Chapter: I

INTRODUCTION

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References
1.1 Background of the Study

India is one of the largest democracies of the world. There has always been a growing realisation in this country that for the survival of democracy and the nation’s prosperity, its citizens should be given quality education. Thus education has got prime importance; especially in school education. According to Article 45 of the Constitution of India (1949)\(^1\) universal education is to be provided to all children up to the age of fourteen. The target year of Universal Primary Education in India was 1960. Due to the magnitude of the task and lack of resources, the target could not be achieved and it still remains as a dream on all India basis.

Provision is given in the Indian Constitution for special attention to education of the children who live in tribal areas, hilly areas and children with very low socio-economic and cultural background. But, even after completing sixty years of independence, the educational system in India is still facing a crisis with regard to the learning of children with low socio-economic and cultural background. In India and many other developing countries, one can see children whose school progress and life chances are adversely affected by social disadvantages such as poverty, broken family, drug abused family, slum dwellers, and the like.

Schooling is not seen to be joyful to these types of children as they are culturally backward, socially insecure and emotionally disturbed. Here-in-after they will be termed as ‘disadvantaged children’ for the purpose of this study.
If one looks into a rural Indian school which is imparting general education to the public, one can see that majority of the children are poor in academic performance irrespective of the caste, colour and creed. Most of their parents are illiterate. Learning atmosphere may not be there in the home. No one is cared about their health and education. Such children cannot concentrate well on their learning. The socially, culturally and economically deprived conditions shall forbid them from excelling in the field of education. Many of them may dropout even at the primary stage. That is why the UNICEF document on Elementary Education [2003]² stated the poor quality of education is also one of the determinants of drop out affecting those from the disadvantaged socio-economic groups, particularly Scheduled Caste, Scheduled Tribe community and girls.

Considering the various constraints for universalising quality education, the Government of India has launched prime policies/programmes from time to time. National Policy on Education (NPE, 1986) is one among them. A comprehensive appraisal of the existing educational scenario was made on the basis of a country wide debate. The views and suggestions received from different quarters were carefully studied. Part IV of NPE (1986)³ advocates the education for equality and it states that the new policy will lay special emphasis on the removal of disparities and to equalise educational opportunities by attending to the specific needs of those who have denied equality so far. Education of the Scheduled Castes and Scheduled Tribes are given due consideration in the document by suggesting suitable measures.

With regard to other educationally backward sections of the society, the document says that suitable incentives will be provided to all educationally backward sections of the society, particularly in the rural areas. Hill and desert districts, remote and inaccessible areas and islands are provided adequate institutional infrastructure.
Another programme launched on all India basis is Sarva Siksha Abhiyan (SSA) – a programme for Universalising Elementary Education (2002). It is an initiative to universalise and improve the quality of elementary education in a mission mode through district based, decentralised, content specific planning and implementation strategy. One of the goals of SSA is to bridge the social, regional and gender gaps, with the active participation of the community in the management of schools.

The major thrust areas of the project are the following:

(1) to reduce gender disparities; (2) to promote access and quality for children from disadvantaged group (3) to enhance learning achievements by improving the quality of education and (4) to improve and expand educational data and data analysis.

This programme is still in operation in various states of India. Various reports and documents show that the schemes for the marginalised and disadvantaged groups have reduced the academic problems to some extent. But still the pupils suffer and struggle to acquire the essential skills and competencies that are aimed by the teaching-learning process due to their disadvantaged nature. If something is to be done for the disadvantaged children, it is essential to identify the nature of these disadvantaged children.

Some of the characteristics of disadvantaged children as stated by Williams and Wood [1951] are given below.

(i) Their use of language is restricted in relation to middle class children with a consequent inability to handle adequately the aspects of conceptualisation, especially the formation of abstract categories.

(ii) They are weak in aspects of sensory discrimination and organization which have a bearing on many learning tasks.
(iii) In school works, they lack perseverance at individual tasks.

(iv) There is general lack of motivation to school work and educational achievements, related to the culture clash of the environment and the school.

