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REVIEW OF RESEARCH ON DETERMINANTS OF EFFECTIVE SCHOOL  
SRI LANKA

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## PREFACE

BRIDGES (Basic Research and Implementation for Developing Education Systems) a project to compile and conduct research on educational policies that aim at improving the efficiency and effectiveness of education systems promises support for an area that has so far not received the consideration and attention it merits. Despite recognition of its importance this aspect of education had not been given sufficient consideration. Existing research which itself is rather limited had been undertaken by individuals and a few agencies and as such no attempt was made to undertake research as a planned, co-ordinated activity which would result in pooling of research efforts to enable the utilization of available resources and to enhance the quality of research carried out.

The present report has been prepared according to the guidelines given by National Education Commission, Bangkok. It attempts to analyse the present situation so as to indicate the relevance and adequacy of research and to provide a base for the development of a research programme that will lead to an improvement of the effectiveness of the education system in Sri Lanka.

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## Chapter I

### Introduction

#### 1.1 General Background.

Sri Lanka is an island in the Indian Ocean with a land area of 65000 sq km. The recorded history of Sri Lanka can be traced to Sixth Century BC. and the beginnings of its education system emerged with the introduction of Buddhism in the third century BC. The advent of the Westerners in the 16th century led to conquest of the entire island by the British in 1815. Under British rule significant political and social changes were ushered in, which culminated in the emergence of a political democracy and the regaining of independence in 1948.

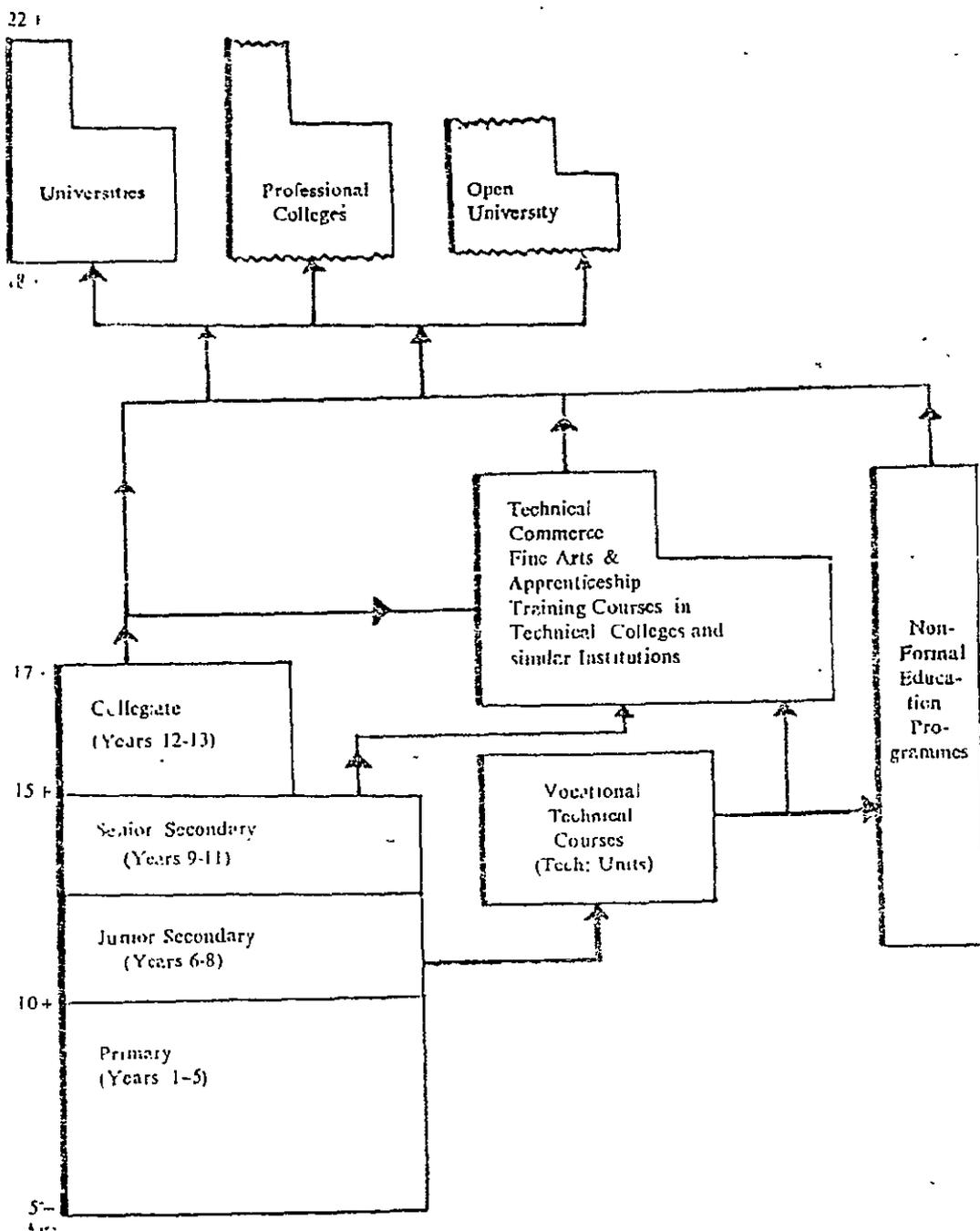
Sri Lanka is a multi-ethnic and a multi religious society. The total population in 1981 was 14.58 million. Although a developing country with a low per capita income (around 339 US dollars 1985) Sri Lanka has notable achievements in the social sphere which compare favourably with those of any developed country. In 1981 its' literacy rate was 86 percent, infant mortality rate 38 per 1000, death rate 6 per 1000 and life expectancy 67. The population growth rate has come down to 1.5 per cent.

