysis

METHODOLOGY

This Chapter describes the design of the study, sample selected, variables studied, tools used, administration of tests, scoring and the statistical techniques used for analyzing the data. The study was carried out between July and December 1995.

2.1. Geographical area selected for the study

The study was undertaken in two DPEP districts - Mandya and Kolar, of Karnataka (Fig.1), which have been identified as predominantly rural and educationally backward districts.

Mandya district, situated in south interior Karnataka, is one of the most prosperous agricultural district in the state. It is situated along the cauvery basin and is adequately irrigated. Being interior in location, the population is exclusively local and Kannada-speaking. The district comprises of seven taluks (blocks) - Krishnarajpet, Maddur, Malavalli, Mandya, Nagamanagala, Pandavapura and Srirangapatna.

Kolar district, situated towards the south-east of Karnataka, borders the neighboring states, Tamilnadu and Andhra Pradesh. The cultural and social influence of the neighboring states is apparent here. Tamil and Telugu, languages of the neighboring states are frequent. Agriculture is the main occupation and source of income. Being a dry district, with vast expanses of rocky terrain and inadequate irrigation facilities, the farmers are entirely dependent on the annual monsoon. The district comprises of eleven taluks (blocks) - Bagepally, Bangarpet, Chikballapur, Chintamani, Gouribidanur, Gudibande, Kolar, Malur, Mulabagilu, Sidlaghatta and Srinivasapura.

2.2 Sample selected for the study

The sample comprises of 400 children, 200 from each district drawn

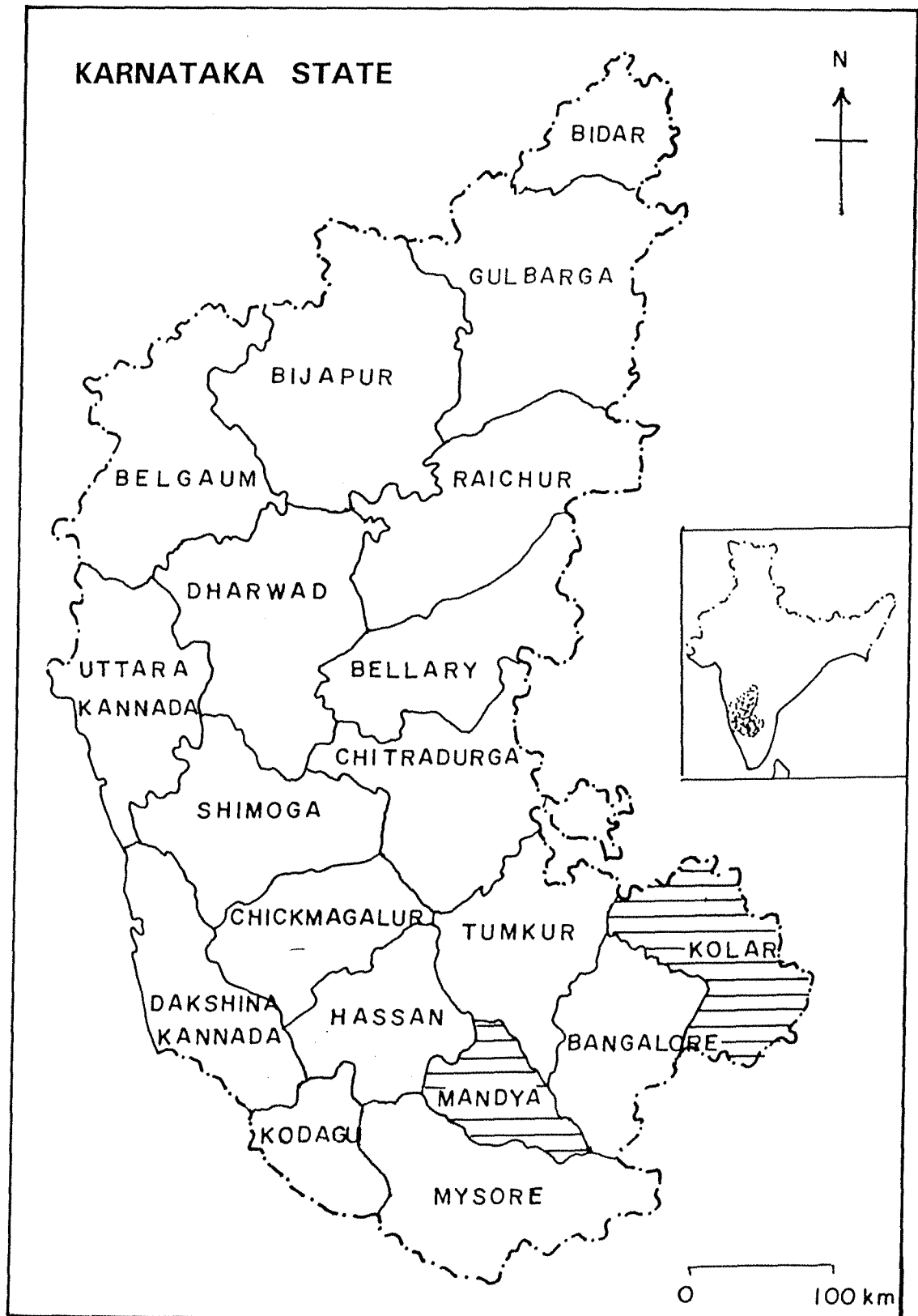


Fig 1. Map showing the geographical area of sampling.

Table 1 : *Details of the names of blocks and number of Schools and Children selected for the study.*

Mandya Dist.				Kolar Dist.			
Sl No.	Block	School	Children	Sl. No.	Block	School	Children
1	K.R. Pet	3	19	1	Bagepally	5	25
2	Maddur	3	18	2	Bangarpet	5	25
3	Malavalli	7	42	3	Chintamani	5	25
4	Mandya	4	21	4	Gudibande	5	25
5	Nagamangala	7	38	5	Kolar	5	25
6	Pandavapura	4	21	6	Malur	5	25
7	Srirangapatna	6	41	7	Mulabagilu	5	25
				8	Srinivasapura	5	25
TOTAL		34	200			40	200

from 74 government schools of 15 blocks of the two districts. The sampling ratio was 1:1 for boys and girls. The number of schools selected from each block ranged from 3 to 7. The number of children who were administered the test in each school ranged from 5 to 6. The number of children sampled in each block ranged from 19 to 42 (Table 1).

2.3 Description of the tool

The tool was developed by the NCERT based on tools evolved earlier by Muralidharan and associates (1976; 1992). The tool consisted of a test booklet having 35 items related to Reading Readiness and 35 items related Numeracy Readiness (Fig. 2). The areas included in the RR test were : vocabulary, visual-perception, auditory discrimination, audio-visual association and word identification. The areas included in the NR test were: number concept, space concept, classification, sequential thinking, fractions and numbers. A copy of the tool is appended with this report (Annexure -A).

Readiness Test (70)			
Reading Readiness (35)		Numeracy Readiness(35)	
Areas	Sub areas	Areas	
Vocabulary (12)	Sentence Comprehension(4) Action Pictures (4) Community Helpers (4)	Number Concept (14)	
Visual Perception (08)	Visual Matching (4) Visual Discrimination (4)	Space Concept (07)	
Auditory Discrimination (08)	Initial Sounds (4) Sound Discrimination (4)	Classification (03)	
Audio -Visual Association (03)		Sequential Thinking (03)	
Word Identification (04)		Fractions (04)	
		Numbers (04)	

Note : The figures in parenthesis indicate marks for each area/sub-area

Fig 2. Details of the Areas and Sub-areas in the Readiness Test

A bilingual data collection sheet/response sheet (Annexure-B) was designed and the field investigators recorded the data individually for each child. The data collection sheet has three components. (i) Personal Data Sheet (PDS) (ii) Child Observation Sheet (COS) and (iii) Child Response Sheet (CRS). The PDS lists the situation variables such as, name of the child, name of the school, family background, demographic details, and the type and duration of pre-school experience. This was filled individually for each child in consultation with the teacher, the school records and the child.

The COS consists of six items and is an objective assessment of the child by the field investigator. This is aimed at establishing the level of social readiness (SR) of the child.

The CRS has seventy items in correspondence with the test items. Thirty five of this pertain to RR and the other thirty five to NR. There is a one

to one correspondence between the items in the CRS and the evaluation items in the RR and NR test booklet. Correct answers were marked with (✓) and wrong answers with (X).

2.4 Data Collection

Field investigators were drawn from the respective districts. They included selected primary school teachers and lecturers of DIETs. A total of fourteen field investigators were deployed for data collection (Annexure - C).

2.4.1 Training of Field Investigators

The field investigators of each district were trained by the task team of The Regional Institute of Education, Mysore, in a one-day workshop held separately in the two district headquarters. Task appraisal, training on the mode of administering the test and filling in the response sheet were discussed in detail. The programme schedule of the workshop is appended with this report (Annexure-D). The workshop was transacted entirely in Kannada. Each field investigator administered the test for two children and the same was supervised by the task team. The practical difficulties encountered during the test were discussed and suggestions to overcome them were planned. Both the workshops were conducted with the active involvement of the staff in DDPI's office and the faculty in the DIETs of the two districts.

2.4.2 Nature of Data Collection

The data was collected only from children studying in government schools of all the blocks in Mandya district and eight blocks of Kolar district (Table -1). The data collection was completed in about eight days with an average of five to six samples per day per investigator. A detailed instruction sheet was provided to the field investigators (Annexure-E). It dealt with all aspects of administering the test. The children involved in the study were given token incentives after the test.

The sampling was confined to selected government schools in each block. Between three to eight schools were selected for each block of which one was located in the block headquarters. The others were randomly selected from the rest of the block.

The study demanded sampling children with pre-school experience and those without any pre-school experience. The children with pre-school experience were entirely Anganwadi -trained. Children with Kindergarten background could not be included in the study as schools incorporating this concept were not available.

2.5 Data Processing and Analysis

The collected responses were suitably coded and fed to the computer for further analysis. The statistical package - Minitab (Version 8) was used for analyzing the data. The pattern of coding was as follows:.

Personal Data Sheet (PDS)

State	: 01 - Karnataka
District	: 01 - Mandya; 02 - Kolar
Locality	: 01 - Rural; 02 - Urban
Name of the Child	: Serial Number corresponds with the name
Date of Birth	: 01 - Below 60 months 02 - 60 to 62 months; 03 - 63 to 65 months; 04 - + 66 months
Gender	: 01 - Boy; 02 - Girl
Number of siblings	: Brother - actual number; Sister - actual number and Total siblings.
Sibling Education	: 01 - school going; 02 - non-school going;
Birth order	: 01 - youngest; 02 - middle; 03 - eldest

Occupation of parents : 01 - Agriculture; 02 - Business; 03 - Service;
04 - Artisan; 05 - Coolie and 06 - others.

Educational level of parents: 01 - Illiterate; - 02 - Elementary level;
03 - High/Higher secondary level;
04 - Graduate/ Post-graduate.

Caste : 01 - SC; 02 - ST; 03 - OBCs; 04 - General.

Mother tongue : 01 - Kannada; 02 - Tamil; 03 - Telugu;
04 - Others.

Medium of Instruction : 01 - Kannada.

Pre-school Experience (PSE): 01 - 1 year PSE; 02 - two years PSE;
03 - No Pre-school Experience (NPSE).

Child Observation Sheet (COS)

Response to each item : 01 - poor; 02 - average; 03 - verygood.

Child Response Sheet (CRS):

01 - correct answer; 02 - incorrect answer.

CHAPTER - III

RESULTS

- 3.1 Characteristics of the sample**
- 3.2 Relationship among Reading Readiness (RR), Numeracy Readiness(NR) and Social Readiness (SR)**
- 3.3 Reading Readiness and Numeracy Readiness of Class I entrants**
- 3.4 Influence of pre-school experience on performance in Reading Readiness and Numeracy Readiness test**
 - 3.4.1 Areas of Reading Readiness and Numeracy Readiness***
 - 3.4.2 Sub-Areas of Reading Readiness and Individual items of Numeracy Readiness***
- 3.5 Comparison of mean scores of children with Pre-school experience and children with No pre-school experience, on Reading Readiness, Numeracy Readiness and Social Readiness**
- 3.6 Relationship between the predictor variables (Age, Gender and Social Readiness) with criterion variables (Reading Readiness and Numeracy Readiness)**

RESULTS

Results of the analysis are presented in this chapter. Each research question or hypothesis presented in chapter I is restated here followed by a presentation of the analysis pertaining to it. Sub sections of this Chapter are:

- Characteristics of the sample
- Relationship among Reading Readiness, Numeracy Readiness and Social Readiness
- Reading Readiness and Numeracy Readiness of Class I entrants
- Influence of pre-school experience on performance in Reading Readiness and Numeracy Readiness test
- Comparison of mean scores of children with Pre-school experience and children with No pre-school experience, on Reading Readiness, Numeracy Readiness and Social Readiness
- Relationship between the predictor variables (Age, Gender and Social Readiness) with criterion variables (Reading Readiness and Numeracy Readiness)

3.1 Characteristics of the Sample

The sample (Table 2), contains an almost equal proportion of boys (50.5%) and girls (49.5%). The 400 children (200 from each district) were drawn from 74 government schools spread over 15 blocks of the two districts. The children had predominantly rural background. Medium of instruction was Kannada. Age-wise distribution of the sample showed that 1.25% were below 60 months; 11.25% between 60 and 62 months; 10% between 63 and 65 months and 77.5% were 66 months and above. Majority of the sample were above 5 years and 6 months in age, because the State government has stipulated 5 years and 10 months as the minimum age for admission to Class I. The sample consisted of children belonging to the following categories. SC/ST - 30.75%; OBCs - 52.25% and General - 17%. The sample consisted of 68.25% of children with PSE and 31.75% with NPSE (Fig 3). The background information of children reveal that majority of

Variables	Category	Numbers	Total Sample
Gender	Boys	202 (50.50)	400
	Girls	198 (49.50)	
Age (in months)	66+	310 (77.50)	400
	63-65	40 (10.00)	
	60-62	45 (11.25)	
	Below 60	5 (01.25)	
PSE	1 yr	194 (48.50)	400
	2 yrs	79 (19.75)	
NPSE	-	127 (31.75)	

Note: Figures in parenthesis are values in percentage.

Table 2 : Category-wise (Gender, Age, PSE & NPSE) distribution of the sample.

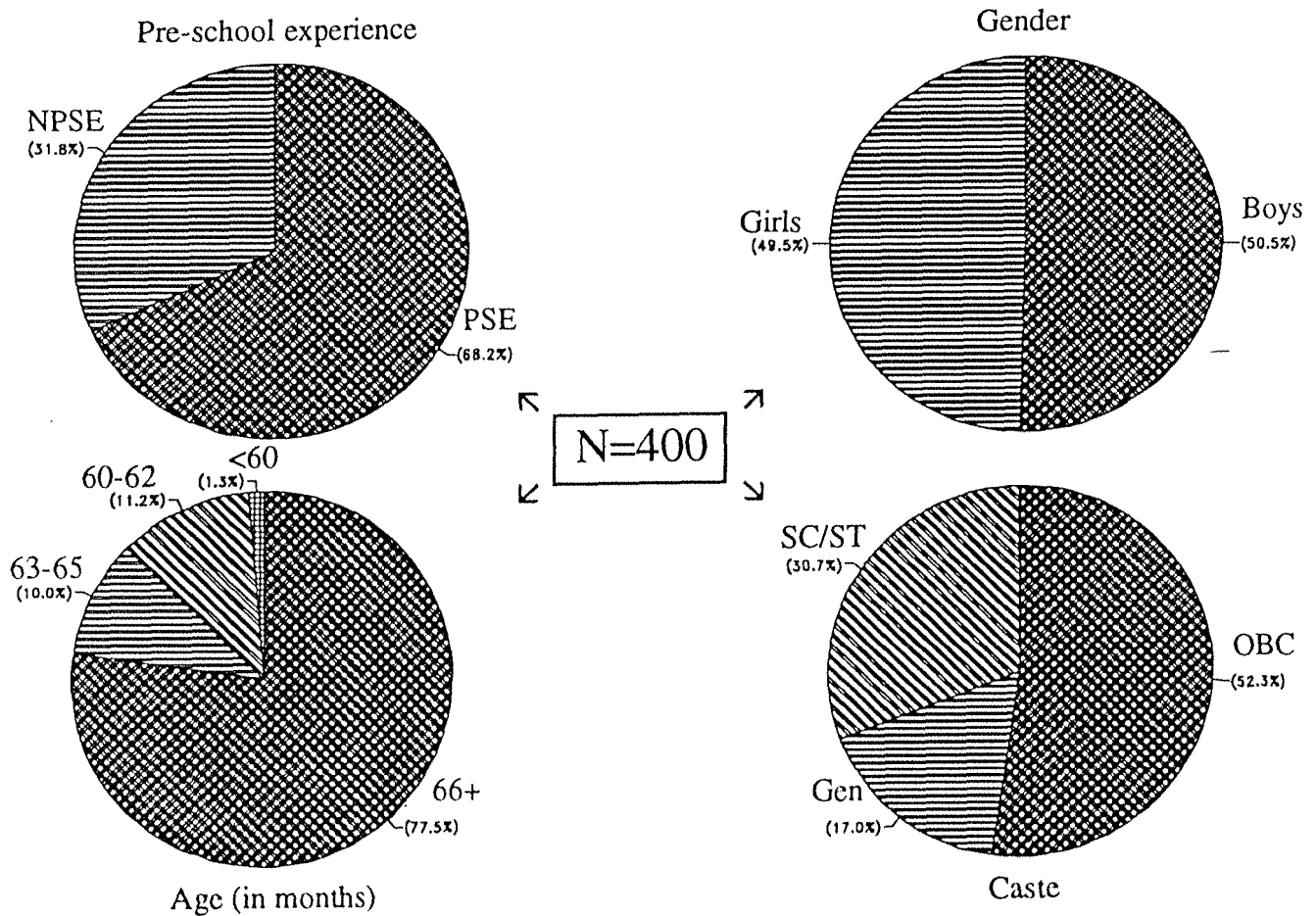


Fig 3.. Graphic representation of selected variables of the sample

their parents were illiterates (43.2% men and 63% women); 31% men and 25.2% women had education upto the elementary level and only a small percentage (0.5%) were graduates/post-graduates.

3.2 Relationship among Reading Readiness, Numeracy Readiness and

Table 3 : 'r' and 't' values of Reading Readiness (RR), Numeracy Readiness (NR) and Social Readiness (SR) for the entire group and sub-groups.

	RR-NR	RR-SR	NR-SR
Entire group N=400	0.667 (t=17.86)	0.563 (t=13.59)	0.370 (t=7.95)
PSE n=273	0.664 (t=14.62)	0.542 (t=10.62)	0.337 ** (t=5.89)
NPSE n=127	0.681 (t=10.39)	0.611 (t=8.63)	0.476 ** (t=6.05)

Note : ** not significant at 0.05 level

Social Readiness

The results have established the existence of a positive correlation among RR, NR and SR. "High positive correlation" between RR and NR and "Moderate correlation" between RR and SR are noticed. A "low" but significant positive correlation between NR and SR for the entire group was observed. Even though a low positive correlation between SR and NR was found among PSE and NPSE groups they were not significant at 0.05 level.