(v) Performance on intelligence and scholastic tests deteriorate as the child grows older.

(vi) They have a poor self image that is in part related to the lack of educational success and associated teacher expectation, and this is often negatively reinforced throughout the children’s school career.

A package on Special Orientation Programme for Primary Teachers (SOPT, 1955), was developed by National Council of Educational Research and Training (NCERT). The package describes the characteristics of the disadvantaged children. They are:

- they display poor academic achievement.
- they forget learned things, after a short time.
- they are inattentive and distractive.
- they seek immediate reward.
- they have poor self image.
- they lack self confidence.
- they have restricted communication.
- they seek repetition and practice.
they have difficulty in understanding abstract things.

- they take more time in learning a particular task.

- they have poor performance in examination.

As per the Article 46 of the Constitution of India (1998)\(^7\) the state shall promote with special care the educational and economic interests of the weaker sections of the people and in particular Scheduled Castes and Scheduled Tribes and shall protect them from social injustice and all forms of exploitation.

Initiation to protect the educational attainment of the weaker sections is thus, one of our objectives. In his book, ‘India’s Independence and Social Revolution’, Nehru (1984)\(^8\) pointed out that, after the attainment of independence, our urgent task has been to devote ourselves to the economic betterment of our people, to raise their standard of living, to remove the causes of poverty and to promote equality and social justice. The extent to which we succeed or fail in this great tasks will be the measure of our achievement.

According to National Policy on Education (1986)\(^9\), the Scheduled Castes are disadvantaged due to the Indian social structure. They occupy the lowest position in the hierarchy. Occupationallly too, they have low status as they do menial or agricultural jobs and are largely uneducated. This causes social problems. It is also said in the document that remedial courses will be provided to Scheduled Caste children to improve their prospects for further education.

The Scheduled Tribes, on the other hand, are culturally disadvantaged due to their remote geographical conditions and unstructured language components. This causes communication problems and adjustment problems for the tribal children in the schools. The illiterate parents cannot provide necessary learning environment
for these children. This may result in lack of proper stimulation and guidance at home. These children show consistently poor academic performance, social maladjustment, and adaptive behaviour problems in the classroom. They may have no visible physical problems but have a short span of attention and memory and are backward in following instructions given by the teacher.

Minorities and Other Backward Classes constitute another disadvantaged group. Other Backward Classes as a category has recently been identified and the cluster did exist in Indian society as low socio-economic group. Study of minority groups and slums do require special attention and there is a need to identify and rectify their deficiencies.

Apart from Scheduled Castes, Scheduled Tribes, Minorities and Other Backward Classes, in every society there are groups of individuals who, for various reasons, do not enjoy the same share of wealth, social resources and recognition as others. They do not have any job or finance to support the family. They are thus in a position of disadvantage. These individuals are more likely to be economically backward and also in a position of disadvantage.

If we spot children in the classroom who are not doing well in terms of some set educational standard, they are more likely to be at the lower end in the class examinations. Most of these children will create problems to their teachers, fellow students and in particular to the school. This may result into an unhealthy relationship between the teacher and the learner. This experience in the school and the environment of poverty create enduring personality patterns that inhibit achievement striving in the classroom. Thus, the Scheduled Castes, Scheduled Tribes, Minority, Other Backward Classes, the slum dwellers and other economically and culturally backward are termed as the disadvantaged children.
The Government at the State and Central levels allot every year a considerable proportion of the budget amount for the improvement of weaker sections of the society, especially for Scheduled Castes and Scheduled Tribe pupils. The socially, culturally and educationally backward sections are also given due consideration. Different programmes such as Quality Improvement Programmes, Special Orientation Programmes for Primary Teachers, District Primary Education Programme (DPEP) and the like, were implemented in various states of India. Another programme Sarva Siksha Abhiyan (SSA) is in progress on all India basis for the improvement of primary education. Special coaching is being conducted in the schools for the better achievement of weaker sections. But systematic diagnosis of learning deficiencies, identification of subject specific difficulties, and organisation of remedial programmes are very rare in schools. Initiatives in this regard are needed for the benefit of the disadvantaged children.

1.2 Need and Importance of the Study

The society gives much importance to educational achievement. But the classroom atmosphere, the interactive modality of the teacher and the support system did not cater the needs of the learner. This may lead the learner to dissatisfaction with the school system. Constant and constructive effort is needed to support the learner in all aspects. Education is the only weapon that can be used for this purpose—that too quality education. “All do not develop in the same manner, or at the same pace… laws alone cannot overcome the heritage of centuries of broken families and stunted children, poverty, degradation and pain. We must first demolish the barriers of race and religion, social class and ignorance, call upon common qualities of conscience and of indignation, a shared determination to wipe away the unnecessary sufferings of our fellow human beings…” These words of Herbert and Dye (1970) also warrant the need for addressing the problems of the disadvantaged children.
Not a great deal of action is taken in India to solve the problems and difficulties resulting from deprivation. The National Policy Document on Education 1986 with its updated 1992 version has made specific recommendations regarding modification of curriculum, pedagogic techniques, content and process of education based on the specific needs of disadvantaged groups. Therefore, a perspective research study in the area of disadvantage is an immediate need in the field of education.

When one analyses the characteristics of these children, it can be seen that the deficiencies are due to the absence of sufficient pre-requisites and lack of interest for learning the subject. The right place where the basic fundamentals of the subjects are to be stressed is at the primary level. Many research studies related with pupil achievement conducted in and outside Kerala had revealed that the subjects like Mathematics and English were difficult for the children. Sarva Siksha Abhiyan, Kerala (2006) have made an achievement study - ‘What achievement says’ – during the year 2006. The achievement of standard seven pupils in Malayalam, English, Hindi, Social Science, General Science and Mathematics were tested. The subject with least achievement score was Mathematics.

National Council of Educational Research and Training (NCERT), New Delhi (2000) conducted a national study on learning achievement of students at the end of class five in various states of India during the year 2000. Achievement in Environmental Science, Language, and Mathematics were compared. Again the achievement in the subject Mathematics was low when compared with the other two subjects with regard to the state of Kerala. In almost all Indian states except Chandigarh, Manipur and West Bengal, this was the case. The study also revealed that, in all the three subjects, students of other category performed better than both Scheduled Caste and Scheduled Tribe students.
Being a researcher and a teacher educator of Mathematics for several years, the investigator observed the difficulties faced by the disadvantaged learners in schools. It was understood that the fundamentals and pre-requisites are not properly activated in the class room. Without knowing the fundamentals, the learner is not able to comprehend new ideas and finally he becomes an under achiever. The investigation reports and research studies indicate that this under achievement is more in Mathematics.

The National Curriculum Framework (NCF-2005) describes that, majority of children have a sense of fear and failure regarding Mathematics. The current curriculum does not address this problem. It also does not address the other end of the spectrum of children who are talented and enjoy it. The purpose of evaluation is not to identify children who need remediation as a part of formal assessment, but in the course of teaching and attended to as a part of pedagogic planning through individual attention. The investigator feels that the fear and failure of Mathematics can be reduced by suitable remedial teaching programmes. This is one of the reasons for taking up this investigation.

The investigator then enquired a lot about the diagnostic studies and remedial materials. It was found that remedial programmes of educational interventions—that too for the disadvantaged children have been very few. More than one hundred studies were thoroughly examined, it was seen that there were only five studies related with remedial measures in Mathematics for the disadvantaged children. This shows that the area is very much neglected. These factors enabled the researcher to initiate the research work in diagnosing the difficulties of primary school children in the learning of Mathematics and prepared the remedial materials. Hence the present study.
1.3 Statement of the problem

Investigator’s intention was to identify the socially, economically, culturally and academically deprived upper primary school children who are named as ‘disadvantaged’ in the present study and to diagnose their difficulties in learning the subject Mathematics. Many serious learning difficulties arise due to various factors such as lack of interest, poor home environment, faulty methods of learning, lack of understanding about the fundamentals and improper learning habits. A thorough idea about these factors are essential for a teacher to check the weaknesses of the students in learning. Once the people has experienced difficulties in the subject, it is essential that he should receive some individual help. Therefore the investigator intended to prepare some remedial programmes to these children according to their nature of difficulties so as to remove them. Hence the present study is entitled as, “A Study of Effectiveness of Remedial Programmes in Mathematics for the Dis-advantaged Children of Primary Schools.”

1.4 Definition of Key Terms

Effectiveness: According to the Good’s Dictionary of Education (Good-1973)\textsuperscript{14} ‘effectiveness’ means the effect of an experimental factor under controlled conditions, that is, with other factors held constant. It is the change, result or outcome produced by an action.

In the present study by the word effectiveness the investigtaor means that the intended result of the remedial programmes in Mathematics for the disadvantaged children of primary schools.

Remedial Programme: According to Good’s Dictionary of Education (Good-1973)\textsuperscript{15} ‘remedial programme’ means organized instructional programme based
on comprehensive diagnosis and designed to correct or eliminate facts contributing to inadequate or faulty development and to increase efficiency and accuracy.

In the present study, by the term ‘remedial programme’ the investigator means that the solution or remedy given for the disadvantaged children of primary schools in learning Mathematics.

**Disadvantaged Children:** Children who are poor in academic performance due to limited proficiencies came under disadvantaged children. The cultural environment of these children will deprive them to acquire the skills, attitudes and acceptable behaviours that are transmitted to the students through schools. Riessman (1995)\(^6\) and Passow (1970)\(^7\) defined them as one because of social or cultural characteristics, for example- social class, race, ethnic origin, poverty, geographic location, sex, etc which impede learning.

In this study by ‘disadvantaged children’ the investigator means the socially, culturally, economically and academically deprived children. This includes the Scheduled Castes, Scheduled Tribes, slum dwellers, neglected minority groups, and economically backward groups.

**1.5. Objectives of the Study:**

The main objectives of the present study entitled as, ‘A Study of Effectiveness of Remedial Programmes in Mathematics for the Disadvantaged children’ are:

1. To identify the socially, culturally, economically and academically backward children (disadvantaged) at the upper primary level.
2. To determine the common nature of the disadvantaged children at the upper primary level.
(3) To determine the reasons and causal factors for the disadvantaged nature of children.

(4) To find the achievement of disadvantaged children in Mathematics on selected topics at the upper primary level.

(5) To diagnose the areas of difficulty and weaknesses with regard to selected topics in Mathematics of the disadvantaged children at the upper primary level.

(6) To analyse the difficulties and weaknesses of the disadvantaged children at the upper primary level in terms of errors committed by them in Mathematics and find out the frequency of errors on selected topics.

(7) To develop remedial programmes on selected topics in Mathematics for the disadvantaged children at upper primary level.

(8) To test the effectiveness of remedial programmes on selected topics in Mathematics for the disadvantaged children at upper primary level.

(9) To test the effectiveness of direct instruction method on selected topics in Mathematics for the disadvantaged children at the upper primary level.

(10) To compare the effectiveness of the remedial programmes over the direct instruction method for the disadvantaged children at the upper primary level.

(11) To compare the effectiveness of remedial programmes over direct instruction method for the disadvantaged children at the upper primary level based on boys and girls.
(12) To compare the effectiveness of remedial programmes over direct instruction method for the disadvantaged children at the upper primary level based on government and private institutions.

(13) To compare the effectiveness of remedial programmes over direct instruction method for the disadvantaged children at the upper primary level based on rural and urban locality.

1.6 Hypotheses Formulated for the Study

On the basis of the above mentioned objectives and the analysis of related studies, the following hypotheses are formulated by the investigator for the study.

(1) The disadvantaged children in schools are backward in academic achievement.