#### 1.2 Structure of the educational system.

The present educational system of Sri Lanka comprises three major sectors, with the schools at one end and the

Universities at the other, and a broad sector which encompasses a host of vocational, technical and non-formal programmes as the third. (See Fig 1). This existing structure exemplifies broadening of the concept of education with time. It also indicates how education has adapted to the changing needs of the society in which it operates.

Fig. I - Existing System of education.



The largest of these three major sectors comprises the schools. Out of a total of 9575 State schools, 433 are Type 1A,B schools (those with G.C.E.(Advanced Level classes), 1844 are Type 1C schools (those with G.C.E.(Advanced Level Arts and/or Commerce classes only), 3815 are Type 2 schools (with classes upto Grade 10) and 3983 are Type 3 schools (with classes upto Grade 5). These schools do not show a clear-cut pattern, regarding the span of the grades held. Thus a Junior Secondary School may or may not have a primary cycle, while a Senior Secondary School may or may not have a junior secondary or/and a primary cycle. The progress that has occurred in the space of less than four decades is revealed by the expansion of the number of schools as well as student enrolment at different school levels (Table I)

Table I

Schools, Teachers and Students at First and Second Levels in Census Years

Year	No of Schools	No of Students	No of Teachers	Percentage of the age group in schools	
				5 - 14	15-19
1947	5915	1025,836	28,210	57.6	.
1953	6731	1564,848	45,335	71.6	11.2
1963	9327	246,0654	81,211	75.1	36.1
1971	9646	2689,638	94, 33	74.9	34.5
1981	9521	3369,694	131,656	84.8	42.0

Sources : Census Reports of Sri Lanka; 1946, 1953, 1963, 1971 & 1981. Administrative Reports of the Director of Education, 1947, 1953, 1963, 1971 & 1981.

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This expansion was the cumulative effect of a number of measures that had been taken during the 1940<sup>s</sup>. Prominent among these measures were the introduction of free education from kindergarten to the University, the change in the medium of instruction and the takeover of denominational schools.

The University sector also expanded in a similar manner until 1965, as the following table illustrates. Subsequently, though the number enrolled in Universities decreased but the recent years have seen an increased enrolment (Table 2).

Table 2  
Student enrolment at the Universities in Sri Lanka.

Year	Student enrolment
1942	904
1945	1065
1950	2036
1955	2431
1960	4723
1965	14210
1970	11813
1975	12648
1980	17914
1985	18217

Source : Prepared from reports of University of Ceylon, Vidyodaya University, Vidyalankara University, University of Colombo, University of Peradeniya, National Council of Higher Education and University Grant Commission.

The third sector received attention much later, even though the importance of vocational, technical and non-formal education had been recognized even before Independence. Recently, an assortment of programmes conducted by a large number of organizations have proliferated and these attempt to cater to specific and urgent needs.

The education system is managed by two main Cabinet Ministries: the Ministry of Higher Education dealing with the Universities and technical educational institutions and the Ministry of Education dealing with Schools, Teachers' Institutions and programmes in non-formal education. Under the Ministry of Education there are 24 Regional Departments of Education.

Sri Lanka has achieved a relatively high standard of education, as the following tables indicate. (Table 3 and 4).

Table 3

Per cent of the Population 10 years and over  
who are literate - 1981

	Male	Female	Total
All Areas	90.5	82.4	86.5
Urban	95.3	91.0	93.3
Rural	89.0	79.9	84.5

Source : Census Report, 1981.

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Table 4

Distribution of Population by Level of Educational Attainment  
1971 and 1981 (Percentages)

Ed. Attainment	Sex	1971	1981
No Schooling	M	16.0	8.7
	F	29.5	17.5
Attended but not completed primary	M	26.9	13.6
	F	32.7	11.4
Completed Primary	M	50.7	68.2
	F	47.4	62.3
Passed G.C.E.(O.L) in at least 6 subjects.	M	4.6	7.1
	F	4.3	7.0
Passed G.C.E.(A.L) in at least 3 subjects.	M	1.2	1.4
	F	0.9	1.4
Degree and Higher	M	0.6	0.9
	F	0.1	0.5

Source : Census Report, 1981.

1.3 General Problems in Education.

The quantitative expansion outlined above, however, was not accompanied by a commensurate qualitative improvement of education. Among the major weaknesses identified in the school system are:

- (1) The disparities that are evident in the facilities available in schools, which have resulted in a stratified system, with a few large and rich schools and a large number of small and poor schools. The large rich schools are generally located in urban areas while the majority<sup>of</sup> the poor schools are in rural locations.

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- (2) Excessive emphasis on examinations which has resulted in making schools a medium for competition, rather than institutions imparting a sound all-round education and a neglect of the valuable outcomes that occur from co-curricular activities.
  - (3) A preoccupation with the subject matter that can be tested at public written examinations, which leads to a neglect of important aspects of the curriculum such as content of local relevance and practical subjects.
  - (4) The low performance level of teachers that stem from the shortcomings in the system of their recruitment, unfavourable conditions of service and inadequate facilities for teacher education, and
  - (5) Inadequate attention given to the efficient management of available resources with a view to achieving identified goals or objectives.

The rapid expansion of the University system without proper planning also gave rise to several problems in the 60<sup>s</sup> and early 70<sup>s</sup>. The numerical increase which took place in a non-expanding economy resulted in the problem of educated unemployment. Unemployment was most manifest among the Arts graduates due to the imbalances in the provision for different courses of study. In addition it is alleged, that due to factors such as non-availability of resources, lack of sufficient reading material in Swabasha, (National languages) a deterioration in quality had occurred, and that the universities have failed to live upto their expected role as communities excelling in research and learning.

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The recent proliferation of a variety of programmes provided by a large number of public and private organizations in the third sector has brought into focus the need for coordination that is essential to make them maximally effective.

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Chapter II

Research Review on 'Determinants of Effective Schools'

2.0 Introduction:

The Bridges Project is an attempt to compile and conduct research on educational policies that can improve the efficiency and effectiveness of educational systems. "Improvement" as understood here has two major aspects:

- (a) as an expansion of the coverage of the system,
- (b) as an increase in the extent to which students acquire certain knowledge, values and skills.

In regard to first aspect the measures which increase the access of children to schooling and those that retain them in schools become significant. In regard to the second aspect, the relevance of the knowledge, values and skills imparted by the educational process to life in the contemporary society and the extent to which this learning is imbibed, i.e., the level of achievement, assumes importance.

Both these aspects are influenced by several factors. The internal factors, namely the instructional process that goes on within the school as well as the external factors namely the social context of the students influence schooling.

To improve the efficiency and effectiveness of the educational system, Policy makers and planners should take

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recognition of the relationships between actions and outcomes. These results, generalizable conclusions and recommendations made by researchers in Sri Lanka are reviewed so that Policy-makers and planners can select those which appear as important for implementation. The review will not only identify actions that have to be taken, but also the outcomes which would help in the derivation of possible objectives of the educational system.

National Education Commission, Bangkok, has suggested six sub-topics to deal with the theme of "Determinants of Effective School". These sub-topics are

1. Efficacy of traditional and non-traditional instructional methods.
2. Utilization of Instructional Materials and Resources.
3. Use of Instructional time by teachers and students.
4. Determinants of retention, promotion, transition (including socio-economic and school or education system variables)
5. Analysis of physical and educational resources that have an impact on student achievement.
6. Comparison of within region differences and their influence.

The above sub-topics can be considered as clusters of causative factors that affect the effectiveness of schools. It is doubtful whether a conceptual framework developed using these six clusters of factors will be adequate to identify the determinants of effectiveness in school. A considerable amount

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of overlapping is discernible among the given sub-topics making it difficult to treat as independent. However for the purpose of the present review, the outline of seven sub-topics, six of which were given by the National Education Commission; and another selected by the Sri Lankan Research Team, i.e., management at school level will be followed.

Fifty research studies considered as relevant in terms of the above scheme were selected after a brief survey of research documents in the principal libraries of Sri Lanka, namely the libraries of the Ministry of Education, the Staff College for Educational Administration, Curriculum Development Centre, University of Colombo, University of Peradeniya, Sri Lanka Institute of Development Administration, Marga Institute and Natural Resources, Energy and Science Authority. In addition, the bibliographies compiled by Amarasinghe (1982), Goonatilleke (1978) and the Bibliography of Economic and Social Development of Sri Lanka were perused.

### 2.1 Efficacy of traditional and non traditional instructional methods.

The effectiveness of a school would to some extent depend of the efficacy of traditional and non-traditional methods which are employed. Under this sub-topic, fourteen studies which were considered as relevant are reviewed here.

Three of these studies have looked into three important subject areas -

Mathematics and Science at junior secondary level and Aesthetic Activities at primary level, while another focussed on the place of religion in education. In contrast to these studies focussing on specific subject areas, four others, examined subjects in the curriculum or the entire curriculum in relation to selected objectives of these subjects/curriculum. Six research studies had examined the teaching of subjects in the curriculum such as Tamil Language, Religion and Social Studies or component elements of different subjects, i.e. reading, or grammar at a specified school or grade level. The only study which can be distinguished from the rest is on multiple-class teaching, a technique that is being used in small schools with insufficient teachers.

Three important subject areas, as mentioned before, Mathematics, Science and Aesthetic Activities form the subject of investigation in three research studies. Ruberu (1960) has attempted to critically evaluate the junior secondary school Mathematics curriculum, while Sivanesan (1982) examined the outcomes of the programme of Integrated Science at the same school level, - the attitudes to Science of pupils, De Silva (1975) examined the curriculum for Aesthetic Activities suitable for primary schools in Sri Lanka. Of these three studies, the most comprehensive evaluation has been carried out by Ruberu who used several techniques such as assessment of teacher opinions, analysis of G.C.E.(O.L) Examination results in Mathematics, measurement of teacher attitudes, availability of teachers and facilities for the implementation of the curriculum. Sivanesan (1982) had used only one instrument, an attitude test. De Silva's

(1978) study had evaluated the curriculum, teachers' guides, syllabuses and other resource materials on the basis of a documentary survey.

Though the methodology used and the subjects which were the foci of the investigations differed the results led to conclusions which were similar to some extent. Ruberu (1980) concluded that some of the objectives of the Mathematics curriculum were inappropriate to junior secondary level and that the curriculum laid much emphasis on conceptual development at the expense of computational skills. It was seen to contain a great deal of material which was irrelevant to community needs and also to be lacking material which was relevant to such needs. The content prescribed for many grades was also found to be too wide and difficult to be covered within the stipulated time.

Similar shortcomings had been discerned in the implementation of the curriculum also. These shortcomings were the integrated approach leading to a bare association of concepts, curtailment of the teacher's freedom of thought and action, confusion experienced by the less able teachers due to excessive details being provided, and no remedial teaching being provided for the slow learners. The researcher concluded that the curriculum was not much useful to early school leavers; that skills needed could not be developed to an appreciable degree and finally that this curriculum was neither feasible nor practicable in Sri Lanka due to inadequacy of facilities.

Sivanesan (1982) found that the students were motivated to learn science. Several weaknesses however, were

revealed. Laboratory work had not been made interesting. The mathematics involved in Science had created a problem in the study of science. As a result of compressing the greater part of what was taught earlier under Physics, Chemistry and Biology into Integrated Science, too much was being attempted to be taught in too short a time. The study thus indicated a need for the revision of the curriculum.

De Silva's (1978) study also pointed out shortcomings in the curriculum for Aesthetic Activities at primary level. He found that the objectives could not be fully achieved because the three subjects, Art, Dancing and Music included in the curriculum did not represent the totality of aesthetics. The researcher noted that the selection of activities in aesthetic education has not been based on the philosophical and psychological structure of the subject area.

Rupasinghe (1983) studied the problem of the role of English in education at school level in Sri Lanka, as perceived by parents. A thorough sampling procedure had been employed. Eight hundred parents were selected through multi-stage sampling; from randomly selected units in different institutions, from eight sectors of employment.

The findings of the study indicated that in general the large majority of parents accept English as essential for excellence in higher education, that English has a practical value for efficiency and employment and that it enables a person to be in touch with local and international affairs. Thus the majority accept the proposition that English

should be made compulsory as a second language. The parents associated teaching to be carried out in the mother tongue, with English as a second language commencing from either grade I or III. The majority of parents declared that English be made compulsory for higher education, with a large number indicating it to be made compulsory for G.C.E.(O.L) and a fair number for G.C.E.(A.L). A considerable proportion, however, voiced the fear that this step might pose an obstacle in the way to education of underprivileged students from lower socio-economic groups and from rural areas.

Three research studies examined the achievement of certain outcomes specified for the teaching of some subjects of the junior secondary level. (Social Studies and Science) and of the junior secondary school as a whole. These studies examined the introduction of population awareness through Social Studies, (Jayawardena, 1979) linking Science teaching to vocational programmes (Metathananda, 1978) and the role of the secondary school in preparing youth for self-employment (Amarasinghe, 1984).

The main purpose of Jayawardena's (1979) study was to ascertain the impact of the introduction of population education through Social Studies on students. A comprehensive methodology had been used for this investigation. Two tests, an achievement and an attitude test, were used on a sample of 1022 students drawn from grades Seven and Nine in 19 urban and rural schools from three educational regions, Colombo, Kegalle and Matale. The achievement test was conducted in two stages, at the beginning and at the end of the year. The procedures of

data analysis used were computation of percentages, and determination of the significance of differences of means and percentages norms.

The study revealed a significant difference in performance between pre-test and post-test which indicated the suitability of including population education material in the Social Studies curriculum of these two grades. Yet it was shown that Grade Seven students had not performed so well as the Grade Eight students. This leads the researcher to suggest that the initial introduction of population education through Social Studies would be more beneficial at Grade Eight than at Grade Seven.

Meththananda (1978) attempted to ascertain the extent to which the Science programme of the junior secondary school meets the vocational needs of the country and to suggest modes for fruitfully linking science teaching to vocational programmes. For the above evaluation, the researcher examined the syllabuses of a large number of vocational courses provided by the National Apprenticeship Board (NAB) and the Lanka-German Technical Training Institute, (LGTTI) and selected two representative courses. The Science content of these two courses are compared with the C.C.E. (C.L) Science curriculum to estimate the relevance of the latter for vocational training programmes.

The study disclosed that while the science content of the LGTTI (Lanka German Technical Training Institute) Basic course was mainly drawn from Physics and Chemistry, that of the NAB (National Apprenticeship Board) course was mainly based on

Biology and Agriculture. While three units in the Integrated Science curriculum had no relevance to the vocational courses examined by the study it equipped the students with about 50 per cent of the scientific knowledge they required, to follow these courses.

Amarsinghe's (1984) study examined the role of the secondary school in preparing youth for self-employment. The researcher has utilised an attitude scale, a questionnaire and interviews for the survey. The sample comprised students in Grade Nine from 25 classes, 100 youths in self-employment and 50 youths employed in different trades who had followed the pre 1972 and post-1972 curricula.

The investigation revealed that all these groups indicated favourable attitudes towards self-employment. While family attitudes had played a role in determining a child's future vocation there appeared a significant difference between the pre-1972 and post-1972 groups as regards their attitudes to school, its curriculum, discipline, and preparation for their occupations. There had been no relevance between the occupations and the selection of the pre-vocational subject in school of the post-1972 group. The study concluded that although the objectives, content and methodology of a wide array of subjects of the secondary school were designed for the development of skills for self-employment, that the school cannot definitely prepare its students for self-employment. It had only provided the foundation for attitudes and skills, but the youth appeared

to develop the necessary attitudes and skills in the course of their occupations.

A considerable number of research studies selected and examined the teaching of subjects in the curriculum or component elements of these subjects. The majority of these studies had examined language teaching, with Sinhala Language being the focus of three of these investigations.

The study by Dias (1980) was on the teaching of reading in primary classes. The researcher has relied on a document survey for this investigation. A perusal of the available literature on this subject area, and on the application of various theories of psychology in teaching reading had been carried out.

On the basis of this study, the researcher points out how the teacher should set about teaching 'reading' to children as well as, the sequence which has to be adopted in teaching 'reading'. Thus she has stressed that the adaptability of the methods and the efficacy of using them in teaching to read often depends on the experience and skill of the teacher. It is also important that the teacher should develop in the pupils a taste for beauty in the writing and thereby has to get inspiration from good literature. He should concentrate more on the needs of the backward child as the bright child would need only a little guidance. The skill and attitude of the teacher appeared to be the most important factor.

The researcher also pointed out that during the readiness period and the early stages of teaching to read the teacher should concentrate more on training the child for perceptual skills, visual discrimination and then on gradually training him in word reading skills. The researcher emphasized that there is no single method of treating reading difficulties and that projects and other activities should be included in the methodology of a skilled teacher facing the problems of remedial teaching.

Even though the insights gained from this study are useful, the fact that no empirical research had been carried out to supplement the document survey appears to have detracted from its value.

Of the studies which looked into the teaching of Sinhala Language, two focussed on the teaching of Sinhala Grammar; Sirimanna, (1983) in Grade Six and Herath Mudiyanse (1981) in the junior secondary school (Grades 6,7,8 and 9). Itskerala's (1977) study covered a broader area, on the teaching of Sinhala Language but in Grade Six only.

The objective of Sirimanne's (1983) study was to find out the extent to which the objectives of teaching grammar as given in the course-guides and textbooks had been achieved. Firstly he has examined the exercises and the lessons occurring in textbooks to find out whether the basic elements of grammar covered in course-guides and textbooks are well-represented. Secondly, he has attempted to assess the knowledge of grammar of Grade Six students, by means of an achievement test. He

also sets out to examine whether significant differences in student achievement exist due to environmental influences, such as the number of teachers in a school and the qualification of teachers teaching in Grade Six.

The methodology employed by Herath Mudiyanse (1981) was different. It consisted of the assessment of the knowledge of grammar of Grade Nine students by using a standardised performance test, a study of the observations made by Sinhala language teachers in Grades Six to Nine and a critical study of source material.

Sirimanne (1983) found that the textbooks had attempted to teach grammar through a number of exercises in each lesson. Grammar rules that had to be taught were specified only in the case of the Grade Eight textbook. The study revealed that the Physical facilities in a school had a significant influence on the acquisition of a knowledge of grammar by students. No significant difference, however, was indicated according to the number of teachers in a school, or according to teachers' qualifications.

Herath Mudiyanse, on the other hand, found that the level of grammar knowledge was quite low, and the achievement level was not affected by the sex of pupils or the type of schools. Poor performance in the test were attributed to unsuitable methods used in teaching, non-completion of the syllabus, lack of motivation in teachers, and lack of teachers adequately qualified in teaching the language. He further found

that while the textbooks contained much more material than required in the curriculum, they were not arranged in a proper order to impart a knowledge of grammar. He concluded that teaching Sinhala grammar was not geared to the attainment of its objectives. The study found that the practice had been to enunciate grammar rules without practical utilization for better writing and expression.

Athukorale (1977) probed into the methods of teaching that can be used to rectify the shortcomings in the teaching of Sinhala Language at Grade Six. Three procedures, viz a questionnaire survey, interviewing and planned observation were used. Data was collected from a wide and representative sample of students, teachers, principals and officers.

The study revealed that several methods tried out by the researcher had made teaching and learning enjoyable and effective for both learners and teachers. The methods which were tried out were, strategies aimed at improving the knowledge base of the students, their listening skills, expression, reading ability and writing ability. Athukorala's study stands out among those which investigated the teaching of language, in that varied methods were utilised for data collection; and the recommended methods were tried in the classroom situation by the researcher to assess their efficiency.

The two remaining research studies, falling under the category of research on the methodology of instruction, were, (i) the study of the attitudes of adolescents to religion and the teaching of religion in schools by Hathhotuwegama (1975) and

17) the study of the content and methods of teaching of Social Studies in the secondary schools of Sri Lanka by Kularatne (1975).

The former (Hathhotuwagama) had used a questionnaire, administered to a relatively large representative sample of Grade Eight and Twelve students.

Several important conclusions had emerged from this study. Although the attitude to Buddhism was positive, it was negative to the teaching of Buddhism. No significant relationship appeared between the students' attitudes to Buddhism and their religious behaviour. The attitudes of girls and urban adolescents were more favourable than those of boys and of rural adolescents. Adolescents' age and home background were significantly related to their attitudes to Buddhism. But their attitudes to Buddhism were not related to the study of Science at Grade 12 or the type of school in urban areas. The variables which were significantly related to the teaching of Buddhism were the students' home background, sex, urban and rural residence.

Kularatne (1975) had used multiple methods of data collection in his study. A questionnaire administered to all Social Studies teachers in the Kandy district was supplemented by an examination of the field books, collection of information pertaining to learning activities engaged in by pupils, a checklist to assess pupils' disposition towards various teaching procedures, a perusal of the question papers for Grade Seven, informal interviews with curriculum developers and observations of facilities available in schools and of children engaged in various learning activities.

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The study revealed that curriculum development does not depend solely on the development of improved syllabuses or schemes of study. Considerable work had been done in the way of producing curriculum materials like textbooks and course-guides and by making provision for the in-service training of teachers. These measures, however, did not appear to have improved classroom practices.

Ekanayake (1972)'s study of multiple class teaching and education of disadvantaged groups in Sri Lanka is an outstanding piece of research in that he has investigated into an instructional method which has been adopted out of necessity. The objectives of the study were the identification and analysis of characteristics and problems associated with multiple class teaching and disadvantaged groups, exploration of relationships between multiple class teaching and disadvantaged groups and the designing of programmes to overcome problems associated with multiple class teaching. The methods used were the study of documented material, analysis of current practices and methods prevailing in areas where the problem exists and the designing and implementation of experimented teacher training programmes.

The study revealed a direct relationship between multiple class teaching and disadvantaged groups. Problems of multiple class teaching arose from two broad areas—school-based and community-based. The researcher recommends the development of a curriculum related to the needs of the areas,

especially biased towards life skills and rural technologies, refers of the teacher training programmes and the adoption of a more flexible system of administration.

The studies reviewed as relevant to the sub-topic of efficacy of traditional and non-traditional instructional methods indicate that while seven of the fourteen studies had directly dealt with issues related to the sub-topic, others had focussed on curricular content. The review thus directs our attention to another important area, curricular content, which affects the effectiveness of school. Even the studies which looked into the teaching of subjects did not appear to have paid sufficient attention to the efficacy of the different instructional methods used. Especially research on the use of non-traditional methods of instruction appeared to be totally lacking.

## 2.2 Utilization of Instructional Materials

Teaching aids can greatly facilitate the process of teaching-learning in the classroom, especially in the context of the developments that have taken place in educational technology. The use of instructional aids can, therefore, contribute to the effectiveness of a school. It is doubtful however, whether instructional aids are in fact being used in schools in Sri Lanka to the extent that their use is being advocated. The negligible amount of research that has been undertaken in Sri Lanka supports the proposition that the use of instructional technology has not been given the importance that it merits. Two research studies carried out in this area have attempted to survey the attitudes

attitudes of secondary school teachers towards the use of teaching aids (Pelpola, 1981) and to study the preparation of a textbook for the teaching of mapwork in Grades Nine and Ten in Sri Lankan schools and an evaluation of its use (Pathirana, 1982).

Pelpola (1982) surveyed the attitudes and views of teachers, representatively drawn from those teaching in Grades 9-12. The study revealed that while all teachers agreed that the use of teaching aids increased the effectiveness of a lesson, most were not interested in using them; they believed the blackboard was sufficient. The teachers did not use sufficient teaching aids because of their meagre salary, and because they felt that good teaching did not enhance their career prospects. The schools lacked even basic teaching aids, sometimes even a radio, and there was no organized programme in schools for making teaching aids. Organization of field trips by schools and teacher participation in them was inadequate. Moreover, the teachers had not received sufficient training in the use of teaching aids.

Pathirana's study (1982) utilised a systematic procedure for the compilation and the evaluation of a mapping exercise book. This consisted of a discussion, with teachers, on the Social Studies syllabus and the compilation of a mapping exercise book, a discussion with students regarding the latter, preparing units by groups of teachers, testing of these units in the classroom, the preparation of the book and finally its

evaluation by a pre-test, a post test, and questionnaires to teachers and students.

The researcher concluded that both the teachers and the students endorsed the usefulness and the effectiveness of such a map exercise book. However students lacked the necessary resources to use the book. The approval of the methodology by the teachers and students revealed that their participation had contributed to the successful compilation of the book. The study also showed that the book had helped to integrate the practical exercises of the Social Studies syllabus and to make children understand certain concepts which were not clear to them earlier.

The above two studies provide a valuable understanding regarding the operation of the determinant of instructional aids on the effectiveness of schools. While the latter elucidated how a systematically developed instructional aid could facilitate the teaching-learning process, the former pointed out some of the reasons which limit the use of instructional aids.

### 2.3 Use of Instructional Time

Actual time devoted for purposes of instruction perhaps, could have the most direct impact on the effectiveness of a school, yet only one research study could be located on the subject. Palihapitiya (1982) investigated into teacher absenteeism, a factor which tends to reduce scheduled instructional time considerably.

The study collected information from two questionnaires administered to random samples of 200 teachers and 100 pupils from 24 schools in Awissawella electorate. The first probed into the teachers' perception of responsibility and the latter into teacher pupil rapport.

The research found that attendance depends on the teacher's sex, civil status, age, number of years of service and the number of schools served. Those who showed high absenteeism were women teachers, especially the older, those who were involved in politics and those subjected to disciplinary inquiries. The teachers considered taking leave as a right though those who showed a commitment to the profession were prone to take less leave. Teacher absenteeism had affected teacher-pupil relationship, the quality of education and discipline.

2.4 Determinants of retention, promotion, transition  
(including socio-economic and school or education system  
variables.)

School does not operate in a vacuum. Formal education which is imparted within the school is constantly affected by its environment and the socio-economic factors which are elements of that environment. These 'external' factors appear to influence the academic success or failure of children in addition, and/or in spite of, the education given by the school. Thus a school cannot be effective solely on its own merits; its effectiveness is determined to a considerable extent by the external factors that impinge on its performance.

A large number of research studies selected for reviewing here (12 out of 50) have looked into the influence of external factors and of these the majority (seven) have probed into the impact of social factors. Two studies probed into an external factor which could have had an indirect impact, the representations of different occupational groups regarding the formal educational process, and the social needs of adolescent children, while two others investigated the needs of two categories of students, the gifted and the slow learners.

Siriwardena (1982) studied the relationship between social class and educational progress, a study which was based on C.E. (O,L) results. Data was collected by means of a questionnaire and by interviewing the householders of 165 selected families and their children who had sat for the G.C.E.(O,L) examination, from different socio-economic classes. The study revealed that such factors as social class of parents, their educational level, their knowledge about the educational system, their aspirations for the children and the size of the family all exerted an influence on the academic achievement of the students. These variables, however, excepting parental aspirations, had not influenced students' engagement in extra-curricular activities. The vocational aspirations of boys, appeared to be influenced by parental social class, their education, their knowledge about the educational system, their aspirations and student academic achievement.

Three studies, Haputhantri (1979) Gomes (1979) and Jayasundara (1980) focussed attention on the problem of wastage.

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most extensive of these was the study carried out by Haputhanthri (1979) who surveyed the non-school going children and early leavers from a stratified sample of 201 schools.

Haputhanthri (1979) found that 22 per cent of the total age group population in Sri Lanka were not in school in 1977, and 43 per cent of them had never attended school. The rate of drop-out was shown to be affected by the standard of living of parents, lack of schools, ethnicity in the case of Sinhala, Muslim and Tamil communities in the plantation sector, sex (boys who drop out outnumbering girls), and by the disappointment felt by parents regarding the difficulties experienced by the educated. Urban or rural residence, did not appear to have affected the drop-out rate.

Gomes' study (1979) traced the 60 dropouts in the district which had entered school in 1967 in the Berella electorate and collected information about them by means of a questionnaire to reconstruct the 'life history' of each of them. The reasons for dropping-out disclosed by this study were poverty of parents, separation of parents, failure to do well at school, lack of interest on the part of parents and the discouraging conditions of an unstimulating environment.

Jayasundera's (1980) study entitled, 'Wastage in school : a case study based on Varawila Mah. Vidyalaya' focused on wastage resulting from dropping-out, grade repetition and teacher absenteeism. The researcher diagnosed the causes of repetition and drop out to be socio-economic factors, and

physical and mental handicaps the students were saddled with. About 14 per cent of the total time available for teaching, and the 10 teacher absenteeism also could have aggravated the problem of drop-out. The generalizability of these findings is limited though as a result of the restriction of the sample to a single school.

Two other studies examined the relationship between the social environment and education (Jayasuriya, 1982) and that of the slums and education (Manatunga, 1982). Jayasuriya's study was based on one school, Sri Naga Maha Vidyalaya, Navala, but had a relatively extensive sample of 300 students drawn from 6-10 grades. It examined the extent to which the educational level, socio-economic status and the motivation of parents affect the education of the students. The study concluded that all of the above factors had influenced the level of achievement of students. The limitation of the study to a single school was to some extent offset by the use of multiple methods of investigation.

Manatunga (1982) studied the participation of slum dwellers in the city of Colombo in formal education. The sample for the study comprised 100 families, drawn by the procedure of multi-stage random sampling and 161 school-going children of these families. Data collection was done by means of a questionnaire, an attitude survey, interviews and discussions, a documentary survey and participatory observation. The study revealed that the slum dwellers belonged to the lowest socio-economic levels; that there was a positive relationship between income and education, socio-economic conditions and attitude to education and educational expectations and employment prospects.

The above studies reiterated the extent to which socio-economic background of students operate as a determinant of school effectiveness as exemplified by student achievement, repetition, drop-out and wastage. They provide consistent evidence of the fact that social factors continue to affect the destiny of students, in spite of the provision of education within schools.

Nonis (1982) researched into an aspect which could have an indirect influence on the formal educational process, the expectations of the different occupational groups. Its objectives were to determine the expectations of different occupational groups regarding the junior secondary formal educational process (introduced in 1972) and to find out whether there were specific differences in the expectations of different occupational groups. Data had been obtained by means of an attitude test administered to 218 parents from five broad occupational categories in Negombo region.

The study revealed the existence of specific differences of expectations among the occupational groups. There was over 85 percent agreement, however, over the common educational programme among all groups. There was relatively high agreement regarding the view that the programme should develop pupils' latent skills, need for learning through activities, teaching of religion to further character building, the responsibility the school should bear regarding the unwholesome attitudes of children, increase of time devoted to teaching Science, Mathematics, and English and the need to train children

in manual work. The study clearly indicated that parents' expectations from the formal educational system at junior secondary school level were not much influenced by their occupational status.

Dayalatha's study (1981), on the social needs of the school environment felt by the adolescent students in Sri Lanka also was indirectly related to the effectiveness of a school. The methodology used was a survey which collected the responses of 800 students of both sexes, from both early adolescent and adolescent groups, and from urban and rural locations and from four schools in two educational regions.

The study revealed no significant differences in the prioritization of social needs based on sex, on urban-rural location, on social class background and on the stage of adolescence. The only difference appeared in the case of the number of children in the family. The rank order of social needs in the priority list drawn up according to the responses of students was the need for demonstration of abilities, application, emulation, popularity, compliance, leadership etc, with the need for isolation and aggression at the bottom of the list.

Yet another factor, which is external though educational, directly contributing to the realization of one of the objectives of formal education, -viz., academic achievement, has been given the attention it merits in one research study, that of Hemachandra (1982) on private tuition. Method used here is basically quantitative with a questionnaire administered to

all students in Grade-12 and to one class in Grade 10 of a selected sample of schools from Colombo City and the Kegalle district. The responses of a sufficiently wide sample totalling to 729 students yielded several important findings: that a higher percentage of Grade 12 and 10 students in Colombo City attended tuition classes than in Kegalle; it is much higher in the Science stream than in Commerce and Arts. The main reasons which prompt students to attend tuition classes are, the need to get special coaching in different subjects, inadequate coverage of syllabuses in schools, and unsatisfactory teaching in schools. Tuition fees varied according to Grade, subject and region. The tuition classes, the researcher concluded have contributed towards the reproduction of the existing social class structure.

The two remaining studies focused on two categories of students who need special attention, slow learners in primary schools (Piyannan, 1981) and gifted adolescents (Karunaratne, 1980). Piyannan (1981) identified 541 out of 2423 primary school children examined as slow learners and six years later in 1987 surveyed the same group to compare drop-out rates, of slow learners with those of normal and to suggest remedial measures to minimize the drop-outs among primary children.

The study concluded that between 1975-81, there had been considerably more drop-outs among slow-learners than among normal children in the primary cycle and that the majority of them were boys.

Karunaratne's (1980) study attempted to identify gifted adolescents and their characteristics and needs and how

the school and the home can contribute to the development of their special abilities. An intelligence test, evaluation by teacher and school records were used to identify 50 gifted children out of 117 top scorers in Grade Nine classes of 25 schools and their behaviour under classroom conditions was compared with that of a control group of 50 average children.

The study found that the gifted children often question the validity of accepted principles, show creative ideas and respond in an unexpected manner in class. But these tendencies might thwart their development if the parents and the teachers do not understand them properly.

The above two studies pointed out how a normal school would have to utilise special techniques and programmes in order to cater to the needs of these two categories of children. In the absence of such an undertaking, the school may not be effective from the point of view of students with special needs.

## 2.5 Analysis of Physical and Educational Resources that have an impact on Student Achievement.

Among the various aims and objectives that policy-makers envisage to achieve from provision of schooling, academic achievement undoubtedly occupies a pre-eminent position. In a country like Sri Lanka, which has witnessed an increasing value placed on success at examinations, achievement is perhaps the most significant criterion by which the effectiveness of a school is judged. The fact that researchers have devoted much attention to this aspect, confirms the above proposition.

More than half of the studies dealing with the subject of achievement have focussed on achievement in different subject and on the influence on achievement of varying factors such as the curriculum, school games and external factors. Other studies have investigated into procedures and programmes affecting achievement such as the Scholarship Examination and the teacher education programmes, while another study has looked into the relationship between Science education and social mobility (Gunawardena, 1982).

Kariyawasam and Wanasinghe (1982) investigated into the achievement of primary level students of Sri Lanka in Reading and Mathematics. Achievement was measured by means of scientifically constructed tests which were administered to a random sample of students in Grades Two to Five selected from four categories of schools, i.e., above average, average, