

HANDBOOK FOR PRIMARY SCHOOL TEACHERS ON MULTIGRADE TEACHING

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PREFACE

The universal achievement through attaining Minimum Levels of Learning has posed a serious challenge before the Primary School Teachers particularly for Multigrade School Teachers as they do not have appropriate academic support for organising teaching and learning activities. For multigrade schools the children come from various learning patterns and also with low motivation for learning, it is a difficult task for the teacher to develop motivation without having proper teaching-learning facilities. In multigrade settings even most of the teachers are not properly trained in multigrade teaching methods therefore they are unable to develop insight into devising innovative teaching-learning activities according to the socio-cultural and educational needs of the students. They have not been trained in using skills and strategies relevant for multigrade teaching. In the absence of proper training they become doubly handicapped. It is needless to mention the enormous problems faced by the teachers in such settings yet it becomes an obligatory action on the part of the educational planners to develop hand book for such teachers on skills and strategies needed for raising qualitative improvement in teaching-learning activities in multigrade setting.

In this hand book, attempt has been made to provide insight into the problems generally faced by the teachers in developing MLL competencies, subjectwise. In the first

chapter the author attempts to give clear concept of multigrade teaching and the problem involved in multigrade teaching. Second chapter deals with methods and approaches for multigrade teaching. The third chapter covers information on management of time and space in multigrade setting. The last, 4th chapter on skills and strategies for teaching in multigrade schools includes approach papers and exemplars on all the curricular and co-curricular areas of primary schools. The exemplars given would develop understanding among the teachers to design teaching-learning activities to help the children to attain MLL competencies.

We express our deep sense of gratitude to the Principal, Prof. S.V.G. Acharyalu, R.I.E., Mysore, for his administrative help for completion of this hand book. Our thanks are due to Dr. K. Dorasami, Head, Department of Education for providing necessary support and also for taking one session on Mathematics teaching. We are also grateful to Prof. D.K. Bhattacharjee, Former Head, Department of Education, for perceiving this project.

Our special thanks are due to the DMS teachers and RIE staff members for their contributions for the approach papers on various curricular and co-curricular areas covered in IVth chapter of the hand book, we are grateful to the participants for their valuable suggestions for finalizing the hand book without them the finalization of the hand book would not have been possible.

Last but not the least we thank Shri B.K. Venkatesh,
for prompt computer processing to complete this work.

We hope this hand book would be useful for the
teachers working in multigrade schools.

The suggestions of the readers are welcomed for the
improvement of the next edition.

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CHAPTER - I

INTRODUCTION

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1.0 UEE and Multigrade schools

The major concern of today's educationists is to achieve the goals of universalisation of primary education. To achieve this goal, extensive efforts are being made. More number of primary schools have been opened. According to Sixth All India Educational Survey (1995) there has been significant increase in number of primary schools from 1986 to 1993 as can be seen from figures 1 given below.

Figure 1

Primary schools in our country

Year	Primary rural schools	Primary urban schools	Primary total schools
1986	475,823	52,907	528,730
1993	511,849	63,286	575,135
Increase in primary schools	7.57%	19.62%	8.78%

The increase in number of primary schools by 8.78% in total from 1986 to 1993 has also improved the enrolment

ratio of boys and girls in primary and elementary schools which can be seen from table 1 given below.

Table 1
Enrolment of Boys and Girls in Primary and Elementary schools from 1980 to 1992 in millions

Year	Primary		Elementary	
	Boys	Girls	Boys	Girls
1980-81	45.29	28.49	59.22	35.28
1990-91	58.10	41.02	78.94	53.46
1991-92	59.22	42.36	80.67	55.36

The increase of enrolment of boys in general is more than the girls and the rate of enrolment is higher at elementary level than the primary level. In spite of increased enrolment at elementary level the drop out rates among boys, girls, SC, ST and all communities is alarming as can be seen from table 2 given below.

Table 2
Drop out rates among Boys, Girls, SC, ST and all communities at elementary level during 1988-89 in percentage

	Boys	Girls	SC	ST	All communities
1988-89	59.4%	68.3%	67.78%	78.68%	65.4%

The drop out rates among girls in general is higher than boys, even for SC and ST population. It is 64.37% for SC boys and 73.06% for SC girls and for ST boys it is 76.21%, whereas for ST girls it is 81.45%. The problem of universalisation of elementary education is becoming quite complicated because of the problems of stagnation and drop out on one hand and non-participation of children in the age group of 6-14 years which was 12.0% in 1992. In spite of the increase in number of primary school as well as of teachers both at rural and urban schools. The increase is 10.33% and 14.81% for rural and urban teachers respectively in primary schools from 1986 to 1993.

There are still sizeable number of primary schools which are either with one teacher or without teacher because of long absence of teachers. The data available on such schools from Fifth All India Educational Survey 1985 is 27.96% for single teacher schools and 32.28% for two teacher schools. The teachers working in single teacher schools and are also working in those primary schools where two teachers schools also remain for all practical purposes, as single teacher school, face lots of problems. The problem faced by the single teachers are the following:

I. Academic Problems

* Poor attendance of the student and high grade of drop-out.

* Lack of community involvement.

* Lack of appropriate teaching-learning materials.

* Lack of appropriate training for the teachers for teaching multigrade classes.

* Lack of scientific approach for management of resources (students, time, space, material, etc.).

* Teachers' unwillingness to work in remote areas.

* Problem of admitting the children throughout the year which causes different levels of entry behaviours within first standard itself.

* In the village the teacher has one room school and the noise pollution is too much because the teacher has to attend to the parents, panchayat members, officials, visiting the school and the researchers simultaneously.

II. Building and Equipment Problems: The single teacher schools mostly are existing in villages and remote areas.

In small villages, there will not be a safe building for the single teacher particularly for lady teacher as a single room will be provided either in temple, church or may be from private building owned by a rich man. In this single room itself the teacher needs to teach all the classes, maintains the records, does office work, talks to the visitors, discusses with the important persons about the educational problems faced. This creates a lot of problem for the teacher and it becomes difficult to plan and manage educational activities in multigrade situations. Along with

so much of work the teacher has to see to the teaching according to educational needs of students which changes from class to class and subject to subject. The teacher does not have access to good library and lab facilities to make teaching more effective.

III. Personal problems

Most of the good teachers do not like to work as a multigrade teacher due to the following reasons:

- * Lack of proper transportation facility.

- * No facility for higher education of their children in these remote areas.

- * No other co-teachers available to share his/her thoughts.

- * Lack of good library to improve her knowledge in various content areas.

- * No learned person is available to solve his/her doubts or to get proper guidance for management of multigrade schools in such remote areas.

- * If some one falls sick at home there is no good hospital facility nearby to take care.

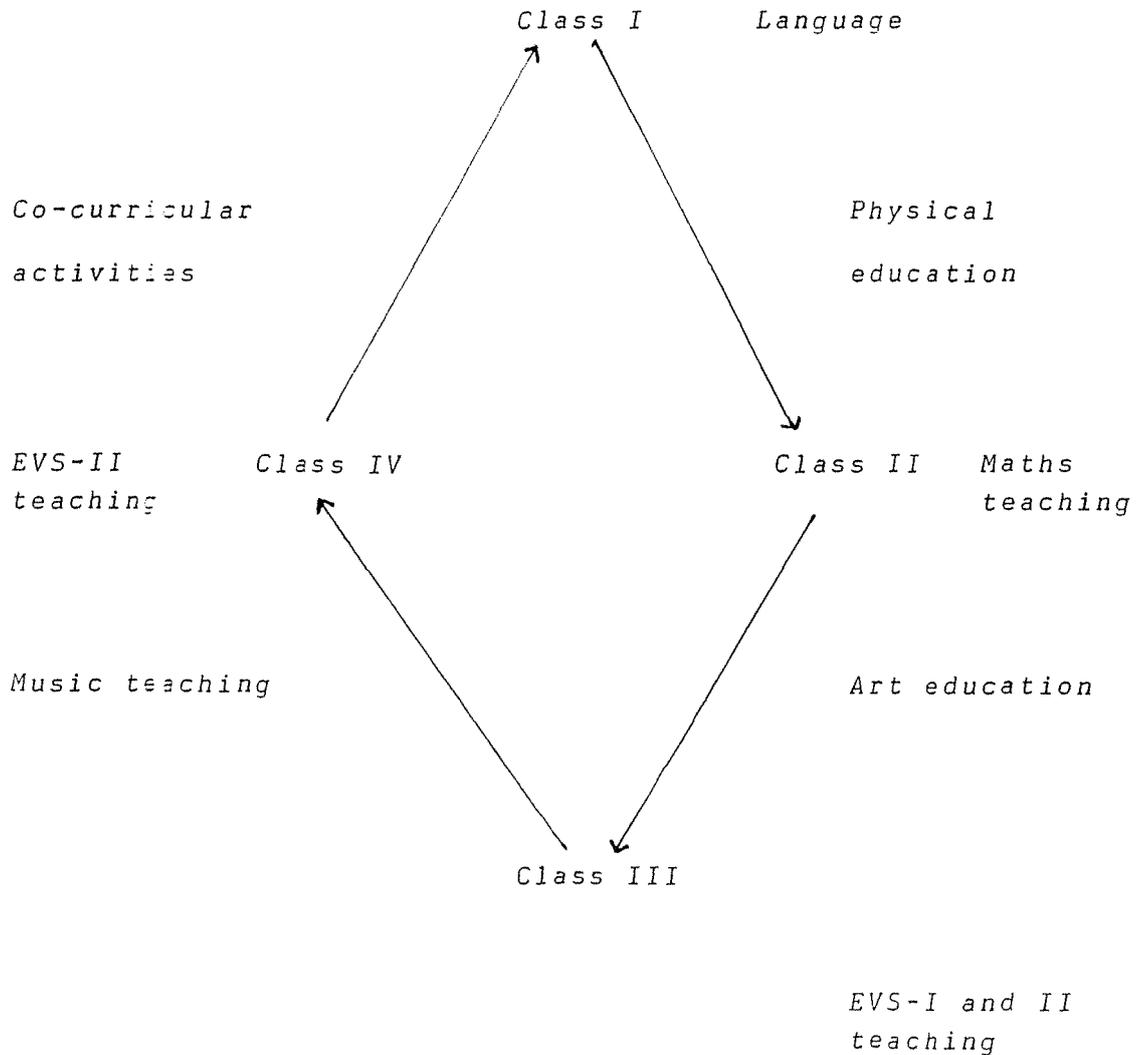
- * No extra incentive is given for them for working in remote areas.

IV. Multiple Role of the Multigrade Teacher

Multigrade teachers have to work both as a school teacher and head master. He has to teach all the four classes simultaneously. For this difficult task a well

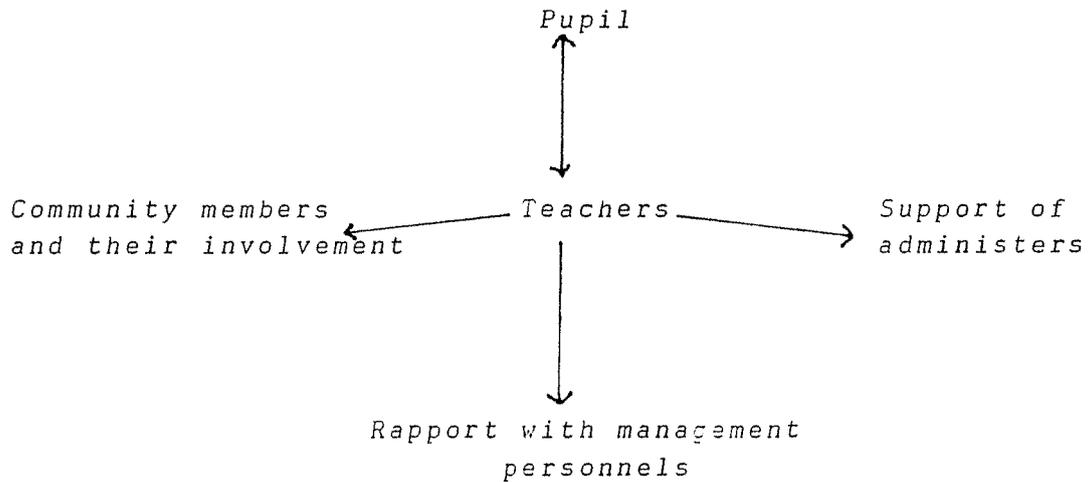
experienced and enthusiastic teacher is needed to plan and manage teaching and learning activities in multigrade schools. The MGT teacher must be capable for handling both academic and non-academic issues effectively. He should be given training in using skills and strategies needed for effective multigrade teaching. He must have the competency of preparing the time table for all academic areas listed below for multigrade teaching.