(2) The disadvantaged children commit more errors in Mathematics and hence the difficulties are more in Mathematics.

(3) The achievement by the experimental group, taught through remedial programmes is higher than that of the control group, taught through the direct instruction methods.

(4) The achievement of the boys in the experimental group, taught through remedial programmes is higher than that of the boys of the control group, taught through the direct instruction methods.

(5) The achievement of the girls in the experimental group, taught through remedial programmes is higher than that of the girls of the control group, taught through the direct instruction methods.

(6) The achievement of the urban children in the experimental group, taught through remedial programmes is higher than that of the urban
children of the control group, taught through the direct instruction methods.

(7) The achievement of the rural children in the experimental group, taught through remedial programmes is higher than that of the rural children of the control group, taught through the direct instruction methods.

(8) The achievement of the government school children in the experimental group, taught through remedial programmes is higher than that of the government school children of the control group, taught through the direct instruction methods.

(9) The achievement of the private school children in the experimental group, taught through remedial programmes is higher than that of the private school children of the control group, taught through the direct instruction methods.

1.7 Scope of the Study

The major aim of this investigation is to study the effectiveness of remedial programmes in Mathematics at the upper primary level. The sample materials developed and the related achievement and diagnostic tests can be visioned as a model. These were developed with the help of experts and standardised as per the norms of standardisation. Using this and similar materials, the learning of Mathematics can be made more learner friendly and enjoyable. Teachers can definitely give much attention to the disadvantaged group of children and these students will be benefitted much by getting due care and motivation. An elaborate analysis about the disadvantaged nature of children will help the teacher to identify the nature of such children. The curriculum makers, those who prepare assessment bench marks, working teachers and students can be benefitted much. The results of
the study give a clearcut idea about the present status in the learning of Mathematics. There are lot of gaps felt by the children in the learning of Mathematics. If these gaps are identified and filled in time, such children can be brought to the main stream of learning. This study presents weaknesses and gaps on selected topics of Mathematics. Similar materials on other topics can be prepared by the teachers for the benefit of the children. The curriculum makers can definitely fill the gaps in Mathematics curriculum by taking this study as reference for their developmental process. The teacher educators and the teacher trainees can also make use of the remedial materials, diagnostic tools and other tools as a model.

1.8 Limitations of the Study

The present study primarily aims to identify the common nature of the disadvantaged children at upper primary level and their present learning and achievement status in Mathematics. It involves individualised instruction testing and retesting of students, which need a lot of time and energy. The regular attention of the investigator was also essential on all aspects. So for the fruitful study and giving personal attention to all samples, the study was limited only to three districts of Kerala - Thiruvananthapuram, Kollam and Alappuzha which are approachable to the investigator.

Even though the study is entitled as finding out the effectiveness of remedial programmes in Mathematics at primary level, the investigator had taken only the upper primary level and concentrated on seventh standard only. Moreover, the remedial programmes were prepared concentrating on certain selected topics from standard seven Mathematics.

Due to the constraints of time, the investigator limited the area of the present study to the state of Kerala only. However, the investigator attempted to find out
the general principles to determine the effectiveness of remedial programmes in Mathematics for the disadvantaged children of primary schools.

1.9 Organisation of the Report

The study is presented in six chapters. Chapter one contains the General Introduction and the relevant details about the problems under the study. The chapter two, ‘Theoretical Overview’ narrates the theoretical aspects of the present study. Chapter three explains the ‘Review of Related Literature’ pertaining to the topic under investigation. The chapter four, ‘Methodology’ gives a description of the method of investigation, the sample selected, the tools and techniques adopted for conducting the study, the procedure employed for collecting data and the statistical techniques. Chapter five presents the ‘Analysis and Interpretation of Data’. The last Chapter, that is chapter six describes the details of the ‘Summary of the Study, Major Findings, of the investigator Conclusions and Suggestions for Further Research’. Again, the study is followed by a fairly exhaustive Bibliography and a series of Appendices pertaining to the study.
References