3.3 Reading Readiness and Numeracy Readiness levels of Class I entrants

An analysis of the results (Fig. 4) reveals that the sample exhibited an overall better readiness in 'numeracy' when compared with 'reading'. In the sample, 75.5% of children scored above 19 in the numeracy test whereas in

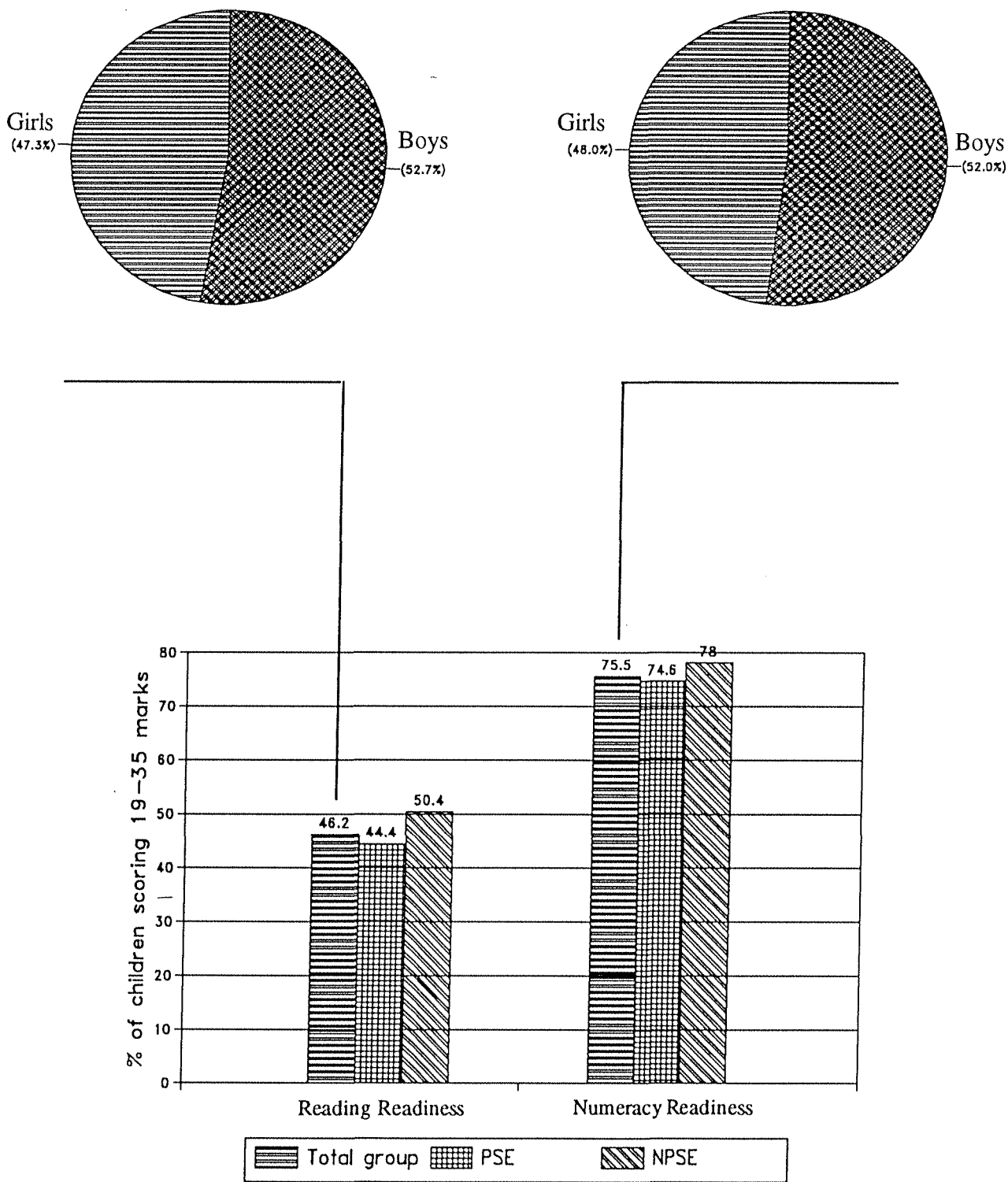


Fig 4. A comparison of scores (in percentage) in Reading Readiness and Numeracy Readiness tests among PSE, NPSE, TOTAL group and between Boys and Girls in the total Group.

Table 4 : *Comparative frequencies (in %) of children with differing pre-school experience taken together (total) and separately on reading readiness (total) and its components.*

Reading Readiness	Marks range	Total N = 400	PSE n ₁ = 273	NPSE n ₂ = 127
Max. marks 35	28-35	56 (14.0)	34 (12.5)	22 (17.3)
	19-27	129 (32.2)	87 (31.9)	42 (33.1)
	10-18	122 (30.5)	83 (30.4)	39 (30.7)
	01-09	79 (19.8)	59 (21.6)	20 (15.7)
	00	14 (03.5)	10 (03.6)	04 (03.2)
Vocabulary 12	10-12	93 (23.3)	66 (24.2)	27 (21.3)
	07-09	139 (34.7)	82 (30.0)	57 (44.9)
	04-06	96 (24.0)	73 (26.8)	23 (18.1)
	01-03	42 (10.5)	35 (12.8)	07 (05.5)
	00	30 (07.5)	17 (06.2)	13 (10.2)
Visual perception 08	07-08	106 (26.5)	77 (28.1)	29 (22.8)
	05-06	105 (26.2)	75 (27.5)	30 (23.6)
	03-04	85 (21.3)	47 (17.2)	38 (30.0)
	01-02	56 (14.0)	40 (14.7)	16 (12.6)
	00	48 (12.0)	34 (12.5)	14 (11.0)
Auditory discrimination 08	07-08	69 (17.2)	46 (16.8)	23 (18.1)
	05-06	83 (20.8)	53 (19.5)	30 (23.6)
	03-04	88 (22.0)	64 (23.4)	24 (18.9)
	01-02	55 (13.8)	31 (11.4)	24 (18.9)
	00	105 (26.2)	79 (28.9)	26 (20.5)
Audio visual association 03	03	103 (25.8)	55 (20.1)	48 (37.8)
	02	43 (10.7)	23 (19.5)	20 (15.8)
	01	42 (10.5)	30 (11.0)	12 (9.4)
	00	212 (53.0)	165 (60.5)	47 (37.0)
	Word identification 04	04	46 (11.5)	29 (10.6)
03		64 (16.0)	40 (14.7)	24 (18.9)
02		68 (17.0)	46 (16.8)	22 (17.3)
01		49 (12.3)	29 (10.6)	20 (15.8)
00		173 (43.2)	129 (47.3)	44 (34.6)

Note: Figures in parenthesis indicate values in percentage.

reading test only 46.2% had scores above 19.

Among the subgroups in the sample, the NPSE children exhibited a better

performance both in RR and NR tests (Total) as compared with their counterparts in the PSE subgroup.

A gender-wise analysis of performance reveals that when the entire sample is considered, boys have shown better performance than girls. Among the high performers in the RR test, 52.7% were boys and only 47.3% were girls. In the NR test also the high performers were boys (52%) with the girls accounting for only 48 %.

3.4 Influence of pre-school experience on performance in Reading Readiness and Numeracy Readiness test

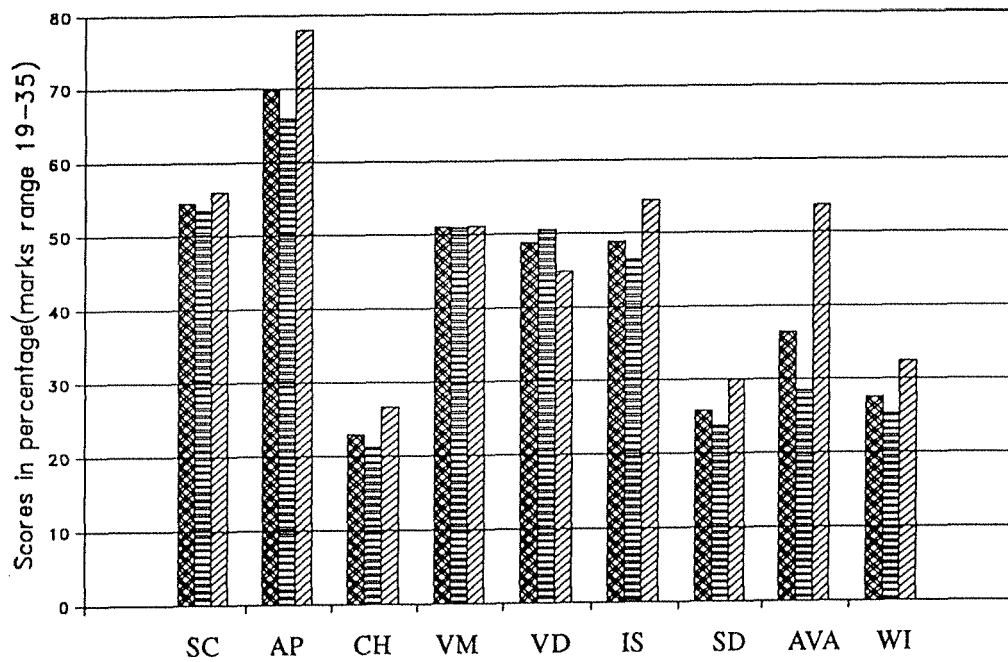
3.4.1 Areas of Reading Readiness and Numeracy Readiness

The comparative frequencies presented in Table 4 indicate that 46.2% of the total sample have scored marks in the range of 19 to 35. 44.4% of PSE children and 50.4% of children with NPSE respectively, have scored marks within the same range.

The students seem to have fared better in areas such as, 'visual perception' and 'vocabulary' when compared to other components in the RR test, when the entire group was taken into consideration (Fig 5). However, while in the score range of 0 to 9, it is observed that children with PSE had a lower level of performance in RR when compared with NPSE children. Only in the areas on 'vocabulary', 'visual perception', PSE children seem to have performed slightly better than NPSE children. In the other component, 'audio-visual association', 71.5% of PSE children scored 0 or 1 as against 46.1% of NPSE children. 'In word identification', 57.9% of PSE children scored 0 or 1 as against 50.5% of NPSE children. Thus, it is apparent that the children without pre-school experience have performed better than those with PSE.

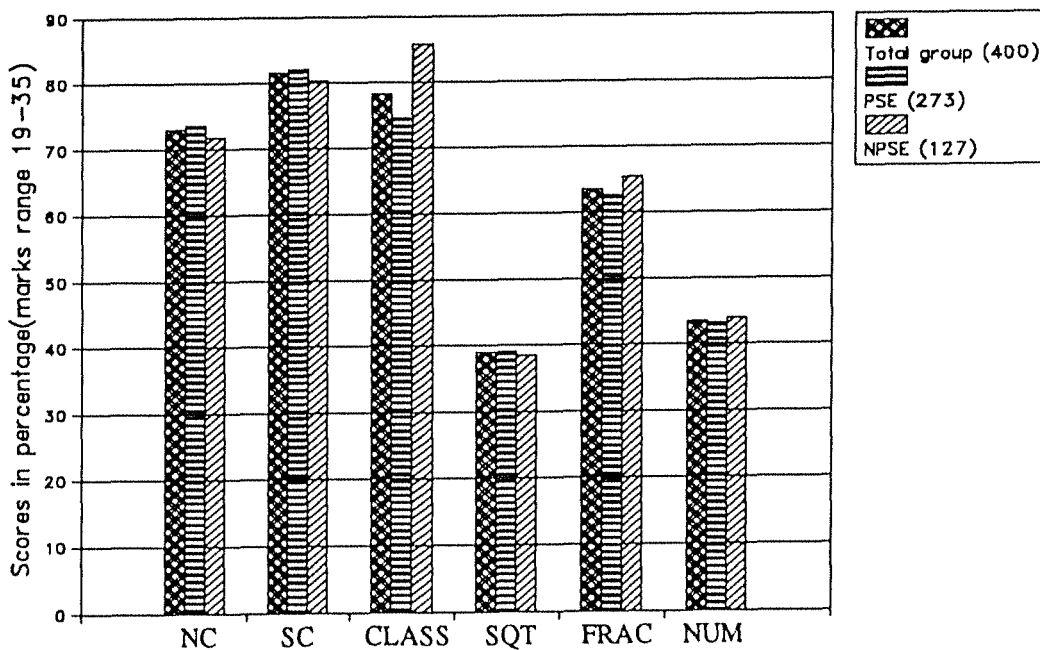
The results for NR indicate that 75.5% of the total sample have scores

Fig 5. A comparison of scores in different components of the Reading Readiness test among PSE, NPSE and Total Sample



SC - Sentence Comprehension VM - Visual Matching SD - Sound Discrimination
 AP - Action Pictures VD - Visual Discrimination AVA - Audio-Visual Association
 CH - Community Helpers IS - Initial Sounds WI - Word Identification

Fig 6. A comparison of scores in different components of the Numeracy Readiness test among PSE, NPSE and Total Sample



NC - Number Concept CLASS - Classification FRAC - Fractions
 SC - Space Concept SQT - Sequential Thinking NUM - Numbers

Table 5 : *Comparative frequencies (in %) of children with differing pre-school Experience taken together (total) and separately on reading readiness (total) and its components.*

Numeracy Readiness	Marks range	Total N = 400	PSE n₁ = 273	NPSE n₂ = 127
Max.marks 35	28-35	153 (38.2)	110 (40.3)	43 (33.8)
	19-27	149 (37.3)	93 (34.1)	56 (44.1)
	10-18	66 (16.5)	48 (17.5)	18 (14.2)
	01-09	30 (07.5)	21 (07.7)	09 (07.1)
	00	02 (00.5)	01 (00.4)	01 (00.8)
Number concepts 14	12-14	182 (45.5)	127 (46.6)	55 (43.3)
	08-11	110 (27.5)	74 (27.1)	36 (28.3)
	04-07	76 (19.0)	52 (19.0)	24 (18.9)
	01-03	25 (06.3)	14 (05.1)	11 (08.7)
	00	07 (01.7)	06 (02.2)	01 (00.8)
Space concepts 07	06-07	240 (60.0)	167 (61.2)	73 (57.5)
	04-05	86 (21.5)	57 (20.9)	29 (22.8)
	02-03	47 (11.7)	29 (10.6)	18 (14.2)
	01	12 (03.0)	08 (02.9)	04 (03.1)
	00	15 (03.8)	12 (04.4)	03 (02.4)
Classification 03	03	230 (57.5)	155 (56.8)	75 (59.1)
	02	83 (20.7)	49 (17.9)	34 (26.7)
	01	40 (10.0)	32 (11.7)	8 (06.3)
	00	47 (11.8)	37 (13.6)	10 (07.9)
Sequential thinking 03	03	84 (21.0)	55 (20.1)	29 (22.8)
	02	72 (18.0)	52 (19.0)	20 (15.7)
	01	69 (17.3)	45 (16.5)	24 (18.0)
	00	175 (43.7)	121 (44.4)	54 (42.6)
Fractions 04	04	210 (52.5)	136 (49.8)	74 (58.3)
	03	44 (11.0)	35 (12.8)	09 (07.1)
	02	60 (15.0)	48 (17.6)	12 (09.4)
	01	36 (09.0)	23 (08.4)	13 (10.2)
	00	50 (12.5)	31 (11.4)	19 (15.0)
Numbers 04	04	94 (23.5)	59 (21.6)	35 (27.6)
	03	80 (20.0)	59 (21.6)	21 (16.5)
	02	75 (18.8)	54 (19.8)	21 (16.5)
	01	22 (05.5)	14 (05.1)	08 (06.3)
	00	129 (32.2)	87 (31.9)	42 (33.1)

Note: Figures in parenthesis indicate values in percentage.

above 19 (Table 5). 74.6% of children with PSE and 77.9% of NPSE children scored marks within the range of 19 to 35. Thus, while making an overall comparison of performance between numeracy and reading readiness, it can be opined that performance is better in NR with only 8% of children having perform poorly with scores below 9 as against 23.3% of children in the RR test. Comparative analysis of children's performance in the various areas of numeracy test reveals that children exhibited dismal performance in 'sequential thinking' (61.0% scoring 0 or 1 mark) and 'numbers' (37.7% scoring 0 or 1 mark). Both PSE and NPSE children faced greater difficulty in answering the items related to 'sequential thinking'. The scores for this area are: PSE- 60.9% with scores 0 or 1 and NPSE- 60.6% with scores of 0 or 1. The groups also experienced difficulty in answering items under 'numbers'.

A comparison between PSE and NPSE children in NR indicates that children without pre-school experience (NPSE) faced very little difficulty in answering items under 'classification'. This is borne out by the fact that only a small percentage of them, 14.2% , scored either 0 or 1 mark.

3.4.2 Sub-Areas of Reading Readiness and Individual items of Numeracy Readiness

A perusal of Table 6 indicates a low performance (0 or 1 mark) of the entire group in the following items of RR test : word identification (55.5%), sound discrimination (53.7%), sentence comprehension (46.0%), community helpers (43.5%) and initial sounds (38.5%).

The following significant observations have been made. Children with two years of PSE faced greater difficulty in answering items related to 'sound discrimination' (70.9% with scores of 0 or 1) when compared to children with one year of PSE (47.9% with scores of 0 or 1). The same trend was observed in items related to 'word identification', 'visual discrimination', 'visual matching' and 'community helpers'. It is apparent that two years of PSE has not enhanced their performance in RR items. Paradoxically, a negative trend in their performance is noticed.

Table 6 : *Comparative frequencies (in %) of children with differing Pre-School Experience on Reading Readiness test items.*

Reading Readines Items	Marks Range	PSE		NPSE n = 127	TOTAL N = 400
		1 year n = 194	2 years n = 79		
Sentence comprehension	4	62 (31.9)	18 (22.8)	23 (18.1)	103 (25.8)
	3	51 (26.3)	15 (19.0)	48 (37.8)	114 (28.5)
	2	40 (20.6)	22 (27.8)	27 (21.3)	89 (22.3)
	1	17 (08.8)	15 (19.0)	16 (12.6)	48 (12.0)
	0	24 (12.4)	09 (11.4)	13 (10.2)	136 (34.0)
Action pictures	4	93 (48.0)	26 (33.0)	68 (53.6)	187 (46.7)
	3	42 (21.6)	19 (24.1)	31 (24.4)	92 (23.0)
	2	27 (13.9)	09 (11.4)	10 (07.9)	46 (11.5)
	1	13 (06.7)	12 (15.2)	04 (03.1)	29 (07.3)
	0	19 (09.8)	13 (16.5)	14 (11.0)	46 (11.5)
Community helpers	4	27 (13.9)	10 (12.7)	22 (17.3)	59 (14.7)
	3	19 (09.8)	02 (02.5)	12 (09.5)	33 (08.3)
	2	68 (35.0)	19 (24.1)	47 (37.0)	134 (33.5)
	1	10 (05.3)	12 (15.2)	06 (04.7)	28 (07.0)
	0	70 (36.0)	36 (45.5)	40 (31.5)	146 (36.5)
Visual matching	4	64 (33.0)	19 (24.1)	28 (22.1)	111 (27.8)
	3	42 (21.6)	14 (17.7)	37 (29.1)	93 (23.2)
	2	37 (19.0)	16 (20.3)	27 (21.3)	80 (20.0)
	1	21 (10.9)	13 (16.5)	15 (11.8)	49 (12.2)
	0	30 (15.5)	17 (21.4)	20 (15.7)	67 (16.8)
Visual discrimination	4	58 (29.9)	25 (31.6)	29 (22.8)	112 (28.0)
	3	46 (23.7)	09 (11.4)	28 (22.1)	83 (20.8)
	2	31 (16.0)	07 (08.9)	29 (22.8)	67 (16.8)
	1	20 (10.3)	09 (11.4)	17 (13.4)	46 (11.4)
	0	39 (20.1)	29 (36.7)	24 (18.9)	92 (23.0)
Initial Sounds	4	62 (31.9)	23 (29.1)	35 (27.6)	120 (30.0)
	3	36 (18.6)	06 (07.6)	34 (26.8)	76 (19.0)
	2	27 (13.9)	06 (07.6)	17 (13.4)	50 (12.5)
	1	11 (05.7)	03 (03.8)	12 (09.4)	26 (06.5)
	0	58 (29.9)	41 (51.9)	29 (22.8)	128 (32.0)
Sound discrimination	4	30 (15.5)	04 (05.0)	11 (08.7)	45 (11.3)
	3	28 (14.4)	03 (03.8)	27 (21.2)	58 (14.5)
	2	43 (22.2)	16 (20.3)	23 (18.1)	82 (20.5)
	1	15 (07.7)	07 (08.9)	11 (08.7)	33 (08.2)
	0	78 (40.2)	49 (62.0)	55 (43.3)	182 (45.5)
Word identification	4	19 (09.8)	10 (12.7)	17 (13.4)	46 (11.5)
	3	31 (16.0)	09 (11.4)	24 (19.0)	64 (16.0)
	2	38 (19.6)	08 (10.1)	22 (17.3)	68 (17.0)
	1	26 (13.4)	03 (03.8)	20 (15.7)	49 (12.3)
	0	80 (41.2)	49 (62.0)	44 (34.6)	173 (43.2)

Note: Figures in parenthesis indicate values in percentage.

Table 7 : *Comparative frequencies (in %) of children with differing Pre-School experience on Numeracy Readiness test items.*

Numeracy Readiness Items	PSE		NPSE n = 127	TOTAL N = 400
	1 yr n = 194	2yr n = 79		
Big/small	180 (92.8)	67 (84.8)	113 (89.0)	360 (90.0)
Seriation	142 (73.2)	44 (55.7)	90 (70.9)	276 (69.0)
Long/short	183 (94.3)	69 (87.3)	113 (89.0)	365 (91.3)
Seriation	144 (74.2)	51 (64.6)	90 (70.9)	285 (71.3)
Tall/short	177 (91.2)	69 (87.3)	105 (82.7)	351 (87.5)
Seriation	138 (71.1)	51 (64.6)	85 (67.0)	274 (68.5)
Far/near	152 (78.4)	43 (54.4)	71 (56.0)	296 (74.0)
Seriation	100 (51.5)	27 (34.2)	55 (43.3)	182 (45.5)
Up/down	162 (83.5)	47 (59.5)	96 (75.5)	305 (76.3)
Seriation	125 (64.4)	33 (41.8)	73 (57.5)	231 (57.8)
Thick/thin	167 (86.0)	46 (58.7)	113 (89.0)	326 (81.5)
Seriation	135 (69.6)	37 (46.8)	88 (69.5)	260 (65.0)
Less/more	145 (74.7)	45 (57.0)	75 (59.1)	265 (66.3)
Seriation	113 (58.2)	35 (45.3)	51 (40.2)	199 (49.8)
In/out	165 (85.0)	55 (69.6)	108 (85.0)	328 (82.0)
Up/down	170 (87.6)	55 (69.6)	110 (86.6)	335 (83.8)
Front/ behind	161 (83.0)	46 (58.2)	83 (65.4)	290 (72.5)
Full/empty	183 (94.3)	59 (74.7)	115 (90.6)	351 (89.3)
First/last	159 (82.0)	43 (54.4)	86 (67.7)	288 (72.0)
Left/right	152 (78.4)	47 (59.5)	87 (68.5)	286 (71.5)
Left/right-DC	137 (70.6)	38 (48.1)	79 (62.2)	254 (63.5)
Transport items	133 (68.5)	30 (38.0)	88 (69.3)	251 (62.8)
Utensils	158 (81.4)	42 (53.2)	102 (80.3)	302 (75.5)
Clothes	165 (85.0)	50 (63.3)	112 (88.2)	327 (81.8)
Bathing	89 (45.8)	23 (29.1)	51 (40.2)	163 (40.8)
Washing	77 (39.7)	22 (27.8)	52 (40.9)	151 (37.8)
Water-litting	82 (42.3)	21 (26.6)	48 (37.8)	151 (37.8)
Full-circlce	176 (90.7)	64 (81.0)	104 (81.9)	344 (86.0)
Half-circle	158 (81.4)	48 (60.8)	97 (76.4)	303 (75.8)
Les-than half	129 (66.5)	38 (48.1)	83 (65.4)	250 (67.8)
More than half	116 (59.8)	39 (49.4)	76 (59.8)	231 (57.8)
How many	135 (69.6)	40 (50.6)	83 (65.4)	258 (64.5)
How many	126 (65.0)	43 (54.4)	78 (61.4)	247 (61.8)
No. after 2	99 (51.0)	25 (31.6)	56 (44.1)	180 (45.0)
No. before 5	50 (25.8)	17 (21.5)	36 (28.3)	103 (25.8)

Note: Figures in parenthesis indicate values in percentage.

Children with NPSE found items under 'word identification' to be the most difficult (50.5% with scores of 0 or 1) followed by items under 'sound discrimination' (52.0% with scores of 0 or 1).

The relative performance in answering different items of NR test is presented in Table 7. A perusal of the table indicates that out of the 14 items under 'number concept', the alternating 'seriation' items were the most difficult to answer. Items such as - 'big/small'; 'long/short'; and 'tall/short' were the most easy ones.

In space concept, items 'left/right', 'left/right-double command' were most difficult when compared with items like 'up/down' and 'back/front'.

In items related to fractions, 'more than half' and 'less than half' seem to be most difficult items.

When the performance in all the concepts in numeracy are assessed on a comparative basis, 'sequential thinking' appears to be the most difficult with only 39% of the entire group completing the item successfully (Table 5).

The item 'long/short', in the number concept is the easiest of the 35 items in the NR test, with 91.25% of the total sample answering correctly. In, 'numbers', the item 'number before 5', was the most-difficult item with only 25.8% of the entire group answering correctly.

Even in the NR items, children with only one year of pre-school experience seem to have performed better than those with two years of pre-school experience. In general, children of PSE and NPSE exhibited nearly the same level of performance in the numeracy items.

3.5 Comparison of mean scores of children with Pre-school experience and children with No pre-school experience, on Reading Readiness, Numeracy Readiness and Social Readiness

To find the significance of difference between the Mean performance

levels of PSE and NPSE children, 't' values for RR and NR, age-wise and gender-wise were computed separately.

As mentioned earlier, the present investigation drew its sample from among children who had just joined class I during the year 1995-96 and it sought to find out the relationship between (a) children's pre-school experience and their level of performance in RR, NR and SR (b) children's age level and their performance in RR and NR (c) Gender and the level of performance in RR and NR.

The mean score of PSE children in RR is 16.828 with a SD of 9.153 whereas the mean score of NPSE children is 17.992 with a SD of 8.707. The difference between the mean scores of the two groups is not statistically significant ($t = 1.224$). Hence the **Hypothesis 1a -There is no significant difference between PSE and NPSE children with reference to the level of - Reading Readiness -** is accepted. We can thus conclude that the RR level remains the same irrespective of PSE of NPSE.

The mean scores of PSE children in NR is 23.476 with a SD of 8.642 whereas the mean score of NPSE children is 23.236 with a SD of 7.996. The difference between the two groups is not statistically significant ($t = 0.29$). Hence the **Hypothesis 1b - There is no significant difference between PSE and NPSE children with reference to the level of - Numeracy Readiness -** is accepted. We can thus conclude that the NR level remains the same irrespective of whether the children have pre-school experience or not.

The mean score of children with Pre-school experience on social readiness is 12.381 with a SD of 3.005 where as the mean score of children with NPSE is 13.283 with a SD of 2.660. The difference in mean scores between the two groups is statistically significant ($t = 3.031$) at 0.01 level. Thus the **Hypothesis 1c -There is no significant difference between PSE and NPSE children with reference to the level of Social Readiness -** is rejected.

Table 8 : *M,SD and 't' values of Reading Readiness scores for different age groups among PSE and NPSE Children.*

Sl. No.	Age (months)	Sub groups	n	Mean	SD	t
1	66+	PSE	217	16.59	9.327	0.82 n.s
		NPSE	93	17.50	8.752	
2	63-65	PSE	26	19.46	8.697	0.96 n.s
		NPSE	14	16.43	10.168	
3	60-62	PSE	26	16.31	7.021	2.27*
		NPSE	19	20.89	5.721	
4	Below 60	PSE	04	15.50	6.220	0.0 n.s
		NPSE	01	30.00	0.000	

Note: * -Significant at 0.05 level

Table 9 : *M,SD and 't' values of Numeracy Readiness scores for different age groups among PSE and NPSE Children.*

Sl. No.	Age (months)	Sub groups	n	Mean	SD	t
1	66+	PSE	217	23.20	8.82	0.46 n.s
		NPSE	93	22.70	8.31	
2	63-65	PSE	26	26.15	6.66	1.07 n.s
		NPSE	14	23.57	7.75	
3	60-62	PSE	26	23.11	7.00	1.25 n.s
		NPSE	19	25.74	6.51	
4	Below 60	PSE	04	23.25	6.34	0.0 n.s
		NPSE	01	21.00	0.00	

Table 10: *Summary of one way ANOVA (F Values) of RR and NR with respect to selected variables among PSE, NPSE and total group.*

Group	PSE (273)		NPSE(127)		TOTAL (400)	
	RR	NR	RR	NR	RR	NR
Age	0.89	0.96	1.61	0.79	0.64	1.00
Sex	3.74*	5.14*	0.75	0.40	4.48*	5.02*

Note: * Significant at 0.05 level

This implies that pre-school experience actually affects the level of social readiness of children.

Table 8 clearly indicates that the mean difference score between PSE and NPSE children in the age group of 60-62 months, in RR, seems to be significant at 0.05 level. Except this category, the mean differences under the other categories of age were not significant. Therefore, it could be inferred that, the difference in performance in the RR test between PSE and NPSE children were noticed only in the age group of 60-62 months. It is, however, difficult to account for this significant difference. As the sample in this category was limited it calls for further linear research.

Performance in the NR test (Table 9) was found to be independent of both factors, age and pre-school experience, in the present study.

For the purpose of comparison of performance in RR/NR tests, F values taking age and gender separately for the group and its sub groups (PSE and NPSE) were computed (Table 10).

A careful observation of age-wise RR and NR levels indicates that individual 95 PCT CI's for mean based on pooled standard deviation for RR (pooled SD = 9.031) indicating $F_{3,396} = 0.64$, which is not significant at 0.05 level. Thus, **Hypothesis 2- The performance of children in RR and NR test does not increase with age** - is accepted. It is thus concluded that the level of RR and NR is not affected by a two-month decrease or increase in age.

However, the level of RR and NR seem to be related with the gender. Boys seem to have better readiness than girls in both RR and NR. $F_{1,398} = 4.48$, $t = 2.17$ significant at 0.05 level for RR and $F_{1,398} = 5.02$, $t = 2.24$ which is also significant at 0.05 level. Thus, **Hypothesis 3-The performance of children in RR and NR test is independent of gender** - is rejected.

Further analysis of RR and NR scores (mean and SD) between the PSE

and NPSE children reveal that there is no significant variation in scores with an increase or decrease in age by two months. So **Hypothesis 4- The performance in RR and NR does not differ with age among PSE and NPSE children** - is accepted.

The RR and NR scores between boys and girls of the PSE category vary significantly leading to the rejection of **Hypothesis 5-The performance in RR and NR does not differ with gender among PSE and NPSE children**. But the hypothesis has to be accepted in the case of NPSE children as scores of boys and girls in this group did not vary significantly (Table 11). Thus, in our study, boys with PSE seem to have better readiness both in 'Numeracy' and 'Reading' in comparison with girls belonging to the same category.

Table 11 : Age-wise Reading Readiness and Numeracy Readiness scores (Mean & SD) of Children with differing Pre-School Experience along with significance of difference.

Category	Age in months	Number	Reading Readiness			Numeracy Readiness		
			Mean	SD	t	Mean	SD	t
PSE	66 +	217	16.59	9.397	0.94	23.20	8.800	0.98
	63-65	26	19.46	8.697		26.15	6.532	
	60-62	26	16.31	7.021		23.11	6.863	
	below 60	04	15.50	6.220		23.25	5.494	
NPSE	66 +	93	17.50	08.752	1.27	22.70	8.270	0.84
	64-65	14	16.43	10.168		23.57	7.470	
	60-62	19	20.89	05.721		25.74	6.340	
	below 60	01	30.00	00.000		21.00	0.000	
TOTAL	66 +	310	16.86	09.218	0.80	23.05	8.649	1.00
	63-65	40	18.49	09.360		25.25	6.985	
	60-62	45	18.24	06.887		24.22	6.772	
	below 60	05	18.40	08.040		22.80	5.000	

3.6 Relationship between the predictor variables (Age, Gender and Social Readiness) with criterion variables (Reading Readiness and Numeracy Readiness)

Multiple regression analysis (Tables 12-17) reveal that the predictor variable, 'social readiness' (SR) has a 't' value of 1.96 and above (significant at 0.05 level) . This clearly suggests an interaction between SR and the performance in RR. This predictor variable seems to have its significant influence on RR when the entire group was taken into consideration - $R^2 = 32.2\%$, $F_{3,396} = 62.5$, $p < 0.001$ (Table 12).

This helps us to conclude that higher the SR greater will be the RR. Thus the **Hypothesis 6a -There is a positive significant relationship between the three predictor variables (age, gender and social readiness) on the one hand and the criterion variable, Reading Readiness on the other - is accepted.** Similar type of interaction was found even with reference to NR (Table 13), in which, $R^2 = 14.6\%$, $F_{3,396} = 22.48$, $p < 0.001$. Similar analysis conducted for PSE and NPSE groups, keeping RR and NR as criterion variables and age,

Table 12 : *Multiple Regression analysis of total sample with Age, Gender and Social Readiness as predictor variables and Reading Readiness as criterion variable.*

Predictor	Coef	SD	t-ratio	P
Constant	-1.365	2.8620	-0.48	0.634
Age	-0.3605	0.5124	-0.70	0.482
Gender	-1.2375	0.7471	-1.66	0.098
SR	1.7149	0.1280	13.40	0.000

$$s = 7.452 \quad R^2 = 32.2\% \quad \bar{R}^2 = 31.7\%$$

Analysis of Variance

Source	Df	SS	MS	F	P
Regression	3	10464.2	3488.16	2.80	0.000
Error	396	21993.2	55.5		
Total	399	32457.4			

gender and SR as predictor variables showed that for RR and NR again the contribution of SR was found to be significant (Tables 14-17). However, gender seems to bring a variation in the numeracy readiness irrespective of

Table 13 : *Multiple Regression analysis of total sample with Age, Gender and Social Readiness as predictor variables and Numeracy Readiness as criterion variable.*

Predictor	Coef	SD	t-ratio	P
Constant	14.105	2.9610	4.76	0.000
Age	-0.4175	0.5300	-0.79	0.431
Gender	-1.4597	0.7728	-1.89	0.060
SR	1.0259	0.1324	7.75	0.000

$$s = 7.708 \quad R^2 = 14.6\% \quad \bar{R}^2 = 13.9\%$$

Analysis of Variance

Source	Df	SS	MS	F	P
Regression	3	4007.3	1335.8	22.48	0.000
Error	396	23530.7	59.4		
Total	399	27538.0			

Table 14 : *Multiple Regression analysis of PSE children with Age, Gender and Social Readiness as predictor variables and Reading Readiness as criterion variable.*

Predictor	Coef	SD	t-ratio	P
Constant	-0.885	3.5410	-0.25	0.803
Age	-0.0301	0.6595	-0.05	0.964
Gender	-1.6238	0.9327	-1.74	0.083
SR	1.6365	0.1555	10.53	0.000

$$s = 7.692 \quad R^2 = 30.2\% \quad \bar{R}^2 = 29.4\%$$

Analysis of Variance

Source	Df	SS	MS	F	P
Regression	3	6873.0	2291.0	38.73	0.000
Error	296	15913.9	59.2		
Total	272	22786.9			

their pre-school experience. **Hypothesis 6b** -There is a positive significant relationship between the three predictor variables (age, gender and social readiness) on the one hand and the criterion variable, Numeracy Readiness on the other - is accepted.

Table 15 : *Multiple Regression analysis of PSE children with Age, Gender and Social Readiness as predictor variables and Numeracy Readiness as criterion variable.*

Predictor	Coef	SD	t-ratio	P
Constant	16.033	3.6580	4.38	0.000
Age	-0.2746	0.7811	-0.40	0.687
Gender	-2.0270	0.9635	-2.10	0.036
SR	0.9285	0.1606	5.78	0.000

$$s = 7.946 \quad R^2 = 12.8\% \quad \bar{R}^2 = 11.8\%$$

Analysis of Variance

Source	Df	SS	MS	F	P
Regression	3	2493.85	831.28	13.17	0.000
Error	269	16982.25	63.13		
Total	272	19476.10			

Table 16: *Multiple Regression analysis of NPSE Children with Age, Gender and Social Readiness as predictor variables and Reading Readiness as criterion variable*

Predictor	Coef	SD	t-ratio	P
Constant	-4.2250	4.9580	-0.85	0.396
Age	-0.9626	0.8037	-1.20	0.233
Gender	-0.3180	1.2370	-0.26	0.798
SR	1.9665	0.2344	8.39	0.000

$$s = 6.932 \quad R^2 = 38.1\% \quad \bar{R}^2 = 36.6\%$$

Analysis of Variance

Source	Df	SS	MS	F	P
Regression	3	3642.0	1214.0	25.26	0.000
Error	123	5911.0	48.1		
Total	126	9553.0			

Table 17: *Multiple Regression analysis of NPSE children with Age, Gender and Social Readiness as predictor variables and Numeracy Readiness as criterion variable.*

Predictor	Coef	SD	t-ratio	P
Constant	7.4440	5.0730	1.47	0.145
Age	-0.7422	0.8223	-0.90	0.369
Gender	-0.1640	1.2660	-0.13	0.897
SR	1.4064	0.2399	5.86	0.000

s = 7.093

R² = 23.2 %

\bar{R}^2 = 21.3 %

Analysis of Variance

Source	Df	SS	MS	F	P
Regression	3	1868.95	622.98	12.38	0.000
Error	123	6187.96	50.31		
Total	126	8056.91			

Boys seem to have better readiness than girls in both 'Numeracy' and 'Reading'. Social Readiness seems to exert significant influence on both RR and NR among children without pre-school experience (Tables 16 & 17).

The values in this category were: R² = 38.1%, F_{3,123} = 25.26, p < 0.001 for RR ;and R² = 23.2%, F_{3,123} = 12.38, p < 0.001 for NR.

Thus, the only significant variation due to gender for Numeracy Readiness is seen among the NPSE children. In other cases, SR seem to interact significantly with RR and NR levels.

CHAPTER - IV

DISCUSSION

- 4.1 Findings of the study in relation to theory and previous research
 - 4.1.1 *Relationship among Reading Readiness (RR), Numeracy Readiness(NR) and Social Readiness (SR)*
 - 4.1.2 *Reading Readiness*
 - 4.1.3 *Numeracy Readiness*
 - 4.1.4 *Influence of pre-school experience of children on Reading Readiness and Numeracy Readiness*
 - 4.1.5 *Influence of Gender on Reading Readiness and Numeracy Readiness*
 - 4.1.6 *Influence of age on Reading Readiness and Numeracy Readiness*
 - 4.1.7 *Relationship of social readiness with Reading Readiness and Numeracy Readiness*
- 4.2 Limitations of the study
- 4.3 Implications of the study
 - 4.3.1 *Implications for teachers*
 - 4.3.2 *Implications for text book writers*

DISCUSSION

"If we have to educate a person in virtue we must polish him at a tender age"

- Comenius (1592-1670) in "The Great Didactic".

This chapter is divided into 3 parts. In the first part, the most important findings of the study are discussed in relation to theory and prior research. In the second Part the limitations of the study are presented and in the third Part implications of the study for teachers and text book writers are discussed.

4.1 Findings of the study in relation to theory and previous research

The present study was mainly aimed at studying the levels of RR and NR of PSE and NPSE children and to compare the two groups on the said variables. It was also aimed at finding out the relationships between RR, NR; between age, gender, SR with RR and NR in both the groups. This implied a descriptive-correlation study.

4.1.1 Numeracy and Reading Readiness vis-a-vis Social Readiness

In the present study the relationship among RR, NR and SR were quite significant. **High correlation** between RR and NR, **moderate correlation** between RR and SR and **low positive correlation** between NR and SR were established.

4.1.2 Reading Readiness

'Reading' is the primary means of acquiring knowledge and skills in subjects. Thus, 'reading' is the *sine-qua-non* of the school from the first day through the end of the individual's formal education. Learning to 'read' is the main objective at the beginning of instruction. No other activity is given as much importance in the lower grades of primary education. Failure to do these preliminary reading exercises places children in the danger of future school failure.

Reading, which is a complex activity can be broken into sub tasks that can be learnt more easily if they are made simpler and subsequently combined into more complex activities. Hence, emphasis on reading readiness training is very essential and amply justified.

Age of the learner is another critical factor on which readiness level depends. Is he ready to learn things at the age of 5 or at the age of 7? What is it that he can learn at 5 and what at 7? These factors are very essential and should be taken into consideration while planning the instructional materials/programmes. As this study has revealed, we must also consider other specific factors of the learner and his readiness to learn other subjects.

In the absence of research studies in the above mentioned areas, the present study is only a beginning in this direction. The results of the present study on reading readiness have helped in identifying the components which can act as "promoters" and have also helped in recognizing the difficult components of 'reading'. Items related to 'vocabulary' (action pictures) and 'visual perception' (visual matching and visual discrimination) and to some extent 'auditory discrimination' (initial sounds) are easier items compared to the other components by 'vocabulary' (sentence comprehension, community helpers), 'auditory discrimination' (sound discrimination), 'audio-visual association' and 'word identification'. Of these, the last two named seem to be the most difficult areas. Thus, while writing instructional materials for children to develop the needed competency, it is better to commence with easy and familiar components, and then, after attainment of mastery in these, proceed to the more complex areas gradually through a series of well organized progressive activities. A better performance in 'visual perception' clearly indicates that children's learning in this area is mainly through the presentation of information through "projected aids". In our schools, presently non-projected materials are used more often than projected materials. The study has indicated that a higher level of performance can be achieved by using

projected materials. Hence, this should be the focus in our schools.

In the area of 'vocabulary', the study has shown that children learn better when words related to their familiar experiences and day-to-day knowledge are given emphasis. Initially, teachers can use students personal experience and previous knowledge to build vocabulary. Instruction in which children are able to establish relationship among words is more effective than instruction that focuses only on the spellings and meanings of words. Teachers and textbook writers can highlight similarities and differences between related words in an effort to enhance children's 'vocabulary'. They can also attempt grouping words based on certain specific features. Encouraging children to speak about their personal experiences and then reinforcing association with particular words helps them to quickly grasp the meanings and relationships among words and ideas. This method would be particularly effective in the early grades. Devine (1987) is of the opinion that "an effective programme for vocabulary should include both attention to words in each lesson and also a sequenced, year-long set of exercises and activities". This point has to be borne in mind while writing instructional materials. Later on, in higher grades (II, III and IV), using 'analysis' as a strategy in teaching, teachers would be able help to children appreciate relationships between previously learnt words and new ones.

Individual teachers can use a number of other strategies to improve the students 'vocabulary' Some of these are direct teaching of 'vocabulary', teaching 'vocabulary' through games, using dictionaries (at higher grades), using personal experiences of children, and by 'reading' as a means to teach 'vocabulary'. 'Reading' is another very important approach for gathering information. Guiding students in 'reading' should be one of the most important activities of the teacher. Drilling the practice of reading to children of early grades has several advantages - (1) it helps in vocabulary building, analyzing spellings and enhances their language capability and (2) makes them

independent and responsible for home assignments.

When children first learn to read, they must first devote utmost attention to the process of translating printed letters into pronounceable words. As the competency in this area increases, children recognize the printed words more quickly and accurately (Bransford, 1986). Teachers should monitor and identify these changes to determine the progress of their students and mould them towards becoming competent learners.

The study has shown that it is imperative for the teachers and textbook writers to take note of the hierarchy of difficulty of components in 'reading' namely, from 'vocabulary' through 'visual perception' and 'auditory discrimination' to 'audio-visual association' while preparing instructional materials and also in the classroom situation.

4.1.3. Numeracy Readiness

The study has revealed a better numeracy readiness among children as compared to reading readiness. Could it be that numbers are learnt more naturally and easily than words? A good and practical way to teach simple arithmetic to children is to build on their informal and impulsive knowledge. Learning to count everyday objects is an effective foundation for early arithmetic lesson. Such early counting activities can set the stage for more formal exposure to arithmetic at a later stage when teachers can use children's informal knowledge and then proceed to more complex operations in arithmetic. This way children learn readily and also experience joy in learning.

The present study has revealed that the most difficult items in the numeracy readiness test were, 'sequential thinking' followed by items related to 'numbers'. Of the 14 items in the 'number concept', students experienced greater difficulty in 'seriation'. Similarly, in 'space concepts', left/right and left/right - double command were difficult. In 'fractions', item related to 'more than half' and 'less than half' were difficult. It was an interesting

observation that children with NPSE fared better in items related to 'classification' and 'fractions'.

Children in early grades learn arithmetic more effectively when they use physical objects for counting. Numerous studies on mathematics achievements at different grades and ability levels have shown that children benefit a great deal when real objects are used as teaching-learning aids in the class room. Objects that children can look and hold are particularly important in the early stages of learning because it also helps them to understand through another dimension, the dimension of 'visual perception'. Later, they may be helped to pool in and concretize their observations for better understanding of the basic concepts in mathematics.

Klahr and Wallace (1976), Germon and Gallistel (1978) have identified five principles (pre-mathematics abilities) that are required for counting. These are constancy of objects in space (Piaget); spatial conservation (Piaget); competency of abstract relations; inferential meaning and form reasoning. Siegler and Robinson (1982) have provided some evidence that young children tend to represent numbers in categories such as small numbers and large numbers. Counting skills need to be practiced so thoroughly that they become spontaneous and automatic for children. The child should experience success and must enjoy the learning. Learning numbers by chanting rhymes is an age old custom in our country and is being practiced in our schools even today. Such practices can be further supplemented by mathematics games and activities that would help in motivating the students to think. The games are fast moving and absorbing to children. Developing positive interest towards mathematics is possible through such means and this should be the primary concern of the teacher.

4.1.4. Influence of pre-school experience of children on Reading readiness and Numeracy Readiness

There are numerous studies which suggest a need for pre-primary education and have given several reasons for it. Some of the important reasons are - (1) early childhood education serves to fulfill effectively all the needs of the young child (Venkataram, 1984); (2) early childhood education prepares a sound base for formal education thus reducing wastage and stagnation in general education (Saxena, 1971; Deenammal, 1978).

A review of related literature revealed that not much work has been done in establishing a relationship between pre-school experience and the performance of children. Many researches are available in the area of SES of students and their academic achievement. While Reddy (1979) and Sudhame (1973) did not find any positive relationship between pre-school experience and children's performance; Jane (1965), Pathak (1972) and Singh *et al.* (1974) found a positive relationship between the above variables. The findings of our study authenticate the former's view point. William (1982) cites that "achievement levels and mental maturity are prominently mentioned as being affected by the pre-school experience, but effects are not long lasting". However, Entwisle *et al.* (1986), have made observations which are very close to the results of our study. They say that, "the total effect of the amount of Kindergarten experience on cognitive ability test is negligible, and direct effect, which measures the effect on cognitive ability test scores-gain over first grade is negative". Similar observations were found in our study wherein children with one year of pre-school experience fared better than those with two years experience in several items of the reading and numeracy readiness test. The present study has also shown that children without pre-school experience (NPSE children) have performed consistently well in several areas of the reading readiness test except in 'vocabulary'. Only in this area, pre-school experience seems to have helped children score better than those

without pre-school experience. Entwisle *et al.* (1986), have however found a positive effect of pre-school experience on reading and mathematics. Padhy (1986) has observed that school children performed better than their non-schooled counterparts in 'seriation' tasks. The present study showed the existence of the same level of difficulty between both the groups, PSE and NPSE, in the 'seriation' items.

4.1.5. Influence of gender on Reading Readiness and Numeracy Readiness

A review of literature reveals the existence of divergent views about the influence of gender on children's performance in early grades. The stage at which one group surpasses the other varies from study to study. In the present study, boys have performed better than girls in both RR and NR tests and have, there by, exhibited better readiness. Similar type of observations were made by Flanagan (1982); Husen (1967) and Mcece *et al.* (1982). Contrary to these reports, a better performance by girls over boys in 'reading' was reported by Mehta (1972) and Agnihotri (1979) and in mathematics achievement by Peterson and Fenema (1985) and Brener (1984). Further, a few studies in Hawaii have established a better performance of girls in mathematics. Studies carried out by Dwyer (1974) Mcece (1983) and Dole (1967) have pointed out that "sex role expectations and gender identity may have considerable influence in mathematics achievement". It is probable that role expectations of girls in our society too are such that the time devoted by them towards learning is less and hence has affected their readiness.

Another important finding of the present study is that, within the group of children with PSE, boys and girls had different levels of RR and NR whereas, in the other group, the NPSE, boys and girls did not differ markedly in their performance in RR and NR tests. This difference in the level of performance between boys and girls of the PSE group can be attributed to a difference in

their role expectations. Why this factor has not influenced children in the NPSE category is quite baffling. Dembo (1991) recognized that "knowing a student's gender is just one way of knowing about the student, and also confirms that difference between boys and girls are not absolute, but only a matter of degree. Results based on a few students should not be used to generalize about the entire group".

The reading readiness of children may also be influenced by a few other factors, besides gender. Background of the child (rural or urban), educational level, occupation and income of the parents etc. may have a decisive role in determining the overall readiness of the child. Further research on these lines will perhaps provide the appropriate answers.

4.1.6. Influence of age on Reading Readiness and Numeracy Readiness

The study revealed that an increase in age by an increment of 2 months did not significantly influence their performance in RR and NR tests, both among PSE and NPSE children. On the other hand, Padhy (1986) has established the existence of a desirable effect of schooling and age on 'seriation', 'length', 'area' and 'cubes'. But no such effects were noticed in the present study. The contradiction was distinct with regard to items of conservation such as 'numbers'.

4.1.7. Relationship of social readiness (SR) with Reading Readiness and Numeracy Readiness

The study has established a positive relationship among the above variables. SR seems to act as a significant predictor for RR. Studies of Muralidharan and Banerjee (1974), Muralidharan and Kaveri (1987) have also dealt with this aspect. They attribute cultural influence as the reason for the difference in social competence. However, Shukla (1984) found no difference in social competence between boys and girls with pre-school experience. Tharapore *et al.* (1986) are of the opinion that children trained in good quality

Anganawadis fared better than their counterparts in poor quality Anganawadis. In our study however, such a categorization of Anganawadis was not attempted. It can, however, be said that social readiness of the children, irrespective of PSE or NPSE, influence their level of performance both in reading and numeracy.

The relationship between RR and SR was significant whereas between NR and SR the mutual influence is relatively less. Is SR having a positive and strong influence on the intellectual/academic achievement? A longitudinal study may provide an answer to this.

4.2 Limitations of the study

The study was intended to assess the readiness levels in reading and numeracy among children with PSE and NPSE and also to examine some factors that have potential relationship to readiness. The limitations were (a) the study was limited to two educationally backward districts, Mandya and Kolar (DPEP districts) of Karnataka State; (b) only children with rural background and studying in government schools were sampled. As a result no generalization for children outside these parameters can be made, and (c) the tool standardized by NCERT for use uniformly in different states was used for the study. Hence, its reliability and validity, specific for the districts where the study was undertaken, was not separately established.

4.3 Implications of the study

Some of the implications of the study have been discussed simultaneously with results at the appropriate places in Chapter III. However, in the following pages an attempt is made to consolidate the implications under two categories:

(1) Implications for teachers and (2) implications for textbook writers.

4.3.1. Implications for teachers

The world is changing at such a rapid pace that we cannot even guess what specific knowledge and skills will be critical for children in the future. We must therefore develop in them both the acumen to decide for themselves what their requirements are, and also the abilities to acquire them. We must equip students with more than skills; "beyond knowing 'how', they must understand 'how', they must be prepared to think about 'when', 'why', 'why not' and 'how else'" (Costa, 1994). The fact that the child's ability to think contributes to reading readiness was reported by Almy (1966) in her study. She opines that a programme designed to nurture logical thinking should contribute positively to reading readiness. Teachers can help students in the learning process by organizing the information correctly and sequentially. This will enable students to recognize new examples of concepts and ideas learnt earlier. Teachers need to know the preferred learning styles and abilities of their students. It is, only then that they will be able to select appropriate instructional methods and conduct learning activities in ways that would help students develop to their intrinsic potential.

Teachers are always on the look out for materials that could motivate and sustain children's interest. Today, with a myriad of stimuli around them, children undoubtedly need special training. Recognizing this urgent need, NPE '86 in its charter, emphasized a need for paying immediate attention to: (1) improving the school environment and (2) prescribing MLLs for each stage of elementary education which the children should achieve. Teachers have to rise up to the demands and accept the challenge of designing suitable and functional approaches to suit specific learning situations. Even though there is an on-going 'content-process' debate for quite sometime now, and "use of a content-free approach" has been floated, an unanswered question that still remains is, can a curriculum really be content-free? Content of the curriculum is the knowledge while process is about its interpretation and

understanding. Knowledge without the ability to explore its dimensions and relations is useless. Cognitive theory makes it clear that understanding without knowledge is not merely impractical but psychologically impossible.

The following approach to competency-based teaching for successful attainment of MLLs is suggestive. First and foremost is that the teacher should have a thorough understanding of all the competencies and their scope. Second, the learners are assessed as to their initial abilities (readiness) and if they are found wanting they should be helped in acquiring the required level of readiness. Third, the instructional sequence for the attainment of the specified competency is designed and implemented. Fourth, the learner's attainment of the specified competency is evaluated. Fifth, if the attainment falls short of expectations, adjustments are to be made to the instructional programme so that, the competencies are achieved. On the other hand, if the learner shows mastery of what has been taught, necessary additive adjustments in instructions have to be made so that the mastery is enhanced. The steps given above constitute a Competency- Based Teaching Model and is illustrated in the Fig.7

The model is basically learner focussed and could be quite effective for developing the necessary competency among children. The present study also suggests redefining competencies if competencies are not appropriate to the level of readiness of the child. Further, in-depth research on the hardspots in the competencies will help in solving many intricate problems of classroom learning situation. It is, however, essential that a thorough and critical analysis of the existing MLL- based text books has to be done before undertaking any fresh exercise. Above all, teacher, being the greatest facilitator in the class room, should carefully monitor the changes in children and help in their progress towards attainment of competencies.

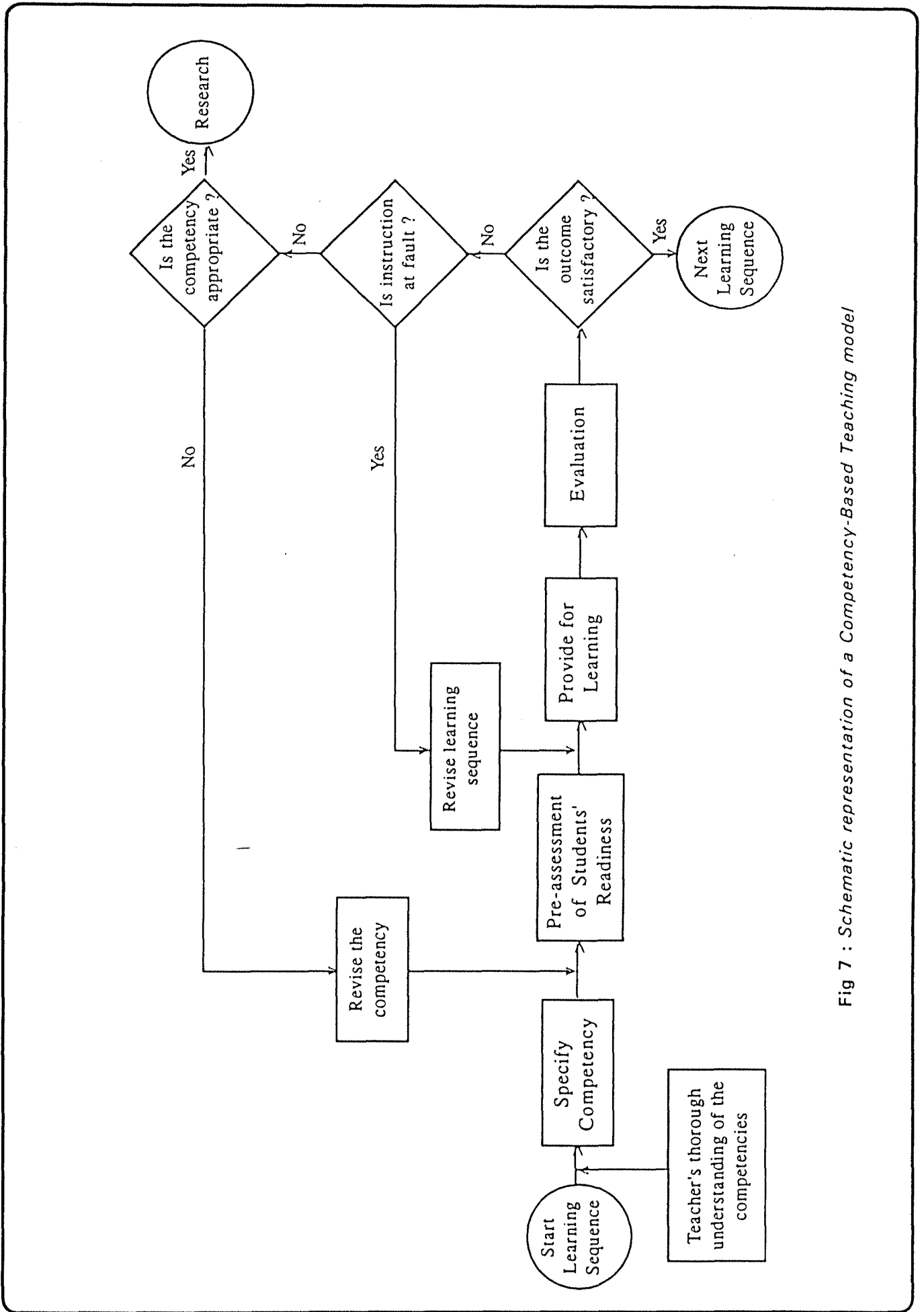


Fig 7 : Schematic representation of a Competency-Based Teaching model

4.3.2. Implications for textbook writers

The strongest determinant of the classroom curriculum is the text book and related materials. Textbook is the basic printed instructional resource used by teachers and children. Good textbooks and supplementary materials can help teachers in planning instruction by: - providing an organization or structure of the course; - providing content that can be used as a basis for determining the course content; - providing activities and suggesting teaching strategies; - providing information about references, resource books, audio-visual aids and other teaching materials.

Text books must be qualitatively acceptable and should facilitate easy curriculum transaction in the classrooms. It should lend a proper direction to the teachers. The teachers, however, should not be dependent entirely on textbooks. They should be creative and ingenious to plan innovative and parallel teaching- learning strategies. A text book should articulately blend the dimensions of content, language and the art of instruction blissfully together. Only writers who have a proper understanding of the cognitive abilities of children and have an adequate mastery of both the content and process will be able to write textbooks of desirable quality. Appropriate illustrations and write-ups should be presented within the scope of the competency. The prototype text materials should be field-tested with teachers and children. Suggestions and feed back given by the teachers have to be carefully looked into and incorporated. Aspects such as variety and novelty, should also be considered while writing text books. Activities, games, comics etc., should also find adequate representation, particularly at the lower grades. Above all text books should be aimed at making the learning "child-centered".

Chapters/units in the text books have to be properly sequenced based on research and class room experiences and not necessarily in the order of

MLLs. The need for built-in evaluation/exercises should be catered to. Text books in languages should attempt to accommodate the vocabulary essential for the other subject areas, as far as possible.

CHAPTER - V

SUMMARY AND SUGGESTIONS FOR FURTHER RESEARCH

5.1 Objectives

5.2 Research questions and hypotheses

5.3 Design of the study

5.3.1 The sample

5.3.2 Variables studied

5.3.3 Tools used

5.3.4 Method of test administration

5.3.5 Scoring

5.3.6 Analysis of data

5.3.7 Statistical techniques used

5.4 Limitations of the study

5.5 Findings of the study

SUMMARY AND SUGGESTIONS FOR FURTHER RESEARCH

The universalization of primary education, is one of the priority areas in the field of education in our country. Elementary education is expected to enhance individual growth and social development. Hence, educational planners and policy makers have shown greater concern towards this segment of school education. NPE '86 and the report of the Committee under the chairmanship of Prof. R.H. Dave, prescribed Minimum Levels of Learning (MLLs) to be attained at each stage of school education as a prerequisite for setting performance goals for teachers. The committee also examined several other issues related to primary education and made several recommendations. A 'competency-based teaching-learning model' was one of the important recommendations made by this committee.

The Government of India, in 1994, launched the District Primary Education Programme (DPEP). This gave further impetus to the cause of elementary education and has set in a silent revolution in our schools. The NCERT, a national level organization for school education undertook several tasks related to DPEP for its effective implementation. One such activity, aimed at establishing the readiness of Class I entrants, was the main focus of this study.

5.1 Objectives

The main objectives of the study were :

- ❑ to identify and assess the Reading Readiness and Numeracy Readiness levels of class I entrants;
- ❑ to find the relationship between students with pre-school experience (PSE) and their level of performance in Reading Readiness and Numeracy Readiness;
- ❑ to find the relationship between the age level of children and their

performance in Reading Readiness and Numeracy Readiness;

- ❑ to find the relationship between the gender and level of performance in Reading Readiness and Numeracy Readiness;
- ❑ to find the relationship between children with pre-school experience (PSE) and no pre-school experience (NPSE) and their performance in Reading Readiness and Numeracy Readiness test; and
- ❑ to find out the relationship of RR and NR with other predictor variables such as age, sex and social readiness (SR).

5.2 Research questions and hypotheses

In this study, 4 major research questions and 6 major hypotheses related to these questions were examined.

5.3 Design of the study

The study was undertaken in 2 DPEP districts of Karnataka. Children who had just entered Class I were the respondents.

5.3.1 Sample

The sample for the study was drawn from Mandya and Kolar districts of Karnataka state. The total sample of 400 children was drawn from 74 schools of 15 blocks/taluks of the two districts.

5.3.2 Variables studied

The following variables were considered for the study; age, gender and Social Readiness (SR) as predictor variables; Reading Readiness(RR) and Numeracy Readiness (NR) as the criterion variables.

5.3.3 Tool used

The tool developed by the NCERT for this purpose was used.

5.3.4 Method of test administration

It was an individualized test conducted separately for each child by the field investigator. The investigators were trained in a one-day workshop in which details of conducting the test and the scoring pattern were discussed.

5.3.5 Scoring

Scoring was done by field investigators for each selected measure, separately, during the test.

5.3.6 Analysis of Data

The data was suitably coded and analyzed using the statistical package Minitab-Version 8.

5.3.7 Statistical techniques used

The following statistical techniques were used for analysis and interpretation: a) descriptive statistics, b) Pearson correlation, c) multiple regression analysis, d) ANOVA and e) 't' test.

5.4 Limitations of the study

The study was limited to only class I entrants of :

- a) Government schools ,
- b) selected DPEP Districts and
- c) children of rural background.

5.5 Findings of the study

The major findings of the study are:

- only about 50% of the total sample had the required readiness;

- a positive high correlation between Reading Readiness and Numeracy Readiness, moderate correlation between Social Readiness and Reading Readiness, and a low positive correlation between Numeracy Readiness and Social Readiness were observed;
- children had better numeracy readiness than reading readiness;
- the areas like 'vocabulary' (community helpers and sentence comprehension) 'audio-visual association' in the Reading Readiness test, and 'seriation' items in the 'number concept' and items related to 'sequential thinking' in the Numeracy Readiness test were found to be relatively difficult for the children;
- children with no pre-school experience exhibited better readiness than children with pre-school experience;
- children with 1 year of pre-school experience did better than those with 2 years of pre-school experience in many areas of reading;
- children without pre-school experience fared well in many areas of Reading Readiness test except in certain items of 'vocabulary';
- the type of pre-school experience (anganwadi) influenced only the Social Readiness (SR) of the children but not their intellectual abilities;
- pre-school experience and no pre-school experience children performed at the same level in Reading Readiness and Numeracy Readiness tests irrespective of their age level;
- boys exhibited better readiness over girls, both in reading and numeracy;
- social readiness was found to be a significant predictor variable

for the criterion variables Reading Readiness and Numeracy Readiness.

5.6 Suggestions for further research

Based on the findings of the present study, the following suggestions are offered for further research:

- a) the study can be extended to the other DPEP districts in Karnataka and to a few non-DPEP districts, in the state and a comparative analysis can be attempted;
- b) readiness level of children from urban background can be assessed and a comparison can be made with their rural counterparts;
- c) the study can be extended to the other states in the southern region, first in the DPEP districts and subsequently in the non-DPEP districts;
- d) relationships of other predictor variables (family and demographic) on the level of readiness can be studied.

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15. Singh, R.R., Education as a Process, - APEID Occasional Paper No.17, APEID, UNESCO, Bangkok, 1969.
16. Sternberg, R.J. & E. Smith, The Psychology of Human Thought, Cambridge University Press, New York, 1988.
17. Vasishta K.K., I.K. Bansal & Savitha Varma - A Report on the implementation of MLLs Programme in 4 Educationally Backward States, NCERT, New Delhi, 1994.
18. William C.T., Educational Psychology, Cambridge, Mass., USA, 1950.



ANNEXURE

- A The Reading Readiness and Numeracy Readiness test booklet**
- B The data collection sheet/response sheet**
- C List of field investigators**
- D Training of field investigators-programme schedule**
- E General Instructions to field investigators**

REGIONAL INSTITUTE OF EDUCATION (NCERT), MYSORE

ಪ್ರಾದೇಶಿಕ ಶಿಕ್ಷಣ ಸಂಸ್ಥೆ (ಎನ್.ಸಿ.ಇ.ಆರ್.ಟಿ), ಮೈಸೂರು.

District Primary Education Programme

ಜಿಲ್ಲಾ ಪ್ರಾಥಮಿಕ ಶಿಕ್ಷಣ ಯೋಜನೆ

NUMERACY AND READING READINESS TEST FOR CLASS I

ಅಂಕಿ ಮತ್ತು ಕಲಿಕಾ ಸಿದ್ಧತೆಯ ಪರೀಕ್ಷೆ - 1ನೇ ತರಗತಿ

ಕಲಿಕಾ ಸಿದ್ಧತೆ READING READINESS

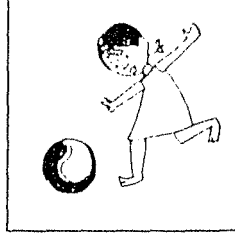
VOCABULARY ಶಬ್ದಕೋಶ

SENTENCE COMPREHENSION ವಾಕ್ಯ ಅರ್ಥಮಾಡಿಕೊಳ್ಳುವಿಕೆ

ಯಾವ ಚಿತ್ರದಲ್ಲಿ

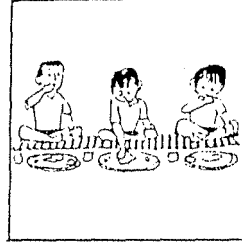
ಹುಡುಗಿ ಚಂಡನ್ನು ಆಡುತ್ತಿದ್ದಾಳೆ.

1



ಅವರು ಊಟ ಮಾಡುತ್ತಿದ್ದಾರೆ.

2



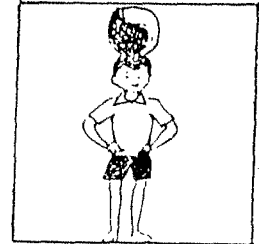
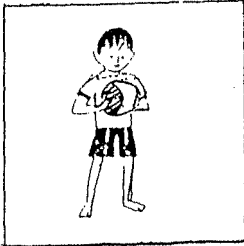
ಉಪಾಧ್ಯಾಯರು ಒಂದು ಮಗುವಿನೊಡನೆ ಮಾತನಾಡುತ್ತಿದ್ದಾರೆ.

3



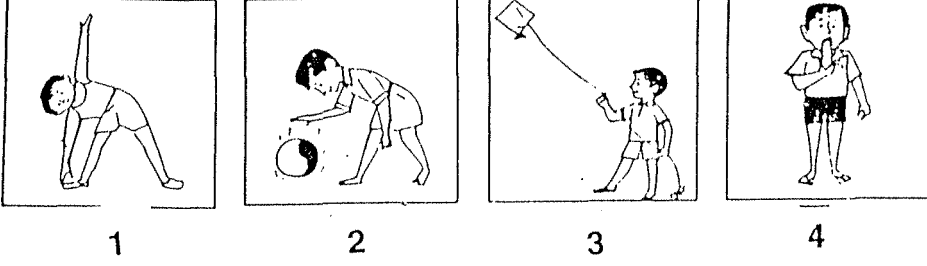
ಆಟಗಾರ ಚೆಂಡು ಹಿಡಿಯಲು ಓಡುತ್ತಿದ್ದಾನೆ.

4



ಚಟುವಟಿಕೆಯ ಚಿತ್ರಗಳು ACTION PICTURES

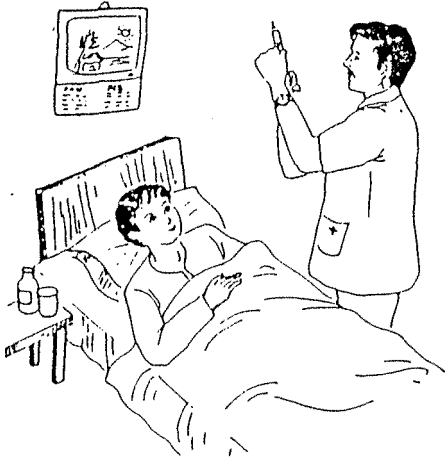
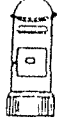
ಪ್ರತಿಯೊಂದು ಚಿತ್ರದ ಮೇಲೆ ಬೆರಳಿಟ್ಟು, ಚಿತ್ರದಲ್ಲಿರುವ ಮಗು ಏನು ಮಾಡುತ್ತಿದೆ ಎಂದು ಹೇಳು.



ಸಮಾಜದ ಸಹಾಯಕರು COMMUNITY HELPERS

ಚಿತ್ರವನ್ನು ನೋಡಿ ಉತ್ತರಿಸಿ

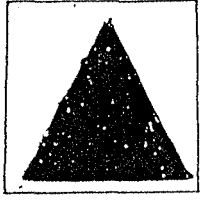
- 1 ಈತ ಯಾರು?
- 2 ಈತ ನಮಗೆ ಹೇಗೆ ಸಹಾಯ ಮಾಡುತ್ತಾನೆ?



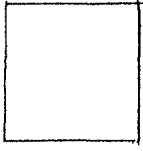
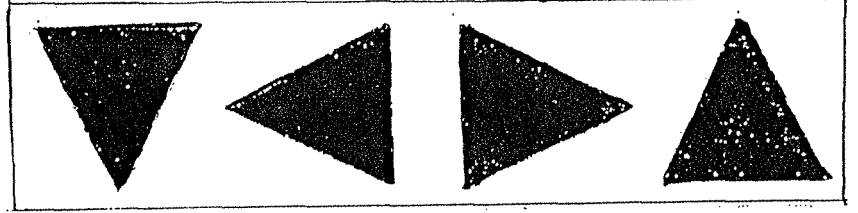
- 3 ಈತ ಯಾರು?
- 4 ಈತ ನಮಗೆ ಹೇಗೆ ಸಹಾಯ ಮಾಡುತ್ತಾನೆ?

ದೃಶ್ಯ ಹೊಂದಿಸುವಿಕೆ VISUAL MATCHING

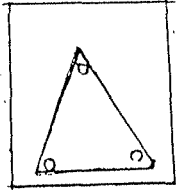
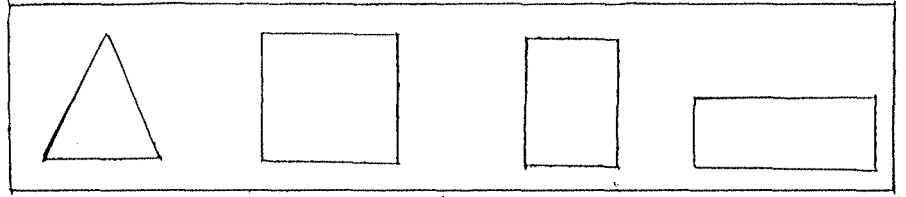
ಈ ಚಿತ್ರಕ್ಕೆ ಸಮನಾದ ಚಿತ್ರದ ಮೇಲೆ ಬೆರಳಿಡು



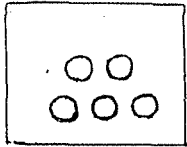
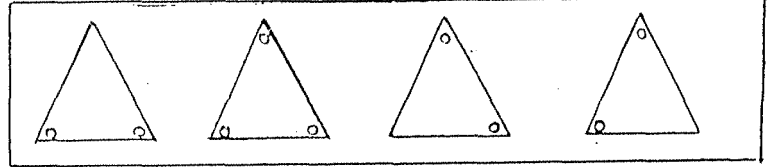
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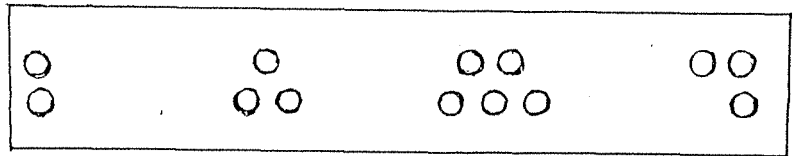
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3

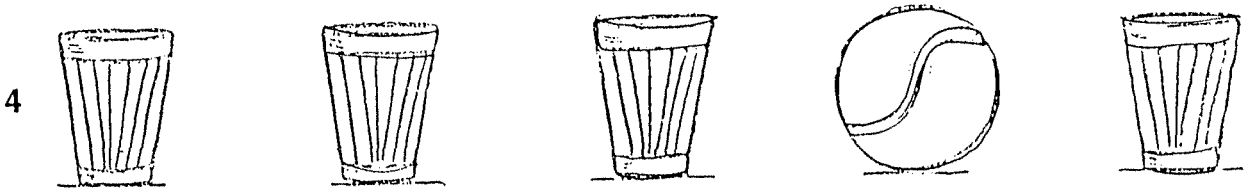
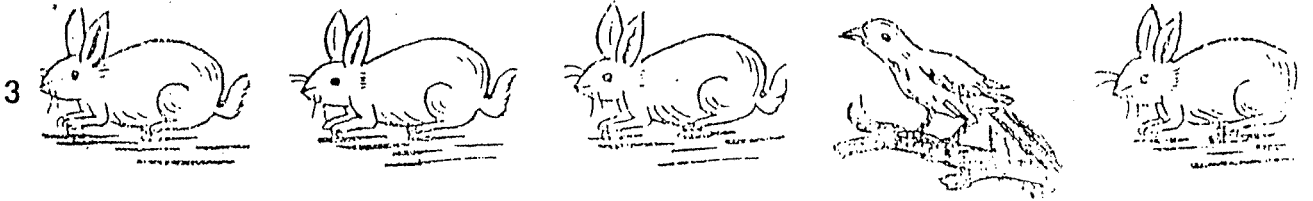
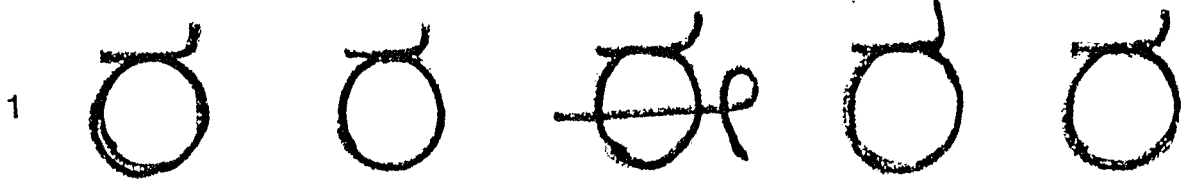


4



ದೃಶ್ಯ ತಾರತಮ್ಯ VISUAL DISCRIMINATION

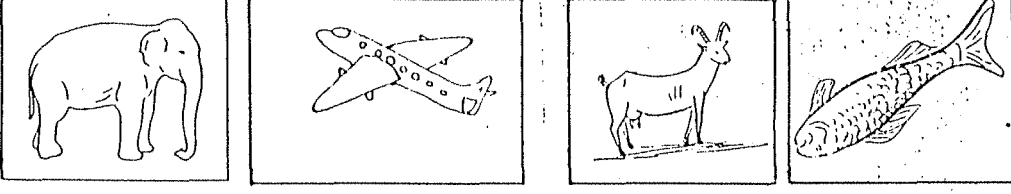
ಈ ಕೆಳಗಿನ ಚಿತ್ರಗಳಲ್ಲಿ ಬೇರೆ ತರಹ ಇರುವ ಚಿತ್ರದ ಮೇಲೆ ಬೆರಳಿಡು.



ಶ್ರವಣ ತಾರತಮ್ಯ AUDITORY DISCRIMINATION

ಪ್ರಥಮ ಧ್ವನಿಗಳು INITIAL SOUNDS

ಪ್ರತಿಯೊಂದು ಚಿತ್ರದ ಮೇಲೆ ಬೆರಳಿಟ್ಟು, ಅದೇನೆಂದು ಹೇಳು ಮತ್ತು ಮೊದಲ ಅಕ್ಷರದ ಧ್ವನಿಯನ್ನು ಉಚ್ಚರಿಸು.



1

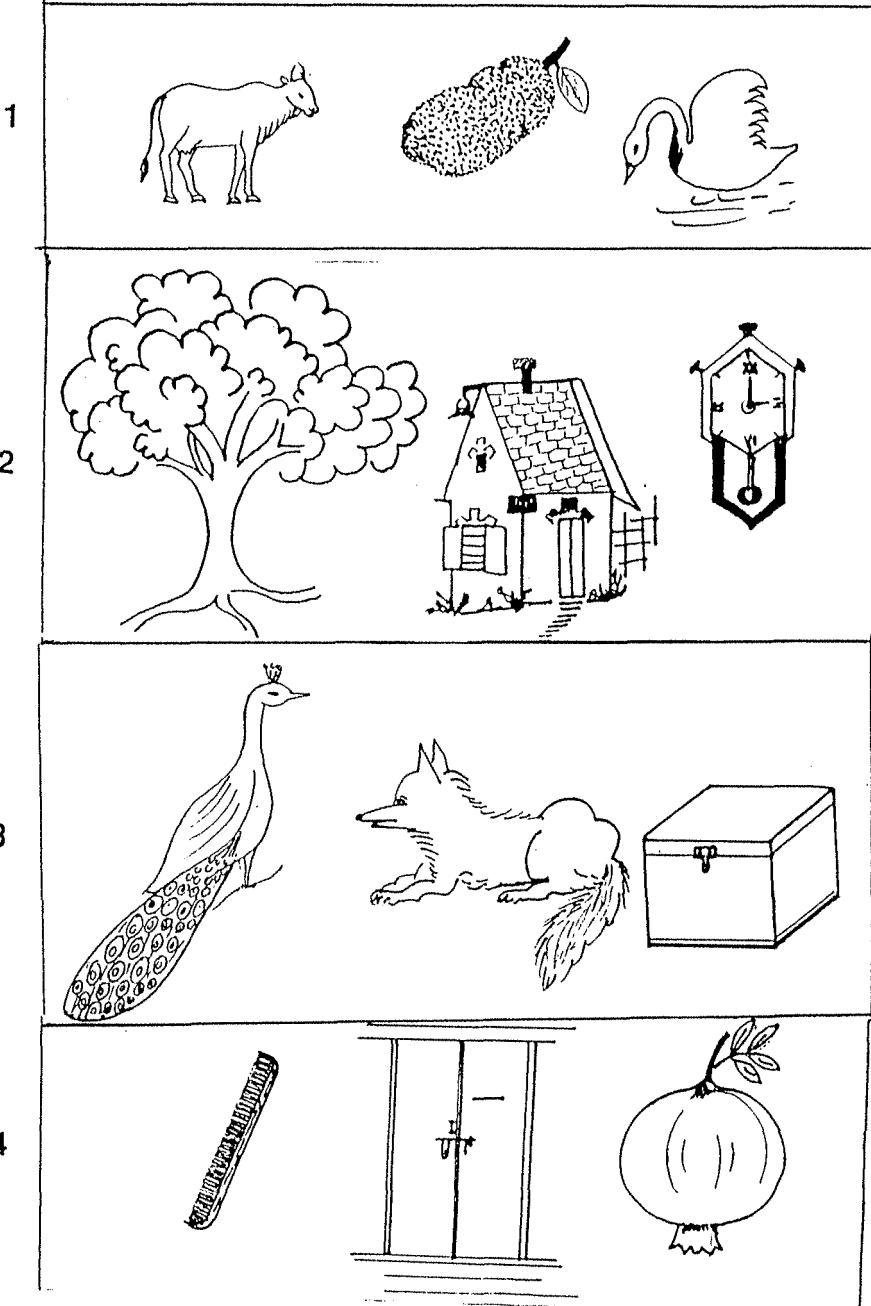
2

3

4

ಧ್ವನಿ ತಾರತಮ್ಯ SOUND DISCRIMINATION

ಇವುಗಳಲ್ಲಿ ಯಾವುದರ ಪ್ರಥಮ ಧ್ವನಿ ಬೇರೆಯಾಗಿದೆ? ಅದರ ಮೇಲೆ ಬೆರಳಿಡು.

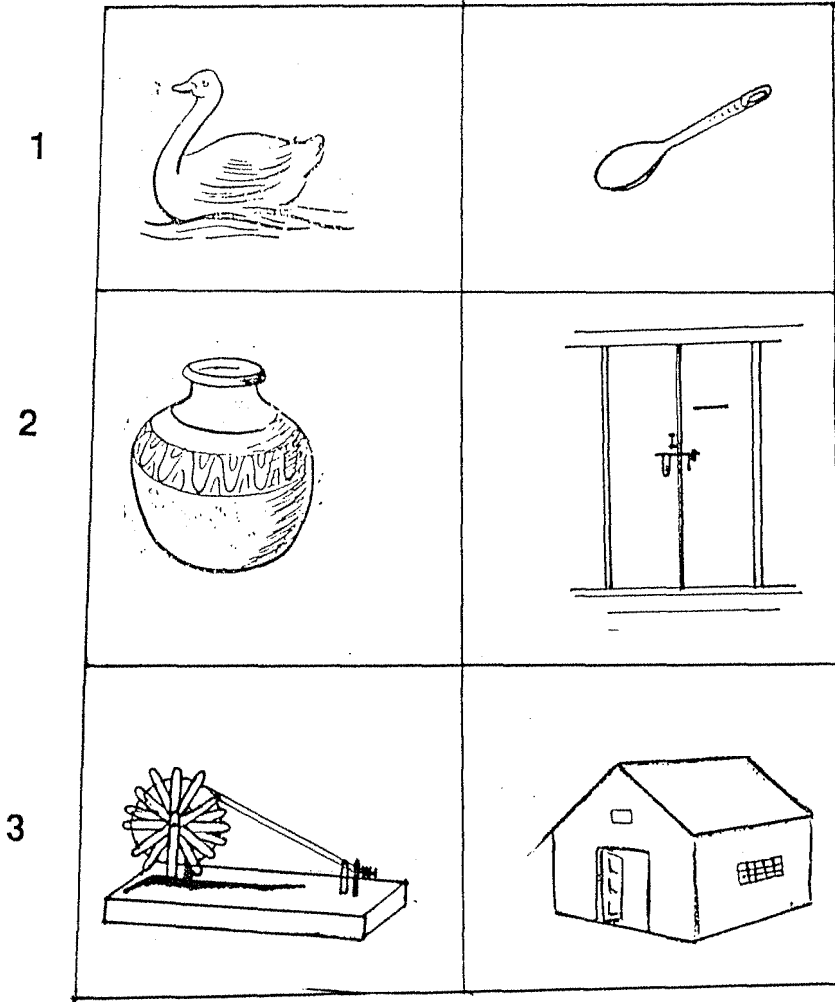


ಈ ಚಿತ್ರಗಳಲ್ಲಿ :

(1) 'ಬಾ' ಇಂದ ಪ್ರಾರಂಭವಾಗುವ ಎರಡು ವಸ್ತುಗಳನ್ನು ತೋರಿಸು

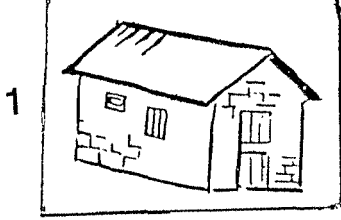
(2) 'ಮ' ಇಂದ ಪ್ರಾರಂಭವಾಗುವ ಎರಡು ವಸ್ತುಗಳನ್ನು ತೋರಿಸು.

(3) 'ಚ' ಇಂದ ಪ್ರಾರಂಭವಾಗುವ ಎರಡು ವಸ್ತುಗಳನ್ನು ತೋರಿಸು.

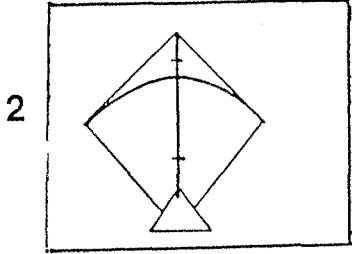


ಪದವನ್ನು ಗುರುತಿಸುವಿಕೆ WORD IDENTIFICATION

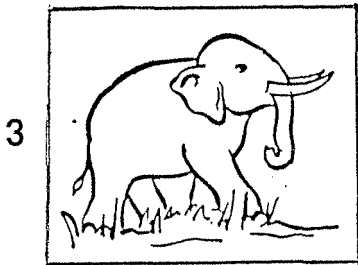
ಈ ಚಿತ್ರದ ಹೆಸರಿನ ಪದದ ಮೇಲೆ ಬೆರಳಿಡು



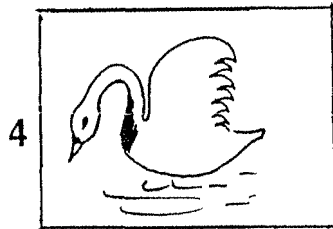
ಮನೆ ಮರ
ದನ ಗಾಡಿ



ಮು ಫಲ
ಪಾದ ಪತ್ರ



ಆಡು ಆನ
ಆಸೆ ಆಲ



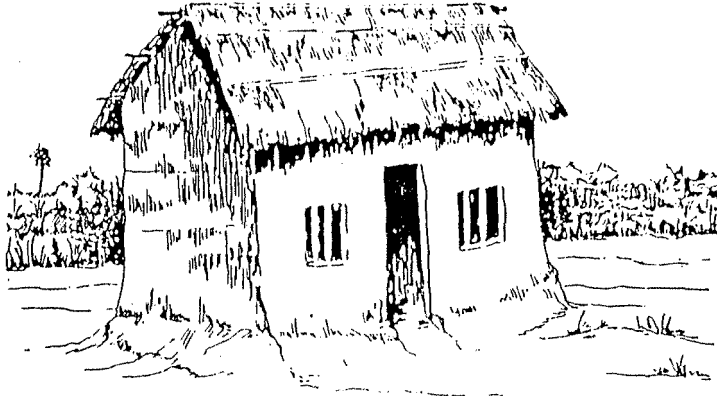
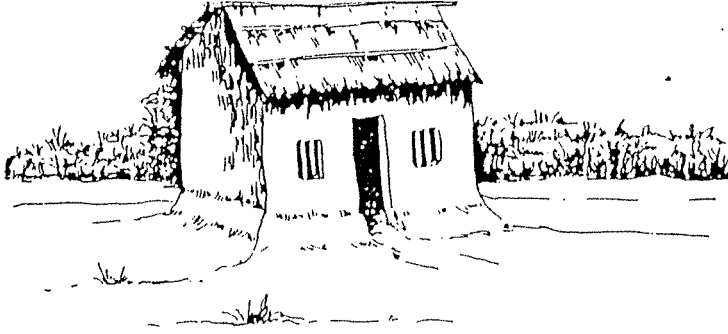
ಹಂಸ ಹಲಸು
ಹಂದಿ ಹಡಗು

ಅಂಕಿ ಕಲಿಕಾ ಸಿದ್ಧತೆ NUMERACY READINESS

ಸಂಖ್ಯೆಯ ಪರಿಕಲ್ಪನೆ NUMBER CONCEPT

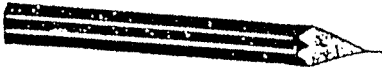
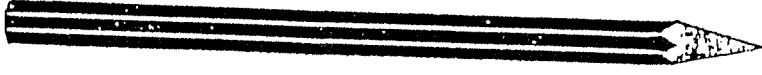
ದೊಡ್ಡ/ಚಿಕ್ಕ

1. ಎಲ್ಲಕ್ಕಿಂತ ದೊಡ್ಡ/ಚಿಕ್ಕ ಮನೆಯನ್ನು ತೋರಿಸು.
2. ಎಲ್ಲಕ್ಕಿಂತ ದೊಡ್ಡ, ಆಮೇಲೆ ಅದಕ್ಕಿಂತ ಸ್ವಲ್ಪ ಚಿಕ್ಕದಾದ ಮತ್ತು ಕೊನೆಯಲ್ಲಿ ಎಲ್ಲಕ್ಕಿಂತ ಚಿಕ್ಕದಾದ ಮನೆಯನ್ನು ತೋರಿಸು. (ಕ್ರಮ ಜೋಡಣೆ)



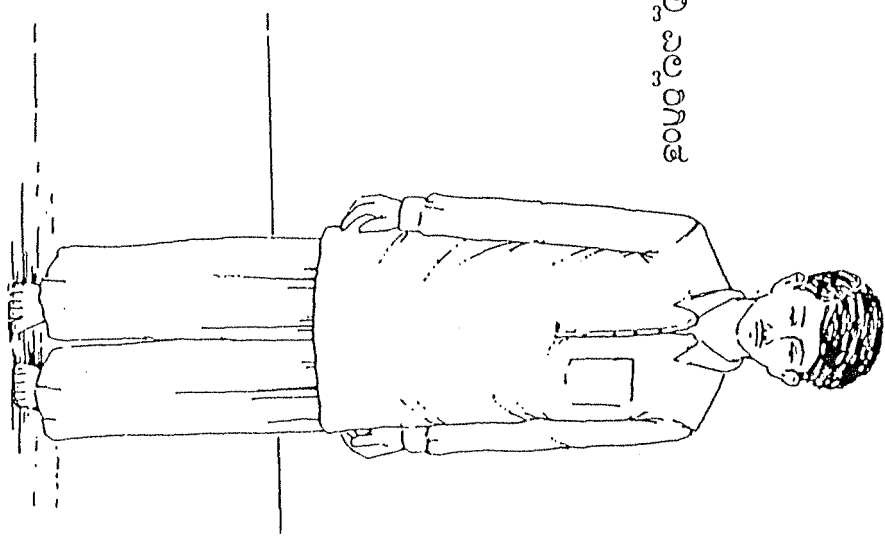
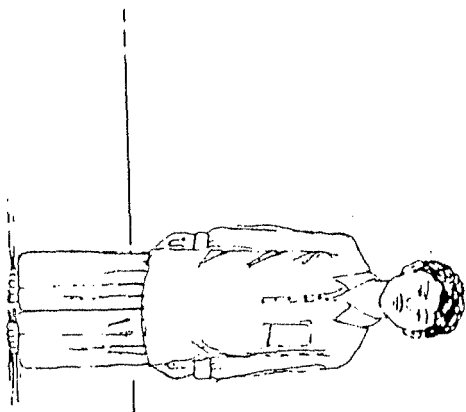
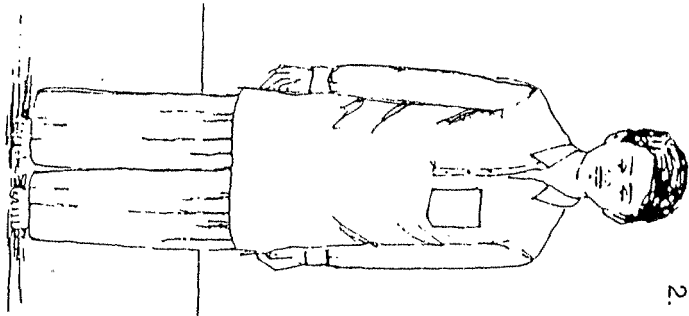
ಉದ್ದ/ಗಿಡ್ಡ

1. ಎಲ್ಲಕ್ಕಿಂತ ಉದ್ದ/ಗಿಡ್ಡವಾದ ಪೆನ್ನಿಲ್‌ನ್ನು ತೋರಿಸು.
2. ಮೊದಲನೆಯ ಎಲ್ಲಕ್ಕಿಂತ ಉದ್ದವಾದ, ಅಮೇಲೆ ಅದಕ್ಕಿಂತ ಸ್ವಲ್ಪ ಗಿಡ್ಡವಾದ ಮತ್ತು ಕೊನೆಯಲ್ಲಿ ಎಲ್ಲಕ್ಕಿಂತ ಗಿಡ್ಡವಾದ ಪೆನ್ನಿಲ್‌ನ್ನು ತೋರಿಸು. (ಕ್ರಮ ಜೋಡಣೆ)



ಎತ್ತರ/ಕುಳ್ಳು

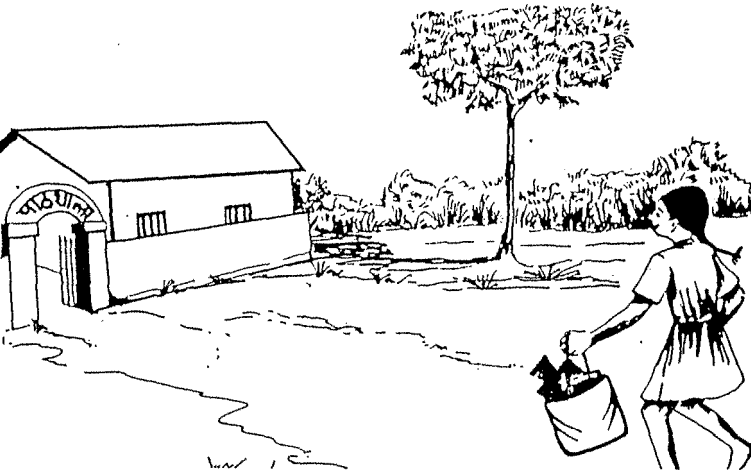
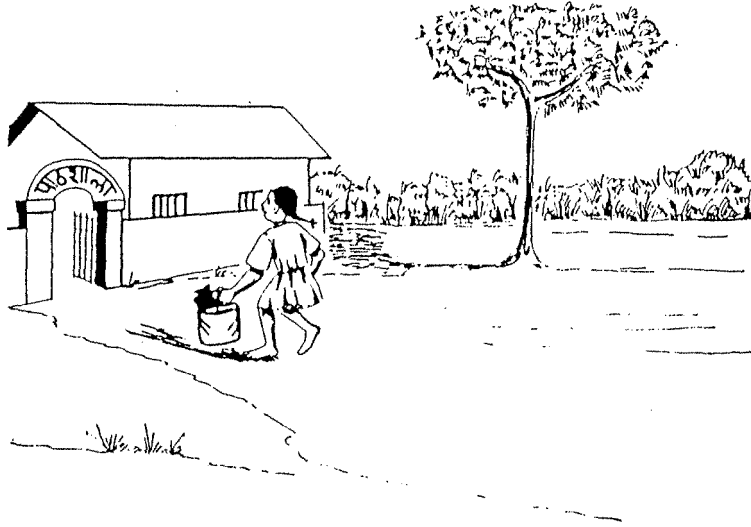
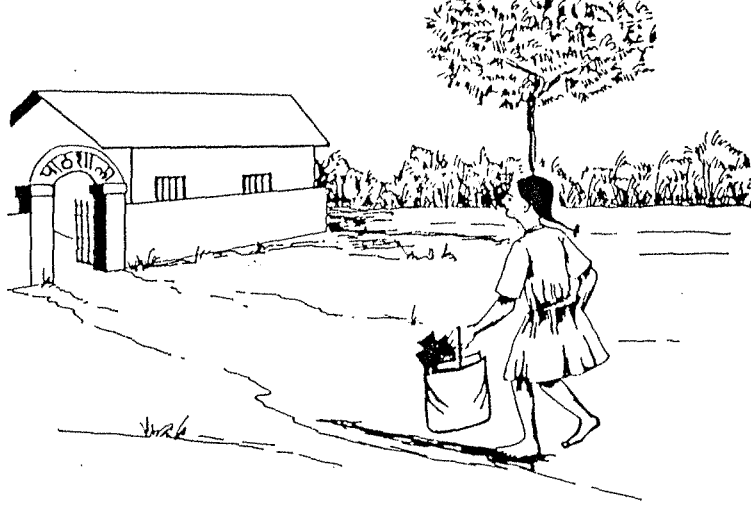
1. ಎಲ್ಲರಿಗಿಂತ ಎತ್ತರವಾದ/ಕುಳ್ಳನಾದ ಮನುಷ್ಯನನ್ನು ತೋರಿಸು.
2. ಮೊದಲು ಎಲ್ಲರಿಗಿಂತ ಎತ್ತರವಾದ, ಆಮೇಲೆ ಅವನಿಗಿಂತ ಕುಳ್ಳಾದ ಮತ್ತು ಕೊನೆಯಲ್ಲಿ ಎಲ್ಲರಿಗಿಂತ ಕುಳ್ಳಾದ ಮನುಷ್ಯನನ್ನು ತೋರಿಸು. (ಕ್ರಮ ಜೋಡಣೆ)



ದೂರ/ಹತ್ತಿರ

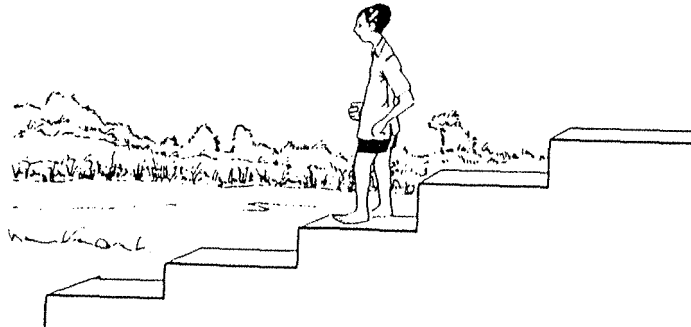
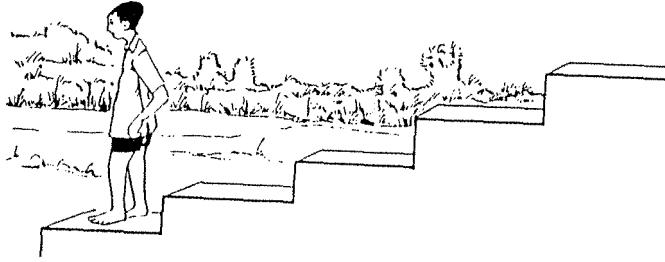
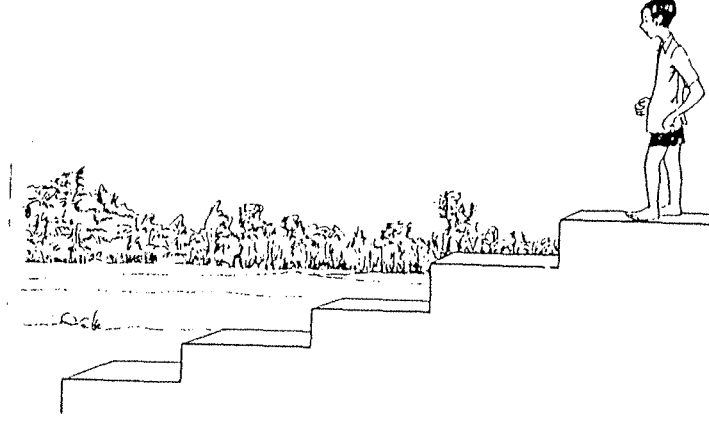
1. ಶಾಲೆಗೆ ತುಂಬಾ ಹತ್ತಿರ/ದೂರದಲ್ಲಿರುವ ಹುಡುಗಿಯನ್ನು ತೋರಿಸು.

2. ಶಾಲೆಗೆ ತುಂಬಾ ಹತ್ತಿರದಲ್ಲಿರುವ, ಆಮೇಲೆ ಸ್ವಲ್ಪ ದೂರದಲ್ಲಿರುವ ಮತ್ತು ಕೊನೆಯಲ್ಲಿ ತುಂಬಾ ದೂರದಲ್ಲಿರುವ ಹುಡುಗಿಯನ್ನು ತೋರಿಸು. (ಕ್ರಮ ಬೋಧನೆ)



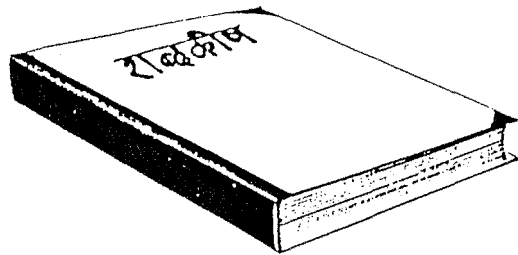
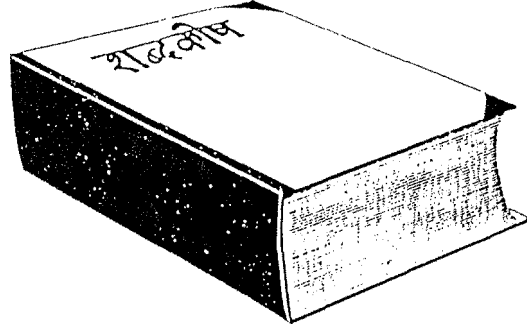
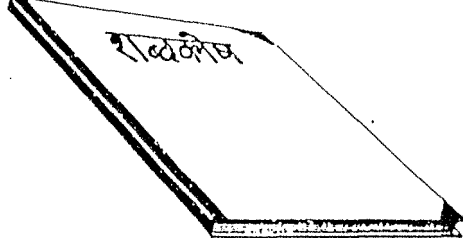
ಮೇಲೆ/ಕೆಳಗೆ

1. ಯಾವ ಚಿತ್ರದಲ್ಲಿ ಹುಡುಗ ಎಲ್ಲಕ್ಕಿಂತ ಮೇಲೆ/ಕೆಳಗೆ ಇದ್ದಾನೆ?
2. ಮೊದಲು ಎಲ್ಲಕ್ಕಿಂತ ಎತ್ತರದ ಮೆಟ್ಟಲಿನ ಮೇಲೆ, ಆಮೇಲೆ ಅದಕ್ಕಿಂತ ಕೆಳಗಿನ ಮೆಟ್ಟಲಿನ ಮೇಲೆ, ಮತ್ತು ಕೊನೆಯಲ್ಲಿ ಎಲ್ಲಕ್ಕಿಂತ ಕೆಳಗಿನ ಮೆಟ್ಟಲಿನ ಮೇಲಿರುವ ಹುಡುಗನನ್ನು ತೋರಿಸು. (ಕ್ರಮ ಜೋಡಣೆ)



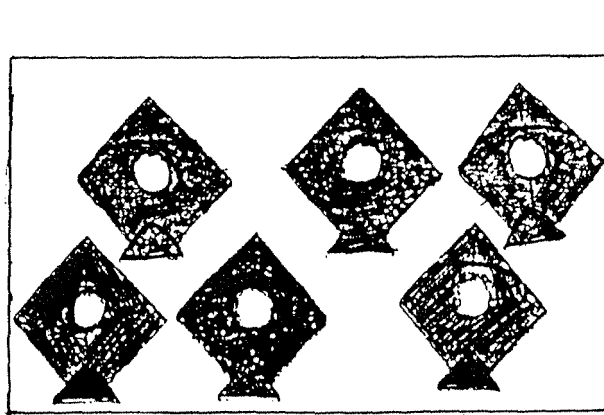
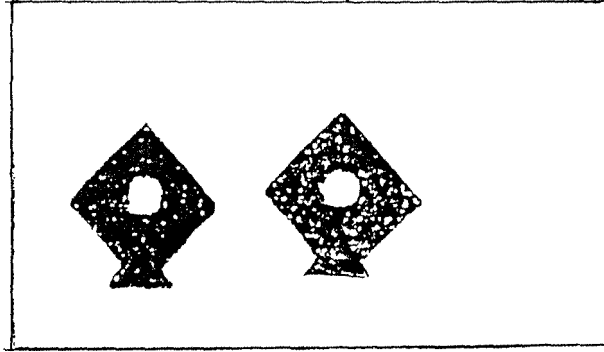
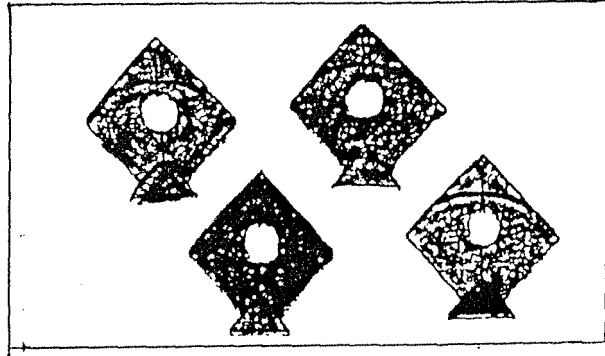
ದಪ್ಪ/ತೆಳು

1. ಎಲ್ಲಕ್ಕಿಂತ ದಪ್ಪ/ತೆಳುವಾಗಿರುವ ಪುಸ್ತಕವನ್ನು ತೋರಿಸು.
2. ಮೊದಲು ಎಲ್ಲಕ್ಕಿಂತ ದಪ್ಪದಾದ, ಆಮೇಲೆ ಅದಕ್ಕಿಂತ ಸ್ವಲ್ಪ ತೆಳುವಾದ ಮತ್ತು ಕೊನೆಯಲ್ಲಿ ಎಲ್ಲಕ್ಕಿಂತ ತೆಳಾಗಿರುವ ಪುಸ್ತಕವನ್ನು ತೋರಿಸು (ಕ್ರಮ ಜೋಡಣೆ)



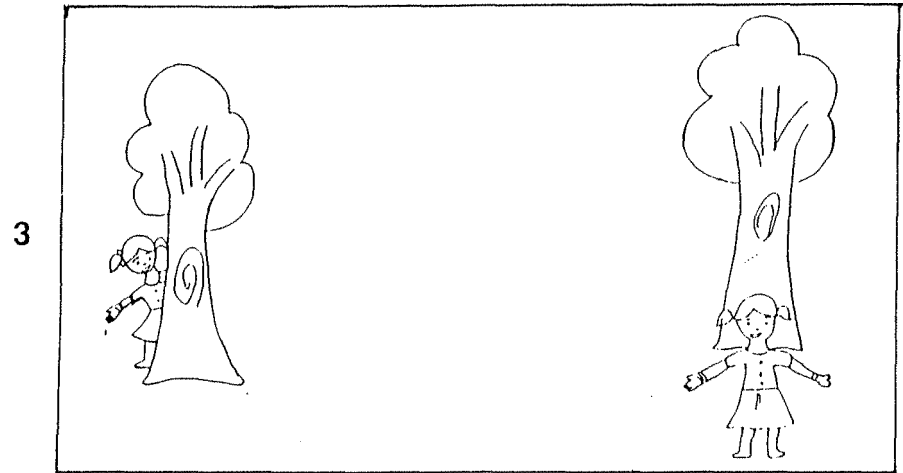
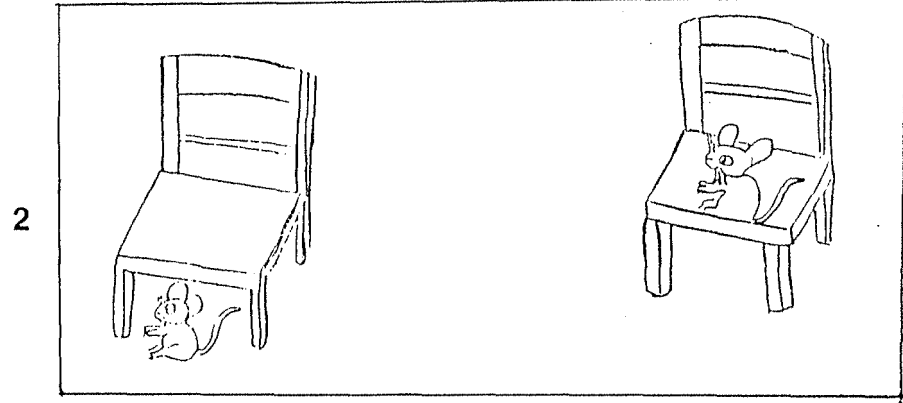
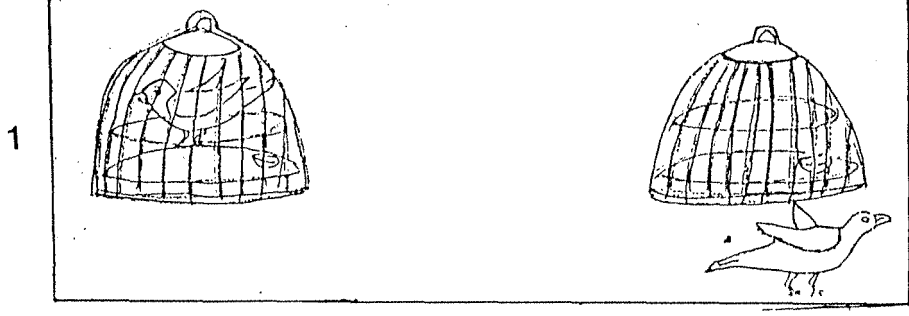
ಹೆಚ್ಚು/ಕಡಿಮೆ

1. ಎಲ್ಲಕ್ಕಿಂತ ಹೆಚ್ಚು ಕಡಿಮೆ ಗಾಳಿಪಟ ಇರುವ ಚಿತ್ರವನ್ನು ತೋರಿಸು.
2. ಎಲ್ಲಕ್ಕಿಂತ ಹೆಚ್ಚು/ಕಡಿಮೆ ಹೆಚ್ಚು ಗಾಳಿಪಟಗಳಿರುವ, ಆಮೇಲೆ ಅದಕ್ಕಿಂತ ಸ್ವಲ್ಪ ಕಡಿಮೆ ಗಾಳಿಪಟಗಳಿರುವ ಮತ್ತು ಕೊನೆಯಲ್ಲಿ ಎಲ್ಲಕ್ಕಿಂತ ಕಡಿಮೆ ಗಾಳಿಪಟಗಳಿರುವ ಚಿತ್ರವನ್ನು ತೋರಿಸು. (ಕ್ರಮ ಬೋಧನೆ)

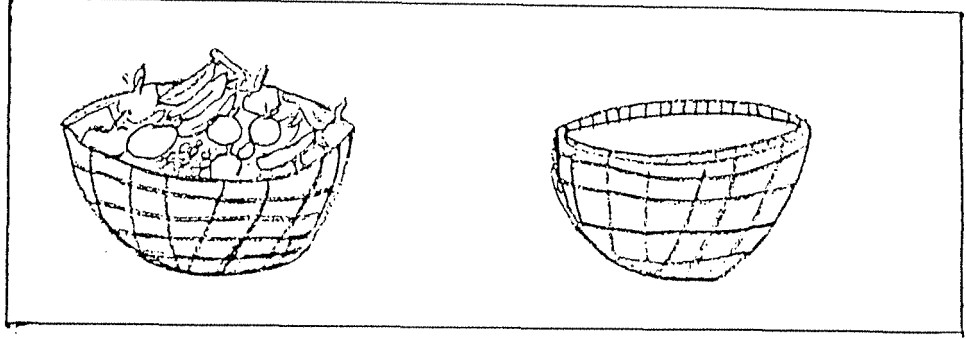


ಸ್ಥಳದ ಪರಿಕಲ್ಪನೆ SPACE CONCEPT

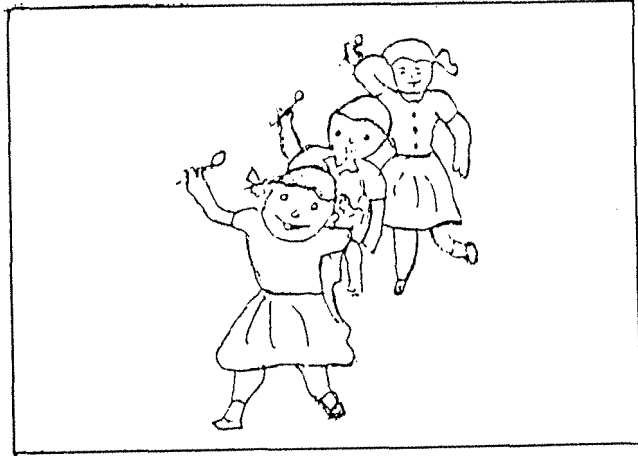
1. ಒಳಗೆ/ಹೊರಗೆ - ಯಾವ ಚಿತ್ರದಲ್ಲಿ ಗಿಳಿ ಪಂಜರದೊಳಗಿದೆ?
2. ಮೇಲೆ/ಕೆಳಗೆ - ಯಾವ ಚಿತ್ರದಲ್ಲಿ ಇಲಿ ಕುರ್ಚಿಯ ಮೇಲಿದೆ?
3. ಮುಂದೆ/ಹಿಂದೆ - ಯಾವ ಚಿತ್ರದಲ್ಲಿ ಹುಡುಗಿ ಮರದ ಮುಂದೆ ಇದ್ದಾಳೆ?



4. ತುಂಬಿದ/ಖಾಲಿ - ಯಾವ ಚಿತ್ರದಲ್ಲಿ ಬುಟ್ಟಿ ಖಾಲಿಯಾಗಿದೆ?



5. ಮೊದಲು/ಕೊನೆ - ಯಾವ ಹುಡುಗಿ ಮಧ್ಯದಲ್ಲಿದ್ದಾಳೆ?



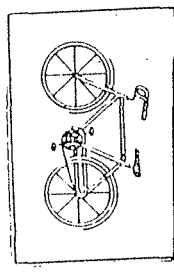
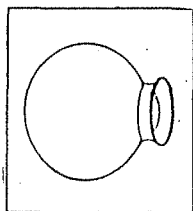
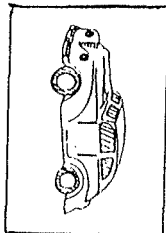
6. ಎಡ/ಬಲ - ನಿನ್ನ ಎಡಗೈ ತೋರಿಸು. ನಿನ್ನ ಬಲಗೈ ತೋರಿಸು.

7. ಎಡಗೈಯಿಂದ ಬಲಗಾಲನ್ನು ಮುಟ್ಟುವ ಕ್ರೀಡೆ.

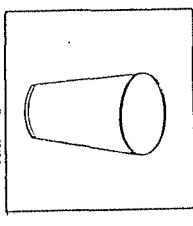
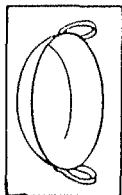
ವರ್ಗೀಕರಣ CLASSIFICATION

1. ಈ ಚಿತ್ರಗಳಲ್ಲಿರುವ ವಾಹನಗಳನ್ನು ತೋರಿಸು

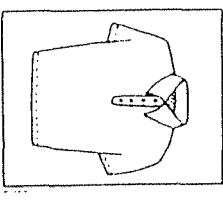
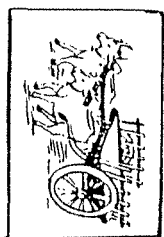
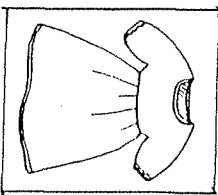
1



2

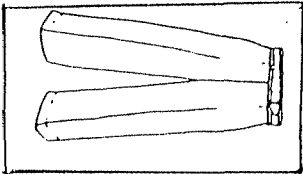
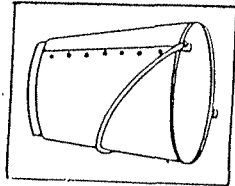
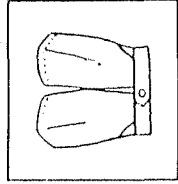
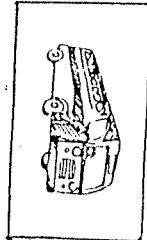


3



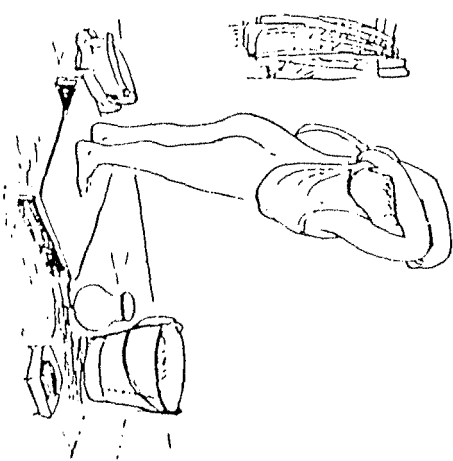
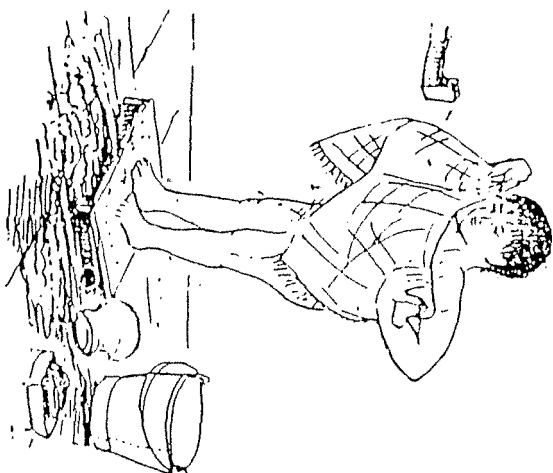
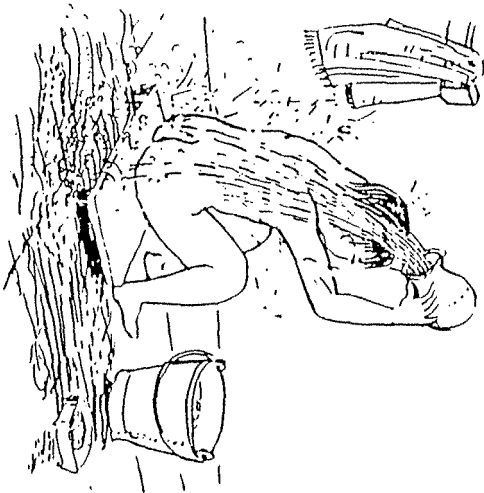
2. ಈ ಚಿತ್ರಗಳಲ್ಲಿರುವ ವಾತ್ಯಗಳನ್ನು ತೋರಿಸು

3. ಈ ಚಿತ್ರಗಳಲ್ಲಿರುವ ಬಟ್ಟೆಗಳನ್ನು ತೋರಿಸು.

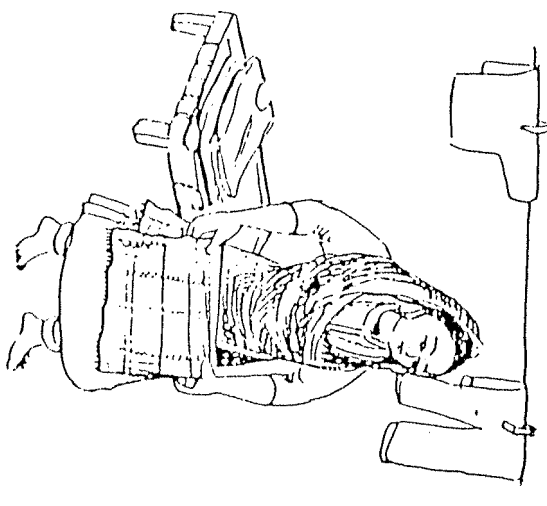
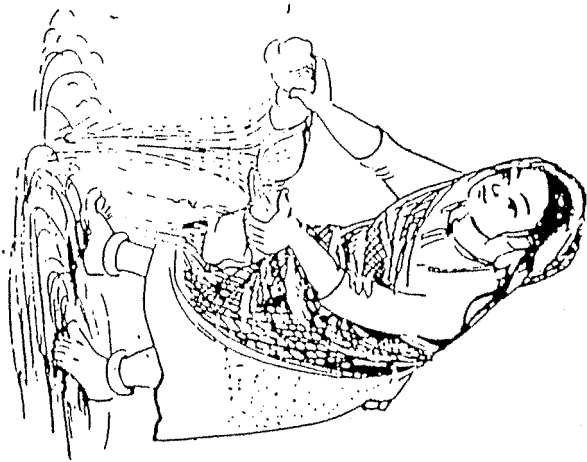
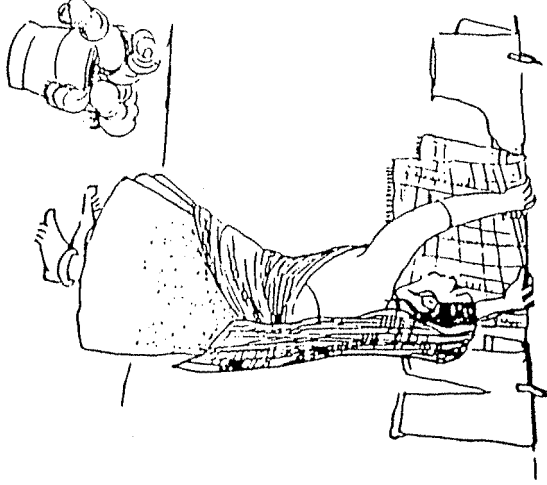


ಸಕ್ರಮ ಚಿಂತನೆ SEQUENTIAL THINKING

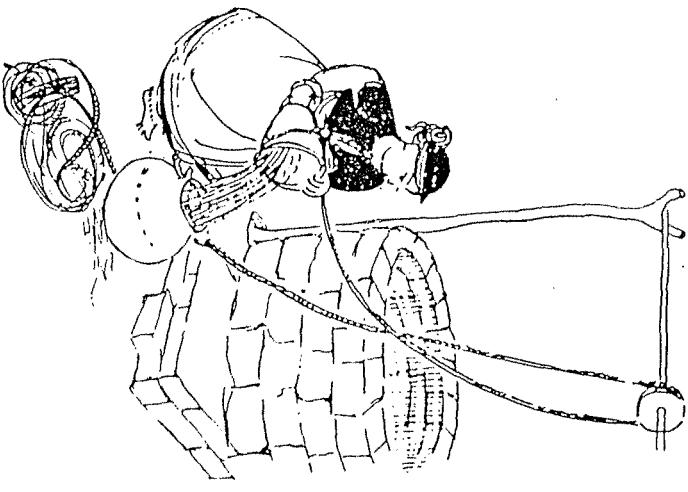
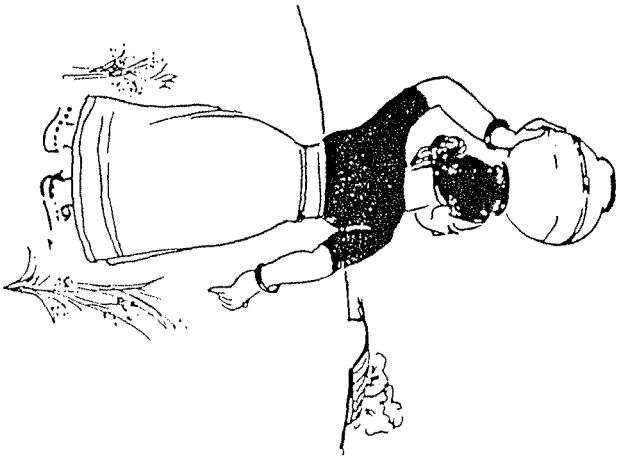
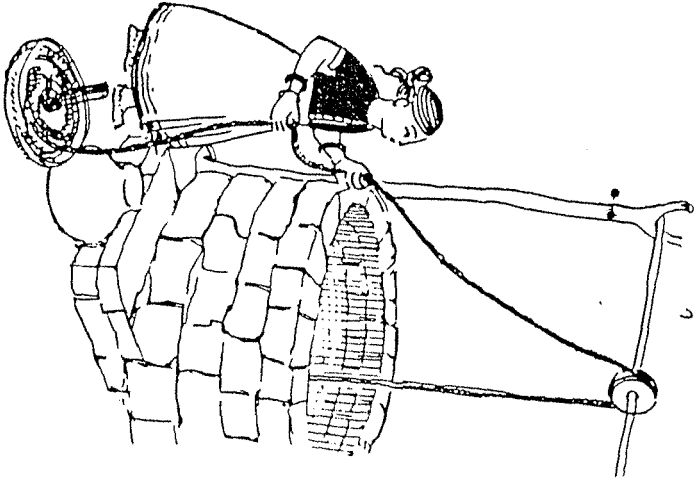
1. ಈ ಮೂರು ಚಿತ್ರಗಳಲ್ಲಿ ಸ್ನಾನ ಮಾಡುವುದನ್ನು ತೋರಿಸಿದೆ. ಎಲ್ಲಕ್ಕಿಂತ ಮೊದಲು ಏನು ಮಾಡುತ್ತಿದ್ದಾನೆ? ಅಮೇಲೆ ಏನು ಮಾಡುತ್ತಿದ್ದಾನೆ? ಕೊನೆಯಲ್ಲಿ ಏನು ಮಾಡುತ್ತಿದ್ದಾನೆ?



2. ಈ ಮೂರು ಚಿತ್ರಗಳಲ್ಲಿ ಬಟ್ಟೆ ಒಗೆಯುವುದನ್ನು ತೋರಿಸಿದೆ. ಇವುಗಳಲ್ಲಿ ಎಲ್ಲಕ್ಕಿಂತ ಮೊದಲು ಏನು ಮಾಡುತ್ತಿದ್ದಾಳೆ? ಅದರ ನಂತರ ಏನು ಮಾಡುತ್ತಿದ್ದಾಳೆ? ಕೊನೆಯಲ್ಲಿ ಏನು ಮಾಡುತ್ತಿದ್ದಾಳೆ?

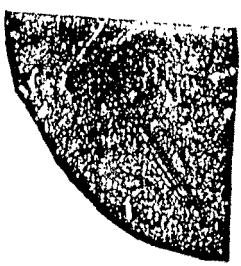
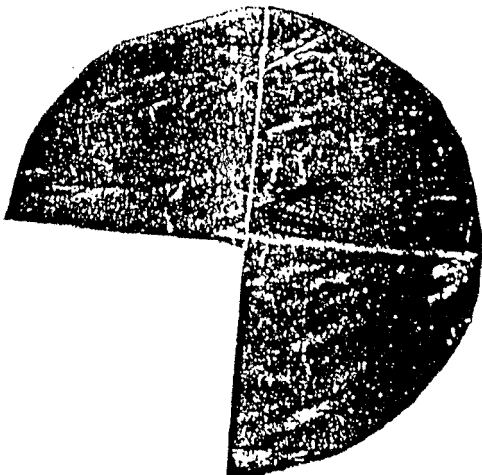


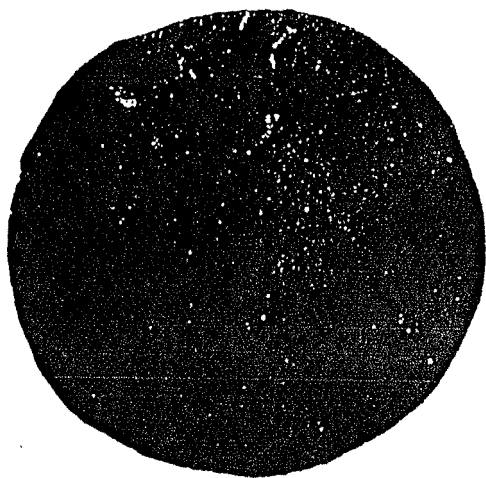
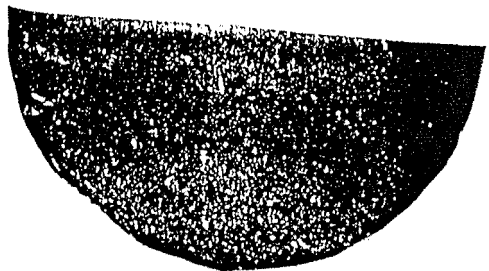
3. ಈ ಮೂರು ಚಿತ್ರಗಳಲ್ಲಿ ನೀರು ತರುವುದನ್ನು ತೋರಿಸಿದೆ, ನೀರು ತರಲು ವೇದಲು ಏನು ಮಾಡುತ್ತಿದ್ದಾಳೆ? ನಂತರ ಏನು ಮಾಡುತ್ತಿದ್ದಾಳೆ? ಕೊನೆಯಲ್ಲಿ ಏನು ಮಾಡುತ್ತಿದ್ದಾಳೆ?



ಭಿನ್ನ ರಾಶಿ FRACTIONS

1. ಇವುಗಳಲ್ಲಿ ಪೂರ್ಣ ಆಕೃತಿ ಯಾವುದು?
2. ಅರ್ಧ ಆಕೃತಿ ಯಾವುದು?
3. ಅರ್ಧಕ್ಕಿಂತ ಕಡಿಮೆ ಇರುವ ಆಕೃತಿ ಯಾವುದು?
4. ಅರ್ಧಕ್ಕಿಂತ ಹೆಚ್ಚಾಗಿರುವ ಆಕೃತಿ ಯಾವುದು?





ಅಂಕಿಗಳು NUMBERS

(ಹತ್ತು ಕಲ್ಲುಗಳನ್ನು ಸಂಗ್ರಹಿಸಿ ಮಕ್ಕಳನ್ನು ಕೇಳಬೇಕಾದ ಪ್ರಶ್ನೆಗಳು)

1. ಮೂರು ಕಲ್ಲುಗಳನ್ನು ತೆಗೆಯಿರಿ - ಎಷ್ಟಿವೆ ಎಂದು ಕೇಳಿ.
2. ಐದು ಕಲ್ಲುಗಳನ್ನು ತೆಗೆಯಿರಿ - ಎಷ್ಟಿವೆ ಎಂದು ಕೇಳಿ.
3. ಎರಡಾದ ಮೇಲೆ ಯಾವ ಅಂಕಿ ಬರುತ್ತದೆ?
4. ಐದಕ್ಕೆ ಮೊದಲು ಯಾವ ಅಂಕಿ ಬರುತ್ತದೆ?

REGIONAL INSTITUTE OF EDUCATION (NCERT), MYSORE

ಪ್ರಾದೇಶಿಕ ಶಿಕ್ಷಣ ಸಂಸ್ಥೆ (ಎನ್.ಸಿ.ಇ.ಆರ್.ಟಿ), ಮೈಸೂರು.

District Primary Education Programme

ಜಿಲ್ಲಾ ಪ್ರಾಥಮಿಕ ಶಿಕ್ಷಣ ಯೋಜನೆ

NUMERACY AND READING READINESS TEST FOR CLASS I

ಅಂಕಿ ಮತ್ತು ಕಲಿಕಾ ಸಿದ್ಧತೆಯ ಪರೀಕ್ಷೆ - 1ನೇ ತರಗತಿ

PERSONAL DATA SHEET

ವೈಯಕ್ತಿಕ ವಿವರ ಪಟ್ಟಿ

1. State: 2. District: 3. Block:
ರಾಜ್ಯ ಜಿಲ್ಲೆ ಘಟಕ
4. Name of the School : Rural/Urban
ಶಾಲೆಯ ಹೆಸರು ಗ್ರಾಮಾಂತರ/ನಗರ
5. Name of the Child :
ಮಗುವಿನ ಹೆಸರು
6. Date of birth : 7. Sex: Male/Female
ಹುಟ್ಟಿದ ತಾರೀಖು ಲಿಂಗ ಗಂಡು/ಹೆಣ್ಣು
8. Number of Siblings 9. Brother/Sisters education
ಒಡಹುಟ್ಟಿದವರ ಸಂಖ್ಯೆ ಸಹೋದರ / ಸಹೋದರಿಯರ ವಿದ್ಯಾಭ್ಯಾಸ
Brother Sister a..... a.....
ಸಹೋದರ ಸಹೋದರಿ b..... b.....
..... c..... c.....
10. Birth order:
ಜನಿಸಿದ ಕ್ರಮ
11. Occupation of parents : Father Mother
ತಂದೆತಾಯಿಯರ ಕಸುಬು/ವೃತ್ತಿ ತಂದೆ ತಾಯಿ
12. Educational level of parents : Father Mother Uneducated
ತಂದೆ ತಾಯಿಯರ ವಿದ್ಯಾಭ್ಯಾಸ ಮಟ್ಟ ತಂದೆ ತಾಯಿ ಅವಿದ್ಯಾವಂತರು
13. Caste : SC/ST/OBC/General
ಜಾತಿ ಪರಿಶಿಷ್ಟ ಜಾತಿ/ಪರಿಶಿಷ್ಟ ವರ್ಗ/ಇತರ ಹಿಂದುಳಿದ ಜಾತಿ/ಸಾಮಾನ್ಯವರ್ಗ
14. Mother tongue of the child :
ಮಗುವಿನ ಮಾತೃ ಭಾಷೆ
15. Medium of Instruction in School :
ಶಾಲೆಯ ಶಿಕ್ಷಣ ಮಾಧ್ಯಮ
16. Pre-school experience of childYears Anganwadi/Kindergarten
ಶಾಲೆಗೆ ಬರುವ ಮುಂಚೆ ಮಗು ಓದಿರುವ ವಿವರ ವರ್ಷಗಳು ಅಂಗನವಾಡಿ/ಕಿಂಡರ್‌ಗಾರ್ಟನ್

CHILD-RESPONSE SHEET

ಮಗುವಿನ ಪ್ರತಿಕ್ರಿಯೆಯ ಪಟ್ಟಿ

Put a tick (✓) for the right and cross (✗) for the wrong answer.

ಸರಿಯಾದ ಉತ್ತರಕ್ಕೆ (✓) ಗುರುತನ್ನು ತಪ್ಪು ಉತ್ತರಕ್ಕೆ (✗) ಗುರುತನ್ನು ಹಾಕಿರಿ.

READING READINESS (35)

ಓದುವ ಸಿದ್ಧತೆ

Vocabulary

ಶಬ್ದ ಕೋಶ

Sentence Comprehension

ವಾಕ್ಯದ ಅರ್ಥಗ್ರಹಣೆ

1 2 3 4

Action Pictures

ಚಟುವಟಿಕೆ ಚಿತ್ರಗಳು

1 2 3 4

Community Helpers

ಸಮಾಜದ ಸಹಾಯಕರು

1 2 3 4

Visual Perception

ದೃಶ್ಯ ಗ್ರಹಣೆ

Visual Matching

ದೃಶ್ಯ ಹೊಂದಿಸುವಿಕೆ

1 2 3 4

Visual Discrimination

ದೃಶ್ಯ ತಾರತಮ್ಯ

1 2 3 4

Auditory Discrimination

ಶ್ರವಣ ತಾರತಮ್ಯ

Initial Sounds

ಪ್ರಥಮ ಶಬ್ದಗಳು

1 2 3 4

Sound Discrimination

ಶಬ್ದ ತಾರತಮ್ಯ

1 2 3 4

Audio-Visual Association

ದೃಶ್ಯ-ಶ್ರವಣ ಸಮನ್ವಯ

1 2 3 4

Word Identification

ವದ ಗುರುತಿಸುವಿಕೆ

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ANNEXURE - C

LIST OF FIELD INVESTIGATORS

MANDYA DISTRICT

1. Sri Gopaldaswamy H.K.,
Primary Teacher, GHPS,
Kothathi, Mandya Dist.
2. Sri Jagadish,
Lecturer, DIET,
Mandya.
3. Sri Nagaraj T.V.,
Primary Teacher, GHPSB,
Taggahalli,
Mandya District.
4. Sri Nagu,
Inspector of Schools,
Mandya Block,
Mandya.
5. Sri Nanjesh Gowda,
Primary Teacher, GHPSG,
Old Town,
Mandya.
6. Sri Shankar
Lecturer, DIET,
Mandya.

KOLAR DISTRICT

1. Smt. Bharthi,
Head Mistress,
Old Municipal school,
Kolar.
2. Smt. Lakshmi. N.,
Primary Teacher, GHPSG,
Kamala Mahadi,
Kolar.
3. Sri Malle Gowda,
Lecturer, DIET,
Kolar.
4. Sri Mumivenkatappa,
Head Master, GHPS,
Vadagur,
Kembodi post, Kolar dist.
5. Sri Narayanappa,
Primary Teacher, GHPS,
Harati,
Kolar Dist.
6. Sri Ramaprasad, R.,
Primary Teacher, GHPSG,
Kamala Mahadi,
Kolar.
7. Sri Surya Narayana Swamy, V.,
Primary Teacher, GHPS,
Shilanagere,
Kolar Dist.
8. Smt. Susheelamma,
Primary Teacher, GHPS,
Kolar.

DIET	-	District Institute of Education and Training.
GHPS	-	Govt. Higher Primary School.
GHPSB	-	Govt. Higher Primary School for Boys.
GHPSG	-	Govt. Higher Primary School for Girls.

ANNEXURE - D

ORIENTATION PROGRAMME FOR FIELD INVESTIGATORS FOR ADMINISTERING THE NUMERACY AND READING READINESS TEST FOR CLASS-I ENTRANTS

PROGRAMME SCHEDULE

Date	: 13.7.1995	Date	: 17.7.1995
Venue	: Guru Bhavana, Near DDPI's Office, Mandya	Venue	: DIET Office, Kolar

10.00 a.m.	Registration
10.30 a.m.	Welcome/Project appraisal
10.45 a.m.	Remarks by - a) DDPI b) Principal, DIET
11.15 a.m.	Tea
11.30 a.m.	Discussion on the strategies for field testing
12.30 p.m.	Selection of schools and block-wise allocation of work
1.00 p.m.	Lunch
2.00 p.m.	Discussion on data sheet/response sheet
2.30 p.m.	Discussion on the use of tools
3.30 p.m.	Tea
3.45 p.m.	Conducting sample tests by field staff
5.00 p.m.	Feedback by field staff
5.30 p.m.	Concluding session

(V.V. Anand)
Co-ordinator

ANNEXURE - E

General guidelines to field investigators

- ◆ The authorities and teachers in the school should be clearly told that the test is purely for research purpose and will not have any bearing whatsoever with the performance of school/teachers/students. Attempts to activate the child for enhanced performance should be totally discouraged. The test should be administered in a smooth and informal manner.
- ◆ A comfortable, clean and well-lit room should be used for the test. Ensure that the place is free from noise or any other kind of disturbance.
- ◆ It is advisable to seat the child to the left of the investigator so that the child accurately perceives the materials presented. A suitable table and two chairs are adequate. If a table is not available, the test may be administered squatting on the floor.
- ◆ Background information and the child's antecedents should be compulsorily collected. The information should be verified with the school records and teachers. The information about each child should be accurate and factual.
- ◆ It is an individualized test to be administered separately for each child. An average of 25-30 minutes per child is necessary for completing the test. Hence it is desirable to limit the test to 5-6 children per day, per field investigator. The duration of the test should not vary drastically from child to child.
- ◆ It is suggested that the test be administered in two sessions so as to break the monotony for the child. In the first session, the reading readiness test may be administered and after a gap of 5-10 minutes the numeracy readiness test may be administered. Another alternative could be that, in a school, children selected for the test may be given the reading readiness test one-by one, and then in the same order the numeracy readiness test may be given. This will provide sufficient time gap between the two parts of the test for each child.
- ◆ Material presentation during the test should be in the given format and in the same order. If a question is repeated only once for one child, it must be done similarly for all other children. A discretionary

approach should be completely avoided as it would distort the data and there by the results of the study. It is again reemphasized that the mode of administering the test should be uniform for all children.

- ◆ While filling the child response sheet, use the appropriate box and mark (✓) for correct answer and (x) for wrong answer.
- ◆ While selecting children for the test, ensure equitable sex and caste representation.
- ◆ Each field investigator must select just one school from the Tq. Head quarters and the others, randomly, from the rest of the block. They should strictly adhere to the data collection schedule submitted to us. This will enable us to plan visits to monitor the conduct of the test.
- ◆ The data collected each day should be handed over to the field supervisor at the end of the day at an appointed place and time.