Academic Areas



Non-academic areas

The following personnels occupy significant role in raising quality of education as well in planning teaching and learning activities in multigrade situations:



Suggestions for Improving conditions of teachers in MGT

* Some incentive may be given to retain good teachers in multigrade schools.

* Refresher course should be arranged to develop their teaching competencies subjectwise in multigrade teaching.

* Every year they should be invited for special training in content cum methodology courses.

* Free and better accommodation should be given to these teachers in the villages.

In multigrade school, a single teacher teaches classes I to IV together with limited resources. This teacher need to use various teaching and learning strategies

to meet with educational needs of various grades of children according to the requirements of the class so that every learner achieves minimum levels of competencies by the time the child completes his/her primary education. The teacher depending on the strength of children in each class decides learning activities. Therefore teaching strategies vary from school to school.

Teaching learning strategies in presence and absence of the teacher can be made used in multigrade schools in the following way.

In the presence of teacher	In the absence of teacher (with monitorial assistance)
* Direct teaching	* Self learning activities
* Conducting various child-centred activities	* Peer group learning techniques
* Administering tests	* Drill/repetition/review of the work done
* Remedial work	* Practice activities
* Continuous comprehensive evaluation of the students	* Use of audio-visual aids
* Field trips (to observe, classify and analyse)	* Recreational activities - games; story telling, singing, narrating interesting incidents, free drawing, etc.

The teacher need to select the teaching methods according to the needs of the students in a multigrade schools. It is difficult to state that which method is more effective at this stage. There is need to do research on this aspect to help single teacher in raising teaching and learning effectiveness. The teacher need to integrate various approaches according to the situation.

In the next chapters the detailed information are given on various teaching strategies and how to manage teaching and learning activities along with management of time and space in multigrade schools.

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CHAPTER - II

METHODS AND APPROACHES FOR MULTIGRADE TEACHING

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METHODS AND APPROACHES FOR MULTIGRADE TEACHING

2.0 Context

The teacher in multigrade school face problem in integrating different classes. To overcome this and to face the problem effectively various methods and techniques are used. If the teacher fails in tackling this problem effectively, then the children will not progress in their studies. The following methods may be used for achievement of MLL competencies in multigrade schools:

1. Integration of the classes
2. Integration of the content
3. Shift Method
4. Self-learning Method
5. Leader's help
6. Periodical testing
7. Individual Teaching
8. Multiclasses Method
9. Assignments
10. Group activities

2.1 Integration of the class rooms: In this case the teacher will group the classes like combining I and II; II and III or all the four classes together or I and IV; II and III can make 2 to 3 groups. For integration of the classes, the content must also be divided accordingly.

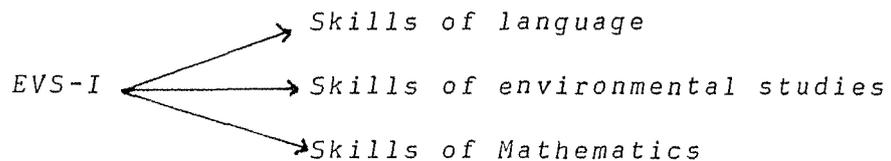
Types of Integration Classes:

The teacher can integrate classes in the following ways:

2

3

2.2 Combination of the content: An intelligent teacher can develop various skills while teaching a particular content area. For ex: While teaching EVS-I and II, the teacher can simultaneously develop the skills of language learning like listening with understanding, comprehending ideas through listening, construction of sentences, writing words, speaking effectively in both informal and formal ways. In this way, the teacher can build a bridge with between the subjects. This in turn will help the teacher to lessen his/her teaching work as there would be less repetition. More time can be spent on remedial teaching for the nonmasters (MLL based). For example while teaching EVS-I teacher can develop skills of other subjects as shown below:



2.3 Shift method: Through this method the teacher can concentrate on two classes and can developed the MLL competencies with much difficulties.

Individual attention can also be paid to students which can lead to better content clearly. If there are only 40-45 children attending in a multigrade school and the capacity of the school is only for 20-25 children then the teacher can go for shift method. The teacher can teach in two shifts that is three hours for I session and the rest three hours for the II session. But it has to be researched and seen whether this method facilitates the children to study more (because instead of six hours only three hours has been spent for each session).

2.4 Self Teaching or Direct Teaching: Each and every day before starting the class the teacher has to plan what she has to do for each class; where she has to go for direct teaching, what assignment she has to give for the other classes, etc. Without proper planning the teacher cannot manage the school because the children are still young and it is very difficult to control them and make them sit silently. The teacher has to see that the other class children also must be engaged in the educationally useful activities which develops the following skill among them:

For ex: The teacher can assign:

- * Oral reading with the help of monitorial assistance
- * Dictation with peer help
- * Asking questions about previous class through group work
- * Note taking (self activity)
- * Solving some mathematical problems (self activity)

- * Self-learning of few answers and listing down the doubts (self activity)
- * Taking tests (self activity)
- * Listing down all the questions raised by the students or by the leader, teacher's activity
- * Writing some notes dictated by the leader or by copying from the blackboard (student's activity)
- * Learning tables (self activity)
- * Doing some art work and physical education activities (group work)

2.5 Monitor's Assistance: Here the leader does the job of a policeman traditionally. But actually he has to act like a assistant for the teacher. He must have such a personality so as to be capable of handling the class in a more meaningful way which in turn leads to achieve some educational activities. If at all the teacher needs the assistance of the leader, she/he has to be careful while selecting the leader who is capable. The leader should have a quality of guiding his co-learners with love:

* The leader should not be a mere physical exhibitor just to control the noise but he must reach a level of solving the problems of the students.

* Each learner should be helped for continuing his academic work.

* He should always try to solve the doubts both academic and non-academic areas in the classroom by discussing clearly with the teacher.

* He must be interested in each and every activity of the classroom. He must be well disciplined with good values.

* Every month, the teacher has to change the leaders so that everybody gets chance which can minimise the inferiority complex among the children. Besides engaging in monitoring assistance the leader himself may lag behind in studies, so to overcome this problem, the leader has to be changed every month and also he has to approach the teacher after the class hour for clarifying his/her doubts.

In every weekend the teacher has to discuss with the leaders of each class (may be on Saturdays) and has to make a list of problems and doubts on the work assigned to the leaders and to what extent it has been covered so that teacher can clarify these doubts during direct teaching.

2.6 Tests and Examinations: This approach will also help the teacher a lot to know the quality of performance of the learners in terms of achievement of MLL competencies. When the teacher goes for direct teaching in one class he/she may give tests to the other classes. The tests should be well planned and should be based on MLL competencies.

Merits of this approach:

* Teacher will know how much of knowledge the child has gained by her/his teaching.

* Whether the children have understood the concepts clearly or they need more remedial teaching to master these competencies.

* It will help the students to practice and to be mentally alert in the class.

* This will help the teacher to know the hard and soft spots of the students for planning remedial and enrichment programmes to raise the classroom effectiveness.

This develops more motivation for self-learning among children.

2.7 Individual coaching: Though the teacher pay much attention for raising the standard of teaching by implementing various techniques or approaches still there are cases where few students need individual attention. For this the teacher can assign work for all the four classes and then group the children who need individual attention together from all the four classes. The teacher can attend them individually as shown in the figure given below:

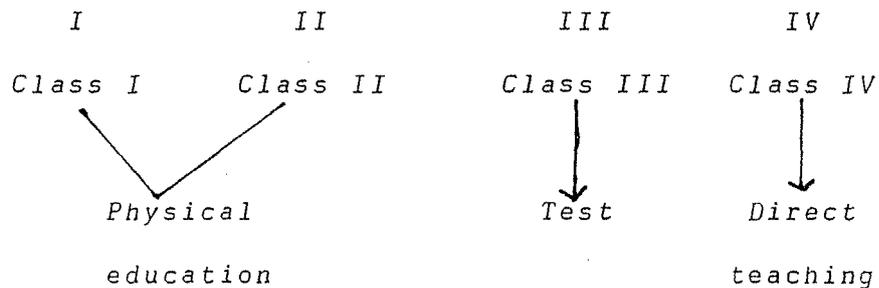
I	II	III	IV
Monitor	Test	Peer tutoring	Group work

Individual
coaching

Teacher

2.8 Multi-class Method: In a multi-grade setting the teacher can try to combine 2 or 3 classes together and for one class

she can go for direct teaching. In the other case she can combine two classes together and assign some work and for the third class she can give some test or assignment and for the fourth class she can go for direct teaching as shown below:



2.9 Assignments (peer-group work): Here the children do the work independently as directed by the teacher. A teacher who teaches for different classes simultaneously can adopt this as a technique or approach to engage the other classes in work. By this the children will develop problem solving skills, self learning, doing work independently. The students would also be able to appreciate self achievement levels. This type of assignment can be given at different stages of learning.

Before giving assignments the teacher tries to assign some motivational activities which in turn may act like a base for the next lesson like solving problems, doing some exercise work, etc.

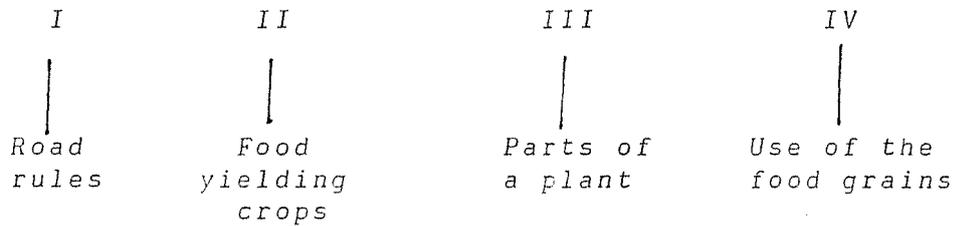
Group Activities: Through this method the teacher can develop various MLL competencies for EVS-I and II, maths,

language, art education and physical education, etc. For example

Taking children to the fields and giving them the practical experience on plants and trees of different variety.

Promoting art work which would help them to express their talents and creativity.

Guiding the students, in making some teaching aids, etc. For example:



In the last chapter exemplars have been given on how to teach all the subjects in multigrade schools which may help the single teacher in raising learning effectiveness.

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CHAPTER - III

**MANAGEMENT OF
TIME AND SPACE
IN
MULTIGRADE SCHOOL**

CHAPTER III
MANAGEMENT OF TIME AND SPACE IN MULTIGRADE SCHOOL

3.0 Context

Management of time and space is very important for planning instructions in a multigrade setting. The time table reflects the effective teaching-learning transactions of the curriculum. In a multigrade school, all the teaching-learning activities takes place in the same classroom. There are constraints of space, time and resource which affect teaching and learning activities. When the teacher is teaching students of one grade, the students of other grade get disturbed, to minimise the distraction, the management of space, time and resources are required.

3.1 Time Management: Time management helps teacher in performing various roles and responsibilities properly. Weekly planning of the time table helps the teacher in planning instructional materials for the whole week as well as he can plan his time to attend each class at regular intervals in the whole week.

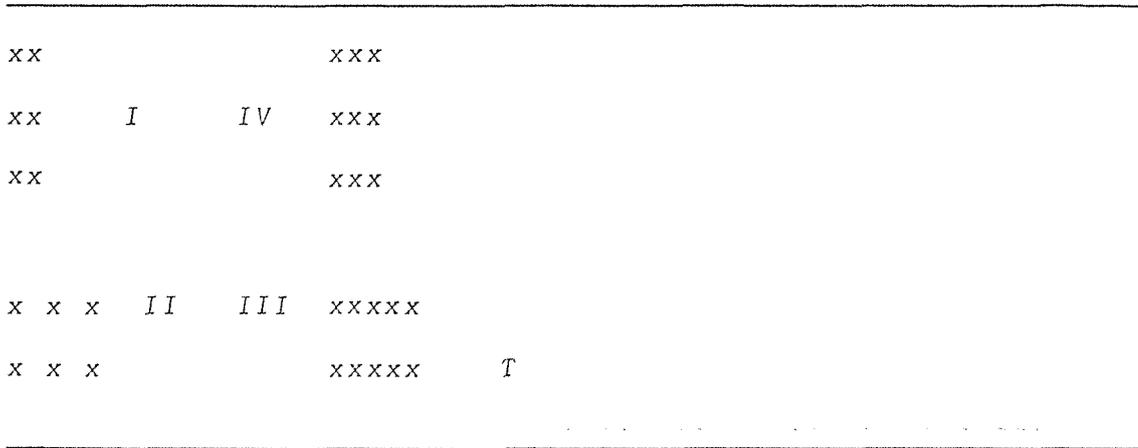
While framing the time table, selection of topics, concepts and programmes for collective activity should be incorporated along with the approaches to be adopted in each class and period. When the teacher should go for direct teaching or for group work, self study, field trip, monitorial assistance and the other strategies need to be

planned in advance and shown in the time table given in the end of this chapter. The time table is to be framed in a way to create a learning climate and to avoid distraction. In the time table, both indoor and outdoor activities should be planned. Art education, music, and other subjects can be combined with the scholastic subjects for all the grades.

Thus, the attainment of the mastery level of all the competencies by the students of the multigrade school depends largely on the resourcefulness and talent of the teacher who makes use of the optimum resources available to make the education more child centred and joyful learning.

3.2 Space Management: To minimise the distractions in the classroom, seating arrangements in various groups of grades are suggested:

3.2.1 General Pattern for Seating in MGT



I II III IV classes, T = Teacher

3.2.2 Horizontal and Vertical Pattern for Seating in MGT:

After the direct teaching, group work should be followed.

Groups can be formed in two ways: (i) grouping the students from the same grade and intermixing the grades. The bright, average and weak students should be grouped. The horizontal pattern encourages learning through peer tutoring.

Horizontal pattern

\triangle 0 X
 \triangle 0 \triangle
0 0 X
X X \triangle

x = Bright

\triangle = Weak **MIXING of** students from same class

0 = Average

Vertical pattern

* * * 0
0 0 0 *
0 * 0 0
.. 0 0 *

* = Higher grade; 0 = Lower grade

In multigrade set up, the teacher cannot pay individual attention to all the students at a time. Vertical pattern used it helps the teacher in making teaching and learning more effective. Guidance and remedial work can be done with less effort with this pattern. The students can be engaged in self-study by using horizontal pattern.

3.2.5 Wall Space Management: Since there are no blackboard or blackboard of poor quality available in remote areas therefore the walls of the classroom should be used for teaching-learning process. The lower portion of the wall could be used for writing purpose, while the upper portion could be used to display charts, pictures, wall maps, display boards, etc. The external walls of the classrooms should also be used for developing good drawing, painting and writing skills. The teacher in multigrade schools can follow daily schedule to avoid confusion in time budgeting:

Planning of school activities: The teacher can plan school activities in the following ways:

15 mins: Cleaning the school environment

15 mins: Chorus recitation

15 mins: Roll call, prayer, health parade, etc.

15 mins: Teaching of Environmental Studies

30 mins: Collective work

60 mins: Teaching of Mathematics

15 mins: Break

60 mins: Teaching of first language

45 mins: Activities in EVS-I and II

30 mins: Group games/arts/work experience

60 mins: Extended school hours

3.2.6 The teacher can combine the grades and subject areas for teaching. This would save time and energy both. Some examples of subject areas where the grades can be combined are listed below:

- * Cutting/drawing geometrical shapes and counting the number
- * Arranging the items ascending/descending order for developing concept of small big, more and less, etc.
- * Identifying the group of items - greater/lesser
- * Learning the Mathematical tables
- * Story telling and developing listening skills
- * Recitation of poems and development of speaking skills
- * Music and folk songs and concept development
- * Model writing and language development
- * Dictation and listening
- * Field trips to the nearby waterbody to learn about water animals, purification of water, means of transport, etc.
- * Locating the physical features on the sketch map of the state/country
- * Locating the places on the map and map reading skill
- * Art education for all the classes and diagram preparation
- * Gardening and development of EVS-I and II concepts
- * Decorating the classroom and developing new vocabulary

- * Personal health and hygiene and EVS-II teaching
- * Dramatisation and development of expressive skills
- * Celebrating national festivals etc. and development of feeling of universal brotherhood, nationalism, secularism, etc.

Below given is a suggestive time table model which may be used in multigrade schools.

3.2.7 WEEKLY TIME TABLE FOR MULTIGRADE SETTINGS

Monday Time Table

Number of periods and subjects taken per day

	1	2	3	4		5	6	7
Class-I	DT	GW	PGW	MA	N O N I N T E R V A L	PGW	DT	DT
Class-II	MA	PGW	DT	SS		DT	MA	DT
Class-III	PGW	DT	SS	MA		PGW	SS	DT
Class-IV	SS	MA	GW	DT		GW	MA	DT

Tuesday Time Table

Class-I	SS	DT	PGW	GW	NON IN T E R V A L	DT	SS	DT
Class-II	DT	MA	PGW	SS		GW	DT	DT
Class-III	GW	MA	DT	SS		GW	MA	DT
Class-IV	SS	GW	PGW	DT		SS	GW	DT

Wednesday Time Table

Class-I	DT	SS	GW	PGW	NON IN T E R V A L	PGW	DT	DT
Class-II	MA	GW	SS	DT		MA	PGW	DT
Class-III	MA	DT	PGW	SS		SS	PGW	DT
Class-IV	SS	GW	DT	MA		DT	SS	DT

Thursday Time Table

Class-I	DT	MA	SS	MA	N O N I N T E R V A L	PGW	PGW	DT
Class-II	PGW	GW	MA	DT		MA	DT	DT
Class-III	MA	DT	GW	PGW		SS	MA	DT
Class-IV	SS	PGW	DT	GW		DT	SS	DT

Friday Time Table

Class-I	DT	MA	PGW	SS	N O N I N T E R V A L	MA	DT	DT
Class-II	GW	DT	SS	MA		DT	SS	DT
Class-III	SS	PGW	DT	MA		MA	GW	DT
Class-IV	PGW	MA	SS	DT		SS	GW	DT

- DT - Direct Teaching
 SS - Self Study
 MA - Monitorial Assistance
 PGW - Peer Group Work
 GW - Group Work

* Source Goel, B.R., *Multigrade Teaching - A Text Book for Elementary Teacher Training*, NCERT, 1992 (Monograph).

If the teacher plans weekly time table he/she is able to manage teaching and learning activities more adequately because teacher can assess the effectiveness through group work and plan remedial teaching through direct teaching. The planning of time and space is equally important as the educational planning for the management of multigrade schools.

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CHAPTER - IV

SKILLS AND STRATEGIES FOR MULTIGRADE TEACHING (MGT)

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SKILLS AND STRATEGIES FOR MULTIGRADE TEACHING (MGT)

4.0 MGT and MLL

The importance of achieving universal primary education in all educational setting including multigrade school cannot be ignored and to fulfill this dream, all children can be given access to education of comparable standards. The efforts of combining quality with equality and reduction of existing educational gaps is top concern of the educational planners in India.

India being rural society with sizable number of single teacher schools, faces lot of problem in universal enrolment, retention and achievement of rural children in the age group of 6-14 years. These children belong to different learning styles and the teachers working in multigrade schools located in remote areas do not have access even to minimum instructional facilities though various innovative educational schemes have been implemented by Indian Government.

There has been a widespread concern with the quality of education being provided in our schools, particularly in multigrade schools. The efforts of Government and educationists in this directions have been constantly made but the universal retention and achievement of the children belonging to educational disadvantaged settings

to the minimum accepted levels is still an unfulfilled dream.

The dropouts among the working children, girls, Scheduled Caste, Scheduled Tribes constitute the majority of school going population. To provide access to primary education to all and particularly to these disadvantaged learners for attaining atleast minimum levels of learning. There is need to improve teaching and learning interventional strategies at primary level so that majority of these children can attain minimum levels of learning.

4.1 MLL and Multigrade Teaching

Minimum levels of learning (MLL) can be defined as observable terminal behaviours. One can also state the MLLs in terms of learning competencies expected to be mastered by every child by the end of particular class or stage of education. Each competency can be further delineated in terms of sub-competencies while specifying the content inputs or while designing specific measures of learning.

The need for MLL emerges from the basic concerns such as low quality of learning at primary levels and minimising the educational disparities. The MLL approach seeks to focus on a minimum quantum of learning which practically all children, even disadvantaged children should acquire. The effort is therefore, to combine quality with equality of education for children studying in single teacher school.

In the MLL approach, achievement is defined in terms of competencies. Every child should have mastered the basic minimum competencies by the end of the corresponding age or stage of development. Every child should not only have skills, but also a good combination of knowledge, understanding, problem solving abilities and values.

The MLL approach emphasises the learning of skills rather than rote memorising or curriculum completion which is general practice in our schools and particularly in multigrade schools. Thus teaching is directed towards ensuring all children attain the basic minimum skills or competencies at the level of mastery. The teachers in multigrade schools should understand the importance of MLL objectives listed below for planning teaching and learning activities.

4.2 Objectives of MLL

The basic objectives of MLL includes:

- * Emphasis shifts from teaching to the learning of competencies practically by all children studying in variety of educational setting.

- * Focus shifts to the development of competency rather than the coverage of content.

- * Emphasis is placed on the understanding of concepts and problem solving rather than memorising text.

- * Teaching-learning process is based on the entry level behaviours of each child.

- * The teaching and learning is directed towards acquisition of basic competencies.

- * The competencies are designed sequentially that is from simple to complex.

* In this approach, textbooks are used only as resource material rather than the exclusive base for teaching.

* More examples are cited from daily life situations for effective learning.

* Locally available materials (low cost) are to be used as teaching aids.

* The MLL approach includes an integration of testing and continuous evaluation for raising the performance levels to mastery. Only when all children have mastered the earlier competencies then only the teacher can move ahead. It also suggests that the teacher however must take remedial classes for those who are identified as nonmasters or slower in learning and providing enrichment programmes for the masters identified on attaining 80% mastery over the listed competencies.

In multigrade teaching the base of teaching and learning process should not be the coverage of content rather attaining the competency levels. The MLL approach has been incorporated as an integral part of various schemes including all primary and basic education schemes like DPEP, DIET, etc. The approach extends to all children, whether in the formal or nonformal educational streams. The list of competencies to be attained in each subjects have been listed subjectwise alongwith exemplar on how to develop MLL competency in multigrade schools.

There can be no finality with respect to any set of MLLs. It may be noted that the set of MLLs would actually represent the rational criteria adopted for judging the adequacy of the curricular inputs provided and the learning outcomes to be expected. First of all we would discuss about language teaching in multigrade schools.

Teaching Language in Multigrade Schools

4.3 Teaching of First Language in MGT

The primary school teachers needs to develop teaching skills to develop MLL competencies among primary school children in all content areas as they are supposed to teach all subjects in all existing educational settings. It is therefore needed to understand the MLL competencies subjectwise for better planning of instruction.

4.3.0 MLL language competencies

At the primary level, language occupies a very significant place in the curriculum. The basic skills acquired through language learning facilitate learning of other subjects. Moreover, language is used as a medium of instruction as well as taught as a subject. The language competence raises the child's participation in all life situations. The basic language competencies are listening, speaking, reading, writing, comprehension of ideas through listening and reading, functional grammar, self-learning, language use, and vocabulary control. Children acquiring minimum levels in language competencies in multigrade schools would be able to do self learning better. Learning of minimum language competencies at Primary level should enable the child to do:

- * To listen with understanding
- * To speak effectively in both informal and formal transactions
- * To read with comprehension and enjoy various kinds of reading materials

- * To write neatly, with logical sequence
- * To use creative expressions.
- * To comprehend ideas through listening and reading
- * To use functional grammar in various contexts correctly.

These competencies relating to language skills are basic and need to be developed in every child studying in single or multigrade schools. A variety of interesting activities in the form of narration of events, peer group discussions, story telling, drama, dialogue, question-answer, quiz competition, riddles, word play, debates and songs can be organized for making language learning a joyful activity.

The MLLs are designed to assist the teacher to evaluate whether the learner is able to develop these competencies. In pupils' evaluation the major emphasis should be given on the ability to use language more appropriately in informal social situations created in the class. The functional and creative use of language in day-to-day life situations.

4.3.1 Developing 'speaking' skill in multigrade

The four main skills of language are listening speaking, reading and writing. Here only the skill of speaking has been taken. The teacher in multigrade would organise his/her school instruction classwise in the following ways:

Class-I The children of Class-I would be engaged in group singing of simple rhymes, poems and songs with gestures and action with direct teaching approach.

Class-II The teacher would take help of the monitor for developing recitation of poem and songs among the second standard students with monitor assistance approach.

Class-III The teacher would ask the third standard students to narrate simple known stories to their groups proper modulation and actions (group work).

Class-IV The teacher would ask the fourth standard students to write small poems individually and provides feedback with the help of learned peer.

4.3.2 Management of Time (first 15 minutes): The teacher should ask students of class I and II to recite the poem may be on "Stars". This simple poem has been recited by the teacher earlier in the class.

* The teacher asks each student to recite the poem individually. After this the teacher asks the students to recite the poem in a group. Some learned students of class-II are given the responsibility of monitoring their performance so that they are able to make corrections.

* The students of class-III are asked to narrate a story with actions and modulation. The teacher selects a story for them and asks them to narrate it properly with correct pronunciation and action expression.

* In class-IV, the students are writing the poem "Learn" which has already been explained by the teacher previously. The monitor of the class is making corrections by paying individual attention.

In this way first 15 minutes can be utilised and for next 10 minutes the following programme may be undertaken:

* Invariably the age group of class-I students show interest in drawing which provides immense pleasure to them. The endeavour of teacher should be therefore, to ask children to draw the pictures related to the poems (such as Star, Moon, Sun) on the slate, board or on the papers. Those pupils who do not have the paper and slate should be asked to draw on the floor with the help of pebbles or chalk piece .

* The students of class-II are comparatively better at handling scissors at this age and therefore should be helped to cut waste papers to make star, moon and sun. The teacher may ask them to make clay models of stars or animals, toys, etc. The students of class IV who have already been taught the craft may be asked to assist the students of classes I, II and III. In order to encourage the students their best prepared pictures, models, cuttings, etc. may be selected for decoration and display in the class.

* The students of class-III should be assigned to some play which has more character like play of 'Cindrella' and maximum number of students may be drawn for different roles such as Prince, Fairy, Cindrella, Step sisters, Step mother, King and Queen and Soldiers, etc.

* The students of class-IV would be involved to assist the class-III students in learning proper acting of the play and also help them to collect materials required for this purpose.

The entire programme till now takes about 25 minutes and rest of the 15 minutes may be used for the following teaching activities.

* The pupil of class-I should recite the poem in group with the help of monitor.

* The students of class I and II should join in singing in a group to develop speaking skill.

* Those children of class-III who have not been involved in the play should narrate the story behind the curtain or in the corner of the class slowly given an impression of dialogue delivery. Those actors should act silently with actions and impressions. The teacher at this stage, should try to evaluate students in their skill of "speaking". The students of class-IV are needed to recite some stanzas of rhymes which are part of the play. This would make the play more interesting and also create confidence in the students of class-III.

The schedule of 40 minutes of language teaching ends in providing interesting activities to the children in the form of story telling, reciting poems, rhymes, songs and playing a drama. It helps in the functional use of language. The teacher is expected to evaluate the students during these activities. Evaluation may be made for the students in the following way:

4.3.3 Evaluation:

Class-I * The teacher should ask the students to recite a line of poem with action and modulation.

* After forming 8-10 groups in a class, each group should be asked to recite a line. In this way the whole poem

gets completed. Care should be taken to give all students a chance to recite.

- * All the groups are asked to recite full poem.

- * The teacher should pay maximum attention while listening the poem recited by each student, especially on the pronunciation, accent, action and modulation and evaluate their performance.

Class-II * The teacher should first recite a line of the poem and ask a student to recite the next line.

- * In this way all the stanzas of poem used may be completed by involving all students.

- * In the end all students should be asked to recite the full poem.

Class-III The teacher should pay attention:

- * to the proper pronunciation of words

- * to correct the use of language and speech

- * to the seriation of events in the story

- * towards the children's clear and spontaneous expression.

Class-IV * The teacher should emphasise the correct pronunciation of every word occurring in the poem.

- * The teacher keeps in mind the correct pronunciation, modulation and the impressive way of reciting the poem while evaluation.

- * The teacher encourages healthy competition among the children while reciting the poem and praises the children who have recited well and encourages those who have not been able to recite properly.

4.3.4 Exemplar on Language Teaching in MGT

Time: 40 minutes

	Std. I	Std. II	Std. III	Std. IV
Topic:	Listening to familiar stories	Listen and tell familiar stories	Tell familiar stories	Write familiar simple stories
Strategy:	Story telling (direct teaching)	Peer tutoring	Monitorial assistance	Group work
Key concept:	Listen with understanding	Read and write the key words in the story	Express their ideas	Write ideas in simple words
Teaching: aid	Pictures on small stories	Word cards	Masks	Pictorial display of stories
Time : allotted for direct teaching	10 mins ----- -	5 mins ----- 5 mins	5 mins ----- 5 mins	5 mins ----- 5 mins

Teaching Environmental Studies I & II in Multigrade Schools

4.4.0 Teaching of Environmental Studies in Multigrade:

Teaching Environment Studies-1 (EVS) is the study of interaction between man and his natural and social environments. It is essential to create an awareness of this in young children, so that they become aware of their own surroundings. Hence EVS-1 assumes a great significance at the primary stage and has become one of the major areas of study at this stage.

Natural environment consists of two major components - living and non-living (EVS-II). Social environment consists of various institutions. The social institutions are the basic components which provide opportunities for emotional, intellectual and vocational growth of child. The social environment also helps in the development of acceptable values, habits and attitudes for effective functioning and living in a society.

4.4.1 MLL Competencies of Environmental Studies-I

The major competencies aimed at the cognitive, affective and psychomotor domains of development together with the content elements associated with them are listed below. The teacher should help the child to attain these competencies:

* Acquire awareness about one's well-being in the context of social and natural environment.

* Explore important aspects of one's socio-civic environments and comprehend their working.

* Know about various people at work and appreciate the importance about the "world of work".

* Understand and interpret the spatial and interactive relationship between man and his environment.

* Begin to see the relationship between man's past and present, and to hold the past in its proper perspective.

* Sense common but simple and easily observable socio-economic situations and problems, analyse them and seek possible solutions at his levels of experience.

* Understand the factors contributing to the preservation of good health.

* Develop skill in gathering and classifying information about living things from one's environment, and drawing simple inferences.

* Observe and examine some common characteristics of non-living things.

* Observe simple phenomena on the earth and in the sky and draw inferences.

4.4.2 Teaching EVS-I in MGT

Standard I:

Peer tutoring: Two monitors should be chosen from the first standard students. They should be supplied with the visual aids and the questions prepared by teacher in advance. The monitors form two groups of the students and each monitor will ask these questions to his group members, using the visual aids for getting responses from them.

For developing concepts the following visual aids may be used such as, tamarind seeds, marbles, ball and beads.

The appointed leader can change the objects in turn.

Using objects in different positions the monitors would ask the following questions.

* Which group of the seeds is far away ?

* Which group of the seeds is near ?

Using the class room set-up.

- * Who is sitting very close to you ?
- * Who is sitting behind you ?
- * Who is to your right ?
- * Who is to your left ?
- * Who is sitting very near to the blackboard ?
- * Who is sitting far away from the window ?

Using the land-features of the locality (depending on the local situation).

* To which side of your school is the river/well/pond/hill/tree/plants, etc. located ?

* To which side of your house is your friend's house/bus-stop, road, etc. The teacher should take the students around the village and make them identify the different directions and locations.

Evaluation (oral): The teacher would assess them asking following questions:

- * In front of the school there is _____
- * To the left of the school there is _____
- * To the right of the school there is _____
- * Behind the school there is _____
- * Is your house far away from/very near to the school ?
- * Is your friend's house very near to/far away from your house ?
- * Asking students from the first bench and last bench to come in front of the class who comes near the blackboard first ? Why ?

4.4.3 Standard II: Direct Teaching The direct teaching should start with every new topic and lesson. The topic should be summarised to the students along with sub-activities arousing the students' curiosity. The monitor's role for other classes should be told and self-study exercises should be assigned for each class. The teacher can take out the students of the classroom and make them to stand in a half-circle facing the sun. The teacher should be facing the students and confirm the previous knowledge of the concepts like front, back, left, right, etc. through questions. The visual aids needed to make them understand that the **East** is the direction where the sun rises everyday and the **west** is the direction where the sun sets in. Make them understand by repeating the words by the learned peer and asking them to show the directions. 'In the morning when you stand in front of the sun, you are facing the **East** and your back is facing the **West**'. Let the students in turn repeat and understand these new words. Ask the students to stretch their arms both the sides. Let the teacher repeat these words. 'In your left side is the **North** and the right side is the **South**'. The students should repeat these new words with correct directions. Ask few questions is listed below about these directions to various students till it is confirmed that they have understood.

In which direction does the sun rise ?

In the morning when you face the sun, which direction does your back face ?

In the morning when you stretch your hands, which is the direction to your left ? Which is the direction to your right ?

Fill in the blanks

1. The direction where the sun rises is the E _____.
2. The sun sets in the W _____.
3. Your left will be the N _____.
4. Your right will be the S _____.

4.4.4 Standard III: Monitorial Assistance: The monitor helps the teacher by sharing his/her work. He organises peer group and individual learning activities. He may also guide the students. The teacher may provide political map of the state and assign the following activities: The neighbouring districts and states of the district the children belong are pointed out by the monitor with the help of a scale and then each student by turn should be asked to name those locations on the map and write those names on the blackboard. The students should tell the names of the corresponding directions on the map and write them on the blackboard.

Each student should be given a chance to locate the names and write the neighbouring districts of their states on the background. Corrections should be done wherever necessary.

Evaluation (oral and written): The teacher would ask the following questions to assess them.

Your district is located in the _____ of your State.

To the east and south of your district, there is _____.

To the west of your district, there is _____.

There are _____ districts sharing common border with your district.

4.4.5 Standard IV: Peer group work: Peer group work helps in increasing the attention of the learners. Two or three groups should be formed depending on the number of students who are a mixture of bright, average and weak students. Due to close contact within the group, one learner motivates the other. Team spirit and co-operation will also count. The peer group leader is chosen by the students themselves with the help of teacher. The teacher would provide visual aid such as political map of India and would assign these activities. The students will be given a list of places/states/ sea. The students have to locate them on the map of India. They should write in their note books alongwith their corresponding directions. For example: Arabian Sea, Goa, Maharashtra, Karnataka, Andhra Pradesh, Tamil Nadu, Kerala, Bangalore, Trivandrum, Madras, Hyderabad, etc.

Evaluation (oral and written): The teacher would ask these questions:

Which state is located to the east of your state ?

Which are the states located to the south of your state ?

Your state is situated in the _____ of India.

Locate Goa, Trivendrum, Madras, Bombay, Poona, etc. on the given political map of India.

Remedial measures: Remedial measures should be taken up individually by the teacher. During the extended teaching hours after the school the teacher should carry on this work. After identifying the hard spot, the teacher should give extra exercises to the non-masters to achieve the minimum level of Competencies. In this task the teacher can also take the help of the peer tutors. Self-learning packages can be made ready depending on the nature of the difficulty level. The exemplars given on teaching EVS-1 would develop insight on teacher for organising teaching in multigrade setting.

4.4.6 Exemplar 1: Teaching Environmental Studies-1 in MGT

Content: The student understands and interprets the spacial and interactive relationship between man and his environment
Area 4

	I std.	II std.	III std.	IV std.
Title of the lesson:	Our locality	Our neighbourhood	Our district	Our state/ UT and our country
Strategy:	Peer tutoring	Direct teaching	Monitorial assistance	Peer group work
Key concepts for one day:	Continuation of lesson - Key concepts front, behind left side, right side, far, near	New lesson Key concepts: East, West North, South direction	Continuation of lesson - Key concepts Locating neighbouring districts of your district	Continuation of lesson - Key concepts: Locating neighbouring states of your state
Teaching learning materials	Locally available- tamarind seeds, beads, marble, ball, classroom objects & students	Surrounding environment and students	Map of the state scale, chalk piece, blackboard	Map of India scale, notebooks and pencils
Time allotment: 40 mins				
I block	5 mins(i)	10 mins(iv)	5 mins(ii)	5 mins(iii)
II block	5 mins(i)	-	5 mins(ii)	5 mins(iii)

4.4.7 Exemplar 2: Teaching Environmental Studies-1 in MGT

	I std.	II std.	III std.	IV std.
Competency:	Local festival	Importance of local festival	Objectives of local festival	Local festival cultural heritage
Strategy:	Peer tutoring	Direct teaching	Monitorial assistance	Dramatization
Key concept:	Knows simple facts about local festivals	Knows about the importance of local festivals	Awareness of importance of all local festivals	Compares with other state festivals
Learning: Aids	Pictures of the local festival	Audio programmes on folk songs related to the local festivals	Pictures of festivals depicting good values	Pictures of other festivals of state
Time allotment:	5 mins ----- 5 mins	10 mins ----- -	5 mins ----- 5 mins	5 mins ----- 5 mins

Teaching EVS - II
in
Multigrade Schools

4.5.0 Teaching EVS-II in MGT

The teacher should help to attain these competencies while teaching EVS-II.

- * Recognises some common animals, birds and insects.

- * Recognises some common trees, birds, crops, etc. of the locality.

- * Understands differences and similarities between animals and plants.

- * Identifies some important ways of using plants and animals.

The teacher has related the above two areas as she/he can teach the above four competencies simultaneously.

The teacher follows the following strategies

- a. Direct teaching

- b. Peer grouping

- c. Monitorial assistance

- d. Supplementary reading materials

The teacher takes the children to the environment.

4.5.1 Exemplar 1: Teaching EVS-II in Multigrade School

The teacher gives the following materials for the I and II standard children. She/he makes groups and makes a second standard child as a leader. The materials consists of drawings of common plants and animals seen in the surroundings. The first standard children are helped by the second standard children to colour the drawings given by teacher appropriately. The teacher gives pictures of the

following, mango tree, mango leaf, a neem tree, a neem leaf, guava tree, guava leaf, a coconut tree, a coconut leaf mango fruit, guava fruit and banana fruit for colouring them with adequate colours. The teacher also would give pictures of birds and animals for colouring such as, Crow, Sparrow, Parrot, Pigeon, Cow, Buffalo, Sheep, Dog and Cat.

The second standard children are asked to match the printed names with the pictures given. The teacher would developed these concepts among the first standard children through direct teaching. The third and fourth standards are asked to list and record their observation on the common plants and animals seen in their locality. They work in peer-groups. They record their observations on the following:

Names of plants	Names of animals	Differences	Similarities
-----------------	------------------	-------------	--------------

The teacher reinforces the following points.

* Plants and animals differ in their movement.

* They differ in their mode of nutrition (plants make their own food, animals cannot).

Similarities: * Plants and animals are living things

* Both of them breathe (respire)

* Both respond to external stimuli

* Both of them reproduce

* Both of them grow

* Both of them move

The teacher asks simple questions on the list prepared by the students. Like name the parts of the plant and animal seen. What plants do you see in summer, winter and rainy season? What type of animals are seen mostly in rainy season etc.? The above becomes a revision class for fourth standard children as well.

The teacher then ask the IVth standard children to prepare list of animals and their functions as shown below:

Name of animals	Uses
-----------------	------

Example:

OX	Ploughing, transportation
----	---------------------------

The teacher stresses that the following animals are useful in transportation, irrigation, ploughing and harvesting of crops, etc. Similarly the teacher would ask the III and IVth standard students to prepare the list of plants which are used as medicine. For example:

Names of plants	Uses
-----------------	------

Tulsi	Medicine
-------	----------

The teacher stresses that the following plants are useful in many ways. For example, they provide food, medicine, shelter, etc. While the teacher is explaining

these things for third standard children, the fourth standard children are asked to prepare the list of such plants.

Teaching strategy adopted: For developing these concepts the monitorial assistance, peer grouping and supplementary reading materials such as showing pictures of various plants and animals would be used and to assess. The teacher gives a list of names of plants and animals from the above list and asks them to tell the uses of these plants.

Conclusion

The teacher has related the above competencies as she/he felt that parallel teaching can be done for the above classes with I and II standard children on one side and III and IV children on the other.

4.5.2 Exemplar 2: Teaching EVS-II in MGT

Competency to be achieved	Skills	Strategies	Remarks
Standard I and II Identifies the main parts of the body	<ol style="list-style-type: none"> 1. Recognise eyes, ear, nose, legs, hands, etc. 2. Match the pictures of eye 3. Colour the figure of eye, ear, etc. 4. Cut and paste in the pages 	<p>Helps students to identify the parts of body by the help of peer tutoring</p> <p>Identifies the parts of body in picture under the supervision of class monitor</p> <p>Shows the parts of body when they are asked by the leader.</p> <p>Selects the pictures and parts from the table (group work)</p>	<p>Identify these parts on cards</p> <p>Diagram prepared by the senior students can be used</p> <p>Clay model can be supplied</p>
Standard III Understands the need for food and health	<ol style="list-style-type: none"> 1. Recognises the need of food for the existence of man and other animals 	<ol style="list-style-type: none"> 1. Illustrates with various things and drawings that man and other animals require food for their existence. 	<p>Selects the different items of food they are consuming in their daily life</p>
Standard IV	<ol style="list-style-type: none"> 2. Nutritious food is necessary for health 	<ol style="list-style-type: none"> 2. Tells the value of good food for proper health (direct teaching) 3. Classifies different items of food into vegetables, grains, etc. (group work) 4. Observes that different animals are taking different types of food (peer tutoring) 	<p>day-to-day life from the pictures are given</p> <p>List of food items prepared by students can be used.</p> <p>Visits or charts can be used</p>

4.4.8 Exemplar 3: Teaching Environmental Studies-II in MGT

Competency	Standard I	Standard II	Standard III	Standard IV
The pupil acquires awareness about one's well being in the context of social and natural environment	Identifies the main parts of the body	Understands the need for food and health	Appreciate the need for orderly behaviours in home, school and public places	Identifies common situations leading to accidents in his environment
Skills	Recognise the body parts like, eye, ear, nose, hand, etc.	Recognise the relation of food and health	Follows the rules and regulations in life situations	Awareness of road rules and practices in real life
Strategy	Peer tutoring	Direct teaching	Dramatisation group work	Dramatisation
Teaching aids	Pictures/real objects/drawings	Posters/pictures/drawings	Masks/activity pictures	Masks/activity road symbols/pictures

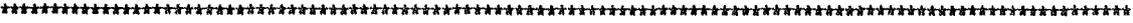
4.4.9 Exemplar 4: Teaching EVS-II in MGT

Competency to be developed	Skills	Strategies	Remarks
Standard I			
Understands the importance of keeping the body parts clean	- Understanding the need for brushing	Direct teaching - Helping the children acquire the skill of cleaning the teeth by using leaves, brush by showing pictures	Children are asked to select the picture which shows the correct way of brushing and cleaning of teeth
Brushing the teeth	- Attaining the skill of cleaning teeth	Demonstrating the right way of brushing	Implications of correct way of brushing
Standard II			
Sees relationship between unclean food and diseases	- Distinguish between clean and unclean food To understand that unclean food causes diseases	Dramatisation 1. to understand that unclean food causes diseases Children acting as shop keeper uncovered eatables 2. to understand that rotten fruits caused diseases	How can we keep the food clean ? What happens if we eat uncovered food?

Competency to be developed	Skills	Strategies	Remarks
<p>Standard III Learning importance of following rules</p>	<p>- Developing the habit of standing in queue wherever necessary till his turn comes</p>	<p>The discussion after the drama should enable the child to distinguish between clean and unclean food, rotten fruits and vegetables, and to know that unclean food causes diseases</p> <p>- Role play One group acting as supplier in the ration shop. - Second group acts as customers and they stand in queue. - Third group acts as customers rushing and pulling one another, not in queue - Customers in queue purchasing the materials quickly but the other customers cannot purchase easily.</p> <p>From these the children understand the need for queue ?</p>	<p>Situations and charts can be used to provide reinforcement</p> <p>Point out the situation where there is need to have queue.</p>
<p>Standard IV Relationship between accidents and lack of precaution</p>	<p>- Identifies the situations leading to accidents</p> <p>- Ability to recognise the precaution to avoid the accidents</p> <p>- Understands the relationship between lack of precaution and accidents</p>	<p>identify the situation lead to accidents in school, home and public places, group discussion mentioning the precautions to be taken to avoid such accidents</p> <p>based on the relationship between lack of precautions and accidents</p>	<p>to demonstrate the situations such as:</p> <p>* the piles of fruits in the middle of the road causes accidents (falling down)</p> <p>* mime the precaution to be taken to avoid accidents</p> <p>* don't play with sharp tools like knives, blade, etc.</p>



**Teaching Mathematics
in
Multigrade Schools**



4.6.0 Teaching Mathematics in MGT

One of the major objectives of teaching Mathematics at primary level is to enable children to solve quickly and accurately the numerical and spatial problems which they encounter at home, in the school and in the community. It should also help children to develop an understanding from the concrete to the abstract, from the specific to the general concepts. The Mathematics curriculum should therefore be directed to achieve the MLL competencies listed later in this chapter..

There is a horizontal and vertical link between the competencies listed. Each competency in Mathematics like other subjects is a prerequisite for attaining the next competency. It is therefore essential to master previous competency to attain mastery over the next competency. So in a multigrade setting the responsibilities of the teacher is much more than the other teachers who teach for single class. The teacher in multigrade teaching has to be imaginative and resourceful to make use of the time by encouraging and managing the children of different classes to do various learning activities more efficiently in the absence of the teacher. The teacher has to preplan for self learning and group activities so that these activities can be used properly for learning. The teacher in multigrade setting handling one particular class through direct teaching, can take the help of monitors in managing

different classes at a time so that teacher can attend to individual child as it is needed at the primary stage. Some children do not perform upto the expected level (mastery level) then the teacher needs to plan remedial and corrective education programmes through direct teaching. The teacher should adopt various teaching learning strategies to motivate and arouse a child's curiosity towards learning new concepts in Mathematics.

4.6.1 Objectives

* The development of appropriate language, qualitative description, the recognition of objects from description, discriminating, classifying and sorting of objects, identifying objects and describing them unambiguously.

* The recognition of common, simple mathematical relationships, both numerical and spatial, reasoning and logical deduction in connection with everyday things, geometrical shapes, number arrangements in order, etc.

* The ability to describe quantitatively the use of number in counting, describing, estimating and approximating.

* The understanding of whole numbers and their relationships with one another.

* The appreciation of place value, the number system and number notation, including whole numbers, decimals and percentages, the ability to recognise simple number patterns (odds and evens, multiple, divisors, squares, etc.).

* The appreciation of the measures in common use. Sensible estimation using the appropriate units. The ability to measure length mass (weight), volume, capacity, area, time and angle to a desirable level of accuracy.

* The understanding of money, contributing to a sense of the value of money and the ability to carry out simple purchases.

* The ability to carry out practical activities involving the ideas of addition, subtraction, multiplication and division.

* The ability to perform simple calculations involving the mathematical processes indicated by the signs +, -, x, -, with whole numbers.

* The ability to carry out with confidence and accuracy simple examples in the four operations of numbers, including two or three places of decimals as for rupees and paise and the measures as used.

* The ability to approximate and to check whether the result of a calculation is reasonable.

* A sound understanding of place value applied to the decimal notation for numbers. The ability to carry out the addition and subtraction of numbers with upto two decimal places and the multiplication and division of such numbers.

* The multiplication and division of numbers with upto two decimal places by single digit number.

* An appreciation of the relationships between fractions, decimals and the most common percentages.

* The ability to use fractions in the sequence $1/4$, $1/8$, $1/16$ or $1/3$, $1/6$, $1/12$ or $1/5$, $1/10$ including the idea of equivalence in the discussion of everyday experience.

* An appreciation of two and three dimensional shapes and their relationships with one another. The ability to recognise simple properties, to handle, create, discuss and describe them with confidence and appreciate spatial relationships.

* An ability to read with understanding Mathematics from books, and to use appropriate reference skills.

* An ability to write clearly, to record Mathematics in statements, healthy and systematically.

4.6.2 Exemplar-I: Teaching Mathematics in Multigrade Setting

Teaching activities are to be planned in advance and should be conducted by the teacher for the children to master the competency through direct teaching in every class for every subject. Preplanned activities, practice exercises, copying from the blackboard, learning tables, etc. can be assigned to the remaining classes and it can be done as follows:

Class I	Class II	Class III	Class IV
Addition (single digit number)	Addition with carrying (2 digit numbers- sum not exceeding 99)	Addition with carrying (3 digit numbers- sum not exceeding 999)	Addition with carrying (4 digit numbers- sum not exceeding 9999)
Inter-learning activities (2 children in one group, peer group activity)	Direct teaching	Group activity	Self learning
Using concrete objects beads/ stones/seeds/ shells, etc.	Making use of the concept of place and place value tens/ones	Making groups of 4 or 5 children in each group. Let each group have a master/ monitor who can help his friends Give them sums on addition.	Every child will solve the sums given in review exercise

4.6.3 Exemplar 2: Teaching Mathematics in MGT

First standard: The direct teaching method has been selected for first standard. The monitor supervises self study exercises assigned to the group. The competency of adding number 0-18 would be developed in first standard students in this way.

Class room activities: The monitor with the help of teacher shows one pen and asks how many pens are there in his hand. The students answers one. Then monitor shows another pen in the teacher's hand and asks them how many are there ? They answer one, when both the pens are combined and asked the students would say there are two pens. Now the teacher says one pen and one pen makes two. Similarly the teacher shows different objects and make them understand one and one is two. Similarly, the teacher makes the students add other numbers, such as 2 and 1 is 3; three and one is four and four and one is five.

Evaluation (oral question):

1. One and one makes _____
2. Two and one makes _____
3. Three and one makes _____
4. Four and one makes _____

Match the following

A	B
1 and 1	3
2 and 1	4
3 and 1	1
4 and 1	2

IInd standard: For the second standard peer tutoring approach would be used in this way. The peer tutoring facilitates the individual learner in a small group. Dividing the second standard pupils into different groups according to the strength of the class and each group should have not less than 5. Selecting one learned leader for each group. The group leader will be supplied with different problems.

Visual aids: Bundle of sticks having tens bundles and ones and spike, abacus with two spikes would be used.

The leader first gives one problem for example in one box there are 24 oranges, and the other box contains 32 oranges. How many oranges are there if we put them in one box. The students would listen the problem carefully and then try to do the problem. The teacher gives guidance using the bundle of sticks and abacus.

Evaluation: Find the sum of $43 + 52 =$

In a class room there are 25 boys and 25 girls. How many students are there in this class.

IIIrd standard: Children of standard III are divided into different groups and leaders are selected. The leaders are supplied with different kinds of problems relating to three digits.

Learning Aids: Bundles of sticks having 'tens' bundles and ones, abacus having three spikes, etc.

Activities: Each group is given one problem by the leader. Eg. the cost of chair is 170 rupees and 780 for one table. How much money should be spent on buying one chair and one table of the cost mentioned? Ask them to solve the problem by group discussion: $780 + 170 = 950$.

In the second round the groups are given abacus showing the different numbers. With the help of peers, students add the number $170 + 780$. For the third round the groups are given bundles of sticks having 2 hundreds, 5 tens and 2 ones, and another containing 4 hundreds, 7 tens and 8 ones. Helping them to recognise the number and find the sum.

Evaluation: 1. Find the sum $437 +$

385

Standard IV: Monitorial assistance is adopted. The monitor helps the teacher by sharing his/her work. He organises peer group and individual learning activities. He may also guide the students. Organise peer groups by the monitor. He gives different kinds of problems to each group related to four digits and ask the students to solve.

Teaching aids: Bundles of sticks having thousands, hundreds, tens and ones and abacus having four spikes would be used.

Activities for the first group: In a library in one shelf there are 1255 books and the second shelf containing 2120 books. What is the total number of books in the two shelves.

The students are solving the problem, corrections are made by the monitor. **Second group:** Recognise the numbers from the

abacus and find the sum. Corrections are given by the monitor. **Third group:** Add 3468

$$\begin{array}{r} + \\ \hline 4978 \end{array}$$

Evaluation: 1. Find the sum $\begin{array}{r} 3625 \\ + \\ \hline 4178 \end{array}$

2. In a theatre in one show the collection is Rs. 4520 in the second show on the same day the collection is Rs. 3745. What is the total collection on that day ?

Like this some other competencies can be taught to the pupils of different classes at a time. Take first fifteen minutes to assign work to other classes and concentrate on one particular class so that the children will be benefited to the maximum. Direct teaching through child centred activities motivates the children to learn better. Different classes can be assigned with learning activities in different subject areas if the teacher wishes to do so. But every new concept in mathematics needs to be taught directly to the children by the teacher using various concrete objects. Also one should use good/relevant teaching aids to teach various concepts. Thought provoking questions should be asked while teaching. Allow the children to give their ideas. Encourage them to read and write with their peers. Use self learning techniques wherever possible. Thus, in a multigrade school, a teacher can make the best use of time by using various strategies of teaching-learning.

4.7.0 Teaching Geometry in Multigrade School

Mathematics is necessary to train a child to think, reason, analyse and articulate logically. Apart from this it is treated as a concomitant to any subject involving analysis and reasoning. Keeping this in mind, the teacher should as far as possible try to make abstract concepts concrete by taking suitable activities which makes learning child centred and interesting. A teacher in a multi-grade set up finds it a great challenge to deal with such a situation.

4.7.1 MLL Competencies for Geometry Teaching

Area 5: Understanding of geometrical shapes and spatial relationship.

5.1.1 Recognises and names the four basic shapes - circle, triangle, rectangle and square.

5.2.1 Names of objects in the environment which have only plane surfaces, only curved surfaces and objects which have both.

5.3.1 Recognises and classifies various solids in the environment with their geometrical names (eg. cuboid, sphere, cube, cone, cylinder).

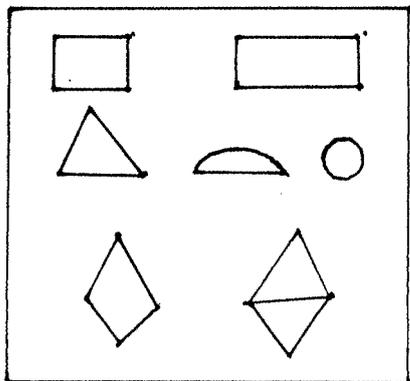
5.4.1 Measures and draws line segments of specific lengths with the help of a ruler.

4.7.2 Exemplar on Teaching Geometry in MGT

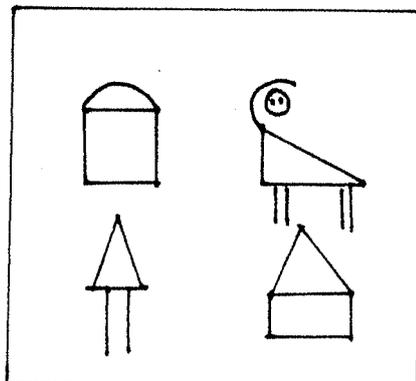
The teacher for teaching above mentioned MLL competencies would make use of match sticks cutouts for Ist

and IInd standard children as given below:

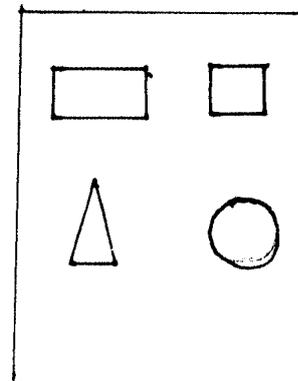
Time allotted: 40 minutes



MATCH STICKS CUTOUTS



THREAD WORK



STICK WORK

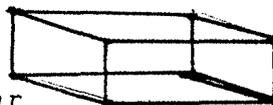
The teacher provides match boxes, sticks cutouts of figures relating to environment. She/he gives geometrical shapes as above and asks the children to do thread work by which the children of IInd standard learn competency 5.2.1.

In the mean time the IIIrd and IVth standard children are given shapes of rectangles, squares and triangles (small size) with the help of match boxes and sticks activities for Ist and IInd standard children. The above activities would take 30 minutes. The teacher can focus her attention on Ist and IInd standard children when the IIIrd and IVth standard children are busy with cutouts of geometrical shapes. This would be a revision class for the IIIrd and IVth standard children.

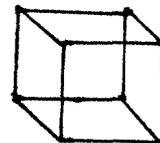
The teacher then collects the geometrical cutouts from IIIrd and IVth standard children gives the following activities.

a. Boxes shaped like cubes and cuboids are provided. The children are given similar cutouts of cube and cuboids which they should assemble like the sample given.

Six rectangular pieces are given



Six pieces of square are given



The children are asked to measure the rectangular and square pieces given by the teacher before assembling them into cubes or cuboids shaped boxes. This would develop competencies 5.3.1 and 5.4.1 mentioned above.

The remaining 10 minutes is allotted for evaluation cum revision work. The teacher asks all the children the following statements.

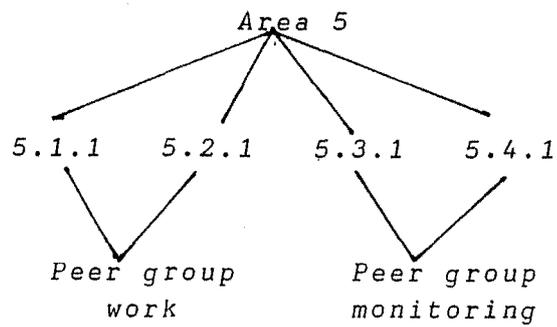
The teacher shows various geometrical shapes and asks them to recognise them.

The teacher asks them to draw one or two figures with the given geometrical shapes.

The children (IVth standard) are asked to measure their benches preparing records for discussion.

The teacher also follows continuous comprehensive evaluation by making a note of them when they were busy with their activities.

In a nutshell teaching strategies used would be as follows:



Conclusion

A teacher in a multigrade setup should plan activities well before hand to make teaching interesting and meaningful. These activities should be child centred.

Teaching of Art Education in Multigrade Schools

4.8.0 Teaching of Art Education in Multigrade Setting

In a multigrade situation most of the activities take place in the same classroom involving students of different grades. There are constraints in space, time and resources affecting teaching-learning activities. Proper planning and skill of management are needed for multigrade teaching.

The child at the primary level is considered as a feeling and thinking human being with a strong expressive urge. The surroundings supply the stimuli for these expressions. This quality of the child is manifested in the play activities and art education provides ample opportunities for the play activities. Through art education understanding of diverse cultural heritage can be developed.

Materials needed for art education:

i. **Pictorial Art** (drawing and painting): For this pencil/charcoal/kalam, ink/wax colour/pastel colour/ powder colour and gum, flat brushes, white paper/brown paper/chart paper/activity book, etc. are needed. In case these materials are not available, make use of locally available materials.

ii. **Decorative Art** (printing, collage and decoration): The vegetables (potato, onion, lady's finger), knife, poster colour/powder colour and gum, coloured paper/cloth cuttings, waste printed material/natural materials, etc., coloured husk/coloured powder/coloured sand/flowers and leaves, etc.,

earthen pot, khariya matti/chalk matti/chalk clay, etc. white paper/chart paper/brown paper, brushes, etc. are needed.

iii. **Plastic Art** (clay modelling and construction): Potter's clay/pond clay, modelling tools, etc., chart paper/hard card, scissors, gum/fevicol/flour paste, thread, poster colour, brushes, soft cane/bamboo stick/twigs, etc.

iv. **Peforming Art** (music, song, dance and drama): Percussion instrument/harmonium, tabla, dholak, cassettes/tapes, records, costumes of local and regional dances, stage decoration material, make-up items, etc.

To organise activities in different art forms the teacher can make use of locally available materials to develop creativity among the children. The free expression and specified expression methods provide freedom to the child to make use of his/her capabilities. No doubt, the free expression method offers a wide scope to the child to select any idea and subject matter, the specified method too provides ample choice if the topic given is familiar to all the children in the class. As far as the freedom to use the art material is concerned, both these methods give equal scope to every child to discover his capability and put them to the best use. Teaching art education in multigrade setting, the teacher should consider these factors in mind: seating arrangement, time and competencies, which have to be developed.

4.8.1 Teaching-learning strategies: The teaching-learning strategies adopted should mainly be child-centered and activity-based. The selection of activities should provide children with a variety of opportunities for developing their innate capabilities. While selecting the activities the following major criteria should be born in mind. They should:

- be relevant and based on interest, aptitude and maturity level of the child;
- satisfy the creative and emotional needs of the child;
- lead to the development of values identified with respect to relevant common core components;
- have built-in flexibility to suit the individual's need of each and every child and should be related to local specific situations. There should be enough scope for a child to work at his/her own pace.

In planning and transacting the teaching-learning activities for art education, a teacher's role is of special importance. He/she is expected to motivate the child and create opportunities for self-expression of the learner. If a situation arises where a child is not able to grasp an idea, the teacher should indirectly help and guide him/her in the right direction. However one must remember that to impose one's own idea on the mind of a child is a way to

kill spontaneity, creativity and self-expression. The teacher may demonstrate new techniques to make children understand the ideas better.

4.8.2 MLL of Art Education

Art education comprises visual and performing arts. Each of these art forms is quite distinct in nature. In visual art ideas and emotions are expressed through medium of drawing/painting, modelling, etc., whereas in the performing arts gestures, movements and actions, etc. are used to express. Both of these art forms intend to develop creativity in the child. The major aim at this stage should therefore be to provide the child an integrated experience of using various forms of art, giving the child an opportunity to optimize his/her capacity in one or more forms of art. At this stage the learner should be able to develop skills of self-expression through the following MLL competencies:

- * the medium of visual and plastic art should be made as base of observation and imagination;

- * skills of self expression through the medium of performing arts;

- * skills of identification and selection of preferable mode/medium of self expression from variety of media and materials exposed to him/her;

- * appreciation of the aesthetic elements in the environment and in the traditional art forms;

* a sense of love for nature and respect for natural resources;

* a sense of patriotism and respect for cultural heritage and a feeling of pride for being an Indian;

* feelings of sharing materials and working together;

* appreciation of art forms of their own and of others;

* awareness and sensitivity towards various problems and evils prevalent in the society;

* his/her own sensibilities of seeing, hearing, touching, feeling and moving;

* skills of singing, playing, acting without any inhibitions.

4.8.3 Evaluation: While for evaluating the art work of a child, all the basic criteria discussed above should be kept in mind. There is never a right or wrong response in a child's art work, therefore, a child's limitations in terms of age, tenderness in manipulative abilities and his/her natural way of expression should be given due weightage in evaluating his/her art work. The expression of each individual child in the class may differ from the other's, there is no scope for intercomparability. The basic aim of pupil's evaluation is to enhance children's interest and confidence in creative activities and to encourage the child's imagination, creativity and sensibility for aesthetic appreciation.

4.8.4 Exemplar 1: Teaching Art Education in Multigrade School

Classwise	Skills	Strategies	Remarks
Standard 1			
Activity			
Makes a simple design by stamping thumb	<ol style="list-style-type: none"> 1. To develop muscle coordination 2. To develop imagination to form beautiful designs according to individual child's perception 	<ol style="list-style-type: none"> 1. Helping the children forming different designs by pressing the thumb on papers/sand slate, floor of the class room 2. Helping them to select different colours (Khadia colours to make the designs more beautiful 	<ul style="list-style-type: none"> * Evaluation by direct observation * Children's comments and rating * Teacher's comments on right and wrong perceptions of designs
Standard 2			
Activity			
Makes a sample design by stamping thread ball	<ol style="list-style-type: none"> 1. To develop muscular coordination 2. To develop imagination in framing designs of different variety 	<ol style="list-style-type: none"> 1. Help them to hold the thread ball properly 2. Help them to stamp the thread ball using different colours properly 	Evaluation by direct observation
Standard 3			
Makes a design by stamping potato cut impression in single colours with some symmetry and rhythm	<ol style="list-style-type: none"> 1. Skill in designing symmetry and rhythm 2. Skill in cutting the potato properly 3. Skill in carving a design on the potato 	<ol style="list-style-type: none"> 1. With the help of peers help them to cut the potato properly 2. Help them to carve a design on potato 3. Stamping to form designs with symmetry and rhythm 	<ul style="list-style-type: none"> Observation at various stages Ask them to form a symmetrical design with the assistance of monitor
Standard 4			
Makes an overall design in two colours with cut potatoes having two different patterns	<ol style="list-style-type: none"> 1. Skill in cutting the potato properly 2. Skill in carving a design on the potato 3. Skill in designing symmetry and rhythm 	<ol style="list-style-type: none"> 1. To help them to cut the potato properly 2. Help them to carve design on potato 3. Stamping to form designs with the different patterns using different colours locally available 	<ol style="list-style-type: none"> 1. Observation at various stages 2. Ask them to make design in two patterns as shown by teacher

4.8.5 Exemplar 2: Teaching Art Education in Multigrade School

Classwise	Skills	Strategies	Remarks
Standard 1			
Draws and paints the national flag	<ol style="list-style-type: none"> 1. Ability to express himself 2. To develop power of observation 3. Skill of painting 	<ol style="list-style-type: none"> 1. Help them to draw the outline of a flag 2. Help them to choose appropriate colours 3. Help them to paint properly 4. Help them to paint it in the right order either pink or saffron at the top, white in the middle and green in the bottom 	<p>Observes their performance and gives guidance to whosoever needs direct monitoring with the help of monitor assistance group work</p>
Standard 2			
Paints a flower from imagination	<ol style="list-style-type: none"> 1. Ability to choose the right colour 2. Skill of painting 	<ol style="list-style-type: none"> 1. Children are given the outline of a flower 2. Help them to paint properly 	<p>Observe their performance direct monitoring Demonstration with the help of talented students</p>
Standard 3			
Paints a scene from imagination	<ul style="list-style-type: none"> - Skill of observation - Skill of painting - Skill of selecting appropriate colours - To develop the power of imagination 	<ol style="list-style-type: none"> 1. Teacher suggests a familiar scene eg. sunrise or sunset 2. Help them to paint the scene using appropriate colours 3. Asking them to draw some scenes on the basis of their observation 	<p>Through observation teacher assesses the performance of children and tries to correct the mistakes if necessary</p> <p>Direct monitoring</p>
Standard 4			
Paints a scene showing birds in natural surroundings	<ul style="list-style-type: none"> - To develop the power of imagination - Skill of painting - Skill of observation - Skill of selecting appropriate colours 	<ul style="list-style-type: none"> * Teacher suggests a scene * Group work for helping students to relate their imagination to some familiar scenes 	<p>Through observation teacher assesses the performance and gives guidance to whosoever needs. group work</p>

**Teaching Music
in
Multigrade Schools**

4.9.1 Teaching Music as Performance Art in MGT: Music is language of sound. Children learn faster even the difficult concepts through rhymes. It influences the learner as given in Sanskrit Shloka: "**Shishurvehti pashurvehti, veltiganam rasa panihi**"

Music has the components like 'stayi' and 'rhythm', 'sruti'. The basic musical sound of the singer is called 'pitch' or 'stayi'. There are three stayis, they are mandra, madhya, and 'thara'. The function of rhythm in a music is to maintain the balance of music. The Indian music is based on pure-melody. The melodic system led to the discovery of raga with its use of gamakas. The smallest audible sound which can be distinctly heard is recognised as 'microtone' or 'interval' that is 'sruti'. Sruti and Tala play the main role in music. Folk music is older than classical music. It is the foundation upon which classical music has taken its birth and shape.

Music is taught as a co-curricular activity to develop sensitivity and talents in music. Through music national consciousness and feeling of national integration can be developed in young minds. This also helps in making aware of our cultural heritage and promotes better learning among children of elementary stage.

Every child has instinct to respond to various objects, sounds and movements in his/her environment. These stimuli remain in his/her subconscious mind and find their expression in the form of different media such as rhythmic

movements. Music class provides opportunities to each and every child to develop his/her own capabilities for creative expression. The basic objectives of the music are to develop:

- * the right attitudes towards national integration, i.e. to overcome castism, linguistism, communalism, provincialism, etc.

- * to appreciate cultural heritage of our country.

- * to release pent-up emotions through music.

- * to develop the democratic qualities like self-confidence, self discipline, sense of co-operation, responsibility, patriotism, humanitarianism, devotion and dedication.

- * to create interest in learning music, appreciate classical tradition through the light music, like prayer songs, text book songs, community songs, patriotic songs, folk songs, devotional songs like bhajans, vachanas and devaranamas.

- * to create a proper sense of swara, laya through the light music appreciation, and aesthetic value of classical/folk music. To help them to articulate words properly. Through poem certain simple ragas and rhythms can be developed.

4.9.2 MLL Competencies for Music: (i) The first standard children should be helped to develop interest and sensibility in listening to songs and sounds produced by various musical instruments in the local environment.

- * Sing in small groups the National Anthem
- * Make a rhythmic beat with an empty pot.
- * Listen to certain type of local/folk music
- * Identify 2/3 local instruments.

(ii) Second standard students should be able to:

- * sing in chorus/individually any songs/rhymes
- * sing in small groups the National Anthem
- * make rhythmic beat.
- * listen to certain type of local/folk music.
- * tells the name of 2/3 local musical instruments.

(iii) The third standard students should be able to

* sing in chorus any local folk songs/bhajans on some musical instruments.

* sings National Anthem in company of the class teacher.

* listens to certain songs and local instrumental tunes which are popular in the locality.

* lists name of some musical instruments and the type of sounds produced.

(iv) Fourth standard students should be able to sing individually any song of his/her own choice in the class, sings National Anthem and plays local instrument properly sings patriotic songs, etc. with background music, plays and synchronise beat on any local/popular musical instruments with singing and identifies a given music presentation as pleasant and unpleasant.

The exemplars on Teaching Art Education and Music are as follows.

4.9.3 Exemplar 1: Teaching Music Education in MGT

Competency	Skills	Strategies	Remarks
Standards 1 and 2			
Develops interests for listening and singing songs and of musical instruments in the local environment	<ol style="list-style-type: none"> 1. Skill in chorus singing 2. Skill in individual singing 3. Sense of rhythm 4. Develops self confidence 	<ol style="list-style-type: none"> 1. Teacher sings rhymes (repeats) and ask them to recite it along with him. 2. Ask groups to sing the rhyme 3. Peer asks to sing the rhyme individually 4. Ask them to sing any song they like. 	<ul style="list-style-type: none"> - Making use of talented children - Peer monitoring - Teacher helping to develop music
Standard 3			
Sings any folk songs/bhajans/ contemporary songs individually in a group of 2/3 children	<ol style="list-style-type: none"> 1. Skill in individual singing 2. Sings in chorus 3. Expresses innate abilities 4. Awareness of cultural traditions 5. Development of knowledge of 'Thala' 6. Development of knowledge of 'laya' and 'sruthi' 	<ol style="list-style-type: none"> 1. Peer sings a folk song (repeats) and ask them to sing along with him 2. Ask them sing individually 3. Give practices in notations 4. Asks them to sing the song keeping notations 	<ul style="list-style-type: none"> Peer activity Peer's demonstration Individual work Direct monitoring Self activity
Standard 4			
Sings in chorus any folk sings/ bhajan/with some instruments	<ol style="list-style-type: none"> 1. Skill in chorus singing 2. Sings along with instruments 3. Follows the rhythm 4. Skills in laya and sruthi 5. Skill to use musical instruments 6. Combination of vocal and instrumental singing 7. Awareness to use the musical instruments available in the locality 	<ol style="list-style-type: none"> 1. Sings a folk song with instruments. Ask them to sing alongwith him. 2. Ask them to sing keeping notations 3. Give practices in using musical instruments 4. Sings the song with the musical instruments available in the locality and give practices as how to use it. 	<ul style="list-style-type: none"> Monitorial assistance Self activity Direct teaching

4.9.4 Exemplar 2: Teaching Music Education in MGT

Competency	Skills	Strategies	Remarks
Standard 1			
Sings national anthem in groups	<ul style="list-style-type: none"> - Skill of self expression through the medium of music - Skill in singing without inhibition - Develop a sense of patriotism - Skill in singing rhythmically 	<ul style="list-style-type: none"> - Teacher sings rhythmically - Teacher asks them to repeat after the teacher - Asks them to sing in small groups 	<ul style="list-style-type: none"> Direct teaching Monitorial assistance Group work
Standard 2			
Sings in small groups, national anthem	<ul style="list-style-type: none"> - Skill of self expression through the medium of music - Skill in singing - Skill in singing in small groups - Skill in singing rhythmically 	<ul style="list-style-type: none"> - Help them to appreciate the rhythm - Teacher sings rhythmically - Teacher asks them to repeat after the teacher - Asks them to sing in a small groups 	<ul style="list-style-type: none"> Observes their rhythm and correct when necessary Group work
Standard 3			
Sings national anthem	<ul style="list-style-type: none"> - Skill of self expression - A sense of patriotism - Appreciates the aesthetic elements in the national anthem - Skill in singing with others - Develop the feeling of oneness 	<ul style="list-style-type: none"> - Teacher sings the song rhythmically - Children repeat after the teacher - Sing in small groups rhythmically 	<ul style="list-style-type: none"> Teacher assess the performances of groups
Standard IV			
Sings national anthem individually	<ul style="list-style-type: none"> - Skill of self expression - A sense of patriotism - Skill in singing individually - Appreciates the aesthetic elements in the national anthem - Develop the feeling of oneness 	<ul style="list-style-type: none"> - Teacher sings the song rhythmically - Children repeat the teacher in groups - Children repeat the teacher individually 	<ul style="list-style-type: none"> Teacher assess the performance of individual child

4.10.0 Community Singing

The scheme of community singing as an effective means of bringing about national integration in the country was envisioned by our late Prime Minister, Mrs. Indira Gandhi. The Ministry of Human Resource Development launched it as a national movement in 1982. The task of giving training in Community Singing to the musically inclined teachers throughout the country was entrusted to NCERT.

4.10.1 Objectives: The objectives of the Community Singing may be briefly stated as under:

- * Inculcate among our children a sense of patriotism and pride in our country's glorious heritage.

- * Develop in them respect and love for all the languages and cultures which form an integral part of the Indian ethos.

- * Strengthen the spirit of national integration through singing together as part of the school programme.

- * Enable them to appreciate the essential characteristics of our culture which is Unity in Diversity.

- * Develop in them such qualities of character as friendship, patriotism, faith, devotion, reverence and to be cheerful.

- * Provide them an opportunity for artistic self-expression and aesthetic enjoyment.

These objectives should be achieved in multigrade schools also.

The exemplar given below would help teacher in organising music teaching in multigrade schools: singing be realised in the shortest possible time in all educational settings.

4.10.2 Exemplar 1: Community Singing for Multigrade Teaching

Content: Teaching Community Songs

Title of the song	I std. Regional songs	II std.	III std. Other community songs	IV std.
	Monitorial assistance		Group work	Group work
Strategy	Imitation and repetition	Direct teaching	Songs with specified meaning	Songs with specified meaning
Three key concepts	Rhythm	Time	Patriotism	National Integration
Teachers' Learning Materials	Rhythm giving instruments	Shruthing box	Audio tapes	Scripts

Community Singing in multigrade school can also be utilised for motivating the students to join school and initially some of the HLL competencies may be developed through these songs.

**Teaching
Work Experience
in
Multigrade Schools**

4.11.0 Teaching Work Experience in MGT

Work experience as an area of education refers to purposeful and meaningful manual activities that result into either materials or services useful to the community within and outside the school.

At the primary stage the objectives of work experience come very closer to that of general education. The main focus is to develop desirable healthy living practices. An awareness towards environment sanitation and beautification of home, school and environmental situations are other important aspects of work experience programme. personality development, creative expression of ideas and thinking through various media and habit formation are some of the important aspects of work experience at the primary level. The programmes and activities under this area are to be designed in such a way that the learners get rich experiences to work in group situations with full understanding of the work, sharing tools and materials used in performing different types of activities.

4.11.1 MLL of Work Experience: The specific objectives of Work Experience are to help the learners to:

- * recognise the need for keeping body, belongings and surroundings clean;
- * identify the productive work situations in home, school and in the locality;

- * select simple tools and materials for preparing artistic and useful things;
- * classify various tools and materials in terms of their usage;
- * identify different service centres in the community and observe their functions;
- * find out scientific principles and processes involved in various work situations;
- * prepare beautiful and useful objects;
- * take proper care of tools and store these in right places in a systematic manner;
- * adopt simple techniques for production of materials and services through repeated practice.

4.11.2 Exemplar 1: Teaching Work Experience in MGT

Classwise	Skills	Strategies	Remarks
Standard 1			
Draws one or more specified objects from imagination	1. Development of muscular co-ordination 2. Development of power of imagination	1. Teacher asks to draw a picture of ball/flower from their imagination	Direct teaching
		2. Senior peer helps them in holding pencil	Peer Group work
		3. Asks them to draw the picture of 'a cat'	
		4. Free drawing	Group work
Standard 2			
Mixing colours to create different shades for colouring the developed pictures	1. Ability to mix colours 2. Develops idea about colour combination 3. Observes different colours used in the developed picture.	1. Teacher asks them to mix different colours to get the required colours 2. Asks them to draw the picture from their imagination	Monitorial assistance
Standard 3			
Mixing the colours to create variety of shades	1. Ability to mix colours 2. Develops idea about colour combination 3. Observes different colours of objects and tries to make it	1. Asks them draw a plant with flower, leaves, fruits, etc. and to colour it. 2. Asks to draw the objects (flowers, fruits, etc.) and shade it with proper colours	Monitorial assistance
Standard 4			
Draws/paints any scene/situation such as street hawker/local festival/fair, etc.	1. Develops the skill of observation 2. Ability to draw the situations observed 3. Ability to mix colours 4. Ability to paint neatly	1. Asks them to draw the scene of a market and to colour properly 2. Ask them to draw a landscape and to colour it	

Teacher would manage classes I to IV for work experience session in this way and would help the students to use these paintings and pictures for decorating their classroom. Similarly basket weaving, carpet weaving out of waste clothes, making hand fan out of straws of the local crop, etc. can also be undertaken according to the local requirements.

4.11.3 Exemplar 2: Teaching Socially Useful Productive Work in MGT

Competency	Skills	Strategies	Remarks
Standard 1			
Draws one or more objects of his own choice from imagination	1. Develops observation skill	(Self study) 1. Draw the picture of an object he liked more	Group work
	2. Develops imagination ability	2. Draw the picture of a bird, tree, flower, etc.	Peer tutoring
	3. Ability to draw	3. Ask them to draw the picture of a family, invitation card, greeting card	Teacher's monitoring and guidance
Standard 2			
Draws one or more objects of his choice from imagination	1. Observes the things around him.	1. Asks them to draw an object in the classroom	Group work
	2. Ability to draw completed figures	2. Ask them to draw a bird in a cage	Group work
	3. Observes natural phenomena and develops aesthetic sense	3. Show them a number of flowers and ask them to draw the flower which he likes more	Individual work
Standard 3			
Draws or paints any scene from his own choice	1. Develops the skill of observation of natural phenomena	1. By mixing red, yellow, blue they makes the required colours	Colours made with local material
	2. Develops the ability to mix colours and get the required colour	2. Ask them to draw a landscape with specifications	Direct monitoring
	3. Develops the skill for drawing the proportionate figures	3. Ask them to draw the figure of a child with a natural scene at the background and to paint it.	Group work
	4. Develops the skill to paint the picture as he observed		
Standard 4			
Draws/paints any specified scene from imagination	1. Develops the skill for observation	1. With the help of glass paper kader illustrates how to combine the basic colours to get the secondary colours.	Demonstration by teacher
	2. Develops the skill for drawing	2. Give them the basic colours, red, yellow, blue and ask them to make orange, violet and green	Group work
	3. Develops the skill for colour combination and mixing		
	4. Develops the skill of painting		

**Teaching
Physical Education
in
Multigrade Schools**

4.12.0 Teaching Physical Education in Multigrade Schools

Each and every school should organise health related activities to help the younger generation to develop healthy habits to become useful citizen.

4.12.1 Objectives: The objectives of physical education at primary stage are as follows:

- * to develop correct static and dynamic posture.
- * to develop basic fundamental skills.
- * to develop physical fitness in learners.
- * to encourage learners' participation in physical education programmes.

Keeping in view the above objectives the following major areas have been identified for primary stage:

4.12.2 MLL in Physical Education

- # Free movement
- # Imitation and Mimicry
- # Small area/minor games
- # Rhythmics
- # Gymnastics
- # Track and field sports
- # Team games
- # Yogasanas

To develop basic concepts of Physical Education it is essential that the students should be involved in physical activities as this subject requires more doing to develop fundamental skills and competencies. There exists a wide variety of indigenous games and good health practices among diverse socio-cultural groups in the country. Best use should be made of these local information and resources while transacting this curriculum.

4.12.3 Exemplar 1: Physical Education in Multigrade School

Competency	Skills	Strategies	Remarks
Standards I and II			
The learner differentiates between different movements and demonstrates movements asked for in the directions and variations as instructed	<ol style="list-style-type: none"> 1. Child acquires the ability to walk, halt and walk, and walk with an object on head when asked for. 2. Acquires ability to walk with an object in the directions as instructed 3. Walks in a line when asked for 4. Walks in a circle as instructed 5. Walks backward 	<p>(Peer tutoring)</p> <ol style="list-style-type: none"> 1. Peer asks the students to stand with sufficient space in between. They demonstrate how to a. walk, b. walk, halt and walk, c. walk with an object on head. Students are asked to do as and when he does it. 2. When the peer claps the hands the students are asked to walk. When he claps again asked them to halt. He demonstrates and ask them to follow him. 3. Ask them to stand back to back when clapped, the students walk forward. When he claps again they stop. For the third clap, the students walk backwards. 4. He helps them to walk in a line. He instructs them to walk in a line while going outside for interval from the classroom 	Teachers provides feedbacks whenever necessary
Standard III			
Differentiates between free movements and demonstrates movements asked for in the directions and variations as instructed	<ol style="list-style-type: none"> 1 Acquires the ability to <ol style="list-style-type: none"> a. Line formation b. Attention, stand at ease, stand easy positions c. Correct numbers 	<p>(Peer tutoring)</p> <ol style="list-style-type: none"> 1. Asks them to stand in a line with sufficient spaces in between 2. He demonstrates how to count numbers 1, 2, 1, 2. Asks them to take numbers as demonstrated 3. He demonstrates the positions attention, stand at ease and stand easy and asks them do it (repeats) 4. When he blows one whistle they are asked to form a line, when he blows whistle two times they go away. 	
Standard IV			
Performs four exercises in continuation from any one type	<ol style="list-style-type: none"> 1. Develops the skill of line formation 2. Ability to correct numbers 3. To walk as directed 4. ability to perform the three positions attention, stand at ease and stand easy 	<p>(Monitorial assistance)</p> <ol style="list-style-type: none"> 1. Leader repeats the activities of the previous classes 2. Asks them count numbers 1, 2, 1, 2 like that instructs them no. 1 stand there, no. 2 two stops forward 	

4.12.4 Exemplar 2: Physical Education in MGT

Competency	Skills	Strategies	Remarks
Standard I			
	Ability to stretch hand as directed	Demonstrate the exercise when he says one stretches hands side ways clap the hands over the head Stretch side ways Put hands down (repeats) Ask them to do the exercise as demonstrated	(Direct teaching)
Standard II			
Understand oral instructions for playing games	Ability to understand instructions and to carry out them.	Children are taken out of the class and given instructions for playing different games, instructions for each and every step are given	Evaluation by observation technique (Peer tutoring)
Standard III			
Listen with understanding the simple instructions used in familiar situations	Skill in understanding simple sentences	Teacher speaks simple sentences to arouse interest for conversation with children sharing their thoughts	Evaluation by simple questions based on the speeches (Direct teaching)
Standard IV			
Acts any movement in the suggested direction	- Skill in moving the body part hands, leg, in the suggested direction - Skill is developing co-ordination of muscles	- Teacher demonstrates the movement to the class - Train the group leaders These group leaders train the children in small groups under the guidance of the teacher	Teacher evaluates the performance of children by observation and corrects those who makes mistakes

REFERENCES

- A DPEP Newsletter, MHRD, DPEP Bureau Publication Issue No. 15, Feb. 1996, Shastri Bhawan, New Delhi.
- Buch, M.B. (Ed.) "Fifth Survey of Research in Education", Vol. I, NCERT, New Delhi, 1992.
- Buch, M.B. (Ed.) "Fifth Survey of Research in Education" Vol. II, NCERT, New Delhi, 1992.
- Govinda, R. and Vergheese, N.V. The Quality of Basic Education Services in India: A Case Study of Primary Schooling in Madhya Pradesh, Indian Institute for Educational Planning, Paris and NIEPA, 1991, New Delhi.
- Goyal, B.R., "Multigrade Teaching" a textbook for Elementary Teacher Training, Department of Teacher Education, Special Education and Extension Services, NCERT, New Delhi, 1992.
- Gupta, D., "Multigrade Teaching, Status and Implications", NCERT, New Delhi, 1996.
- Kulkarni, Raghvendra, "Class room Practices and Problems faced in Multigrade Teaching by Primary School Teachers of DPEP Districts in Karnataka, RIE, Mysore, 1996.
- Kuppuswamy, B., The Problem of Primary Education and need for new approaches, Journal of Institute of Educational Research, January 1977, Vol. 1, No. 1.
- Kurien, J. Pune Municipal Corporation MLL Project, Mimeo, Centre for Learning Resources, 1991, Pune, Maharashtra.

Lalithamma et al. Mysore Minimum Levels of Learning Project, 1991, Mysore.

Mathur, V.S., "Some Issues in Indian Education", The Indian Publications, Ambala Cantt, 1967.

Naik, J.P., "The Single Teacher School", Ministry of Education, Government of India, 1955.

Rajgura (1991), Minimum Levels of Learning at Primary Stage Project 1, Indore.

Shailaja, P.S., A Critical Study of the Minimum Levels of Learning in Mathematics at the Terminal Stage of Primary Education, Unpublished Dissertation, University of Mysore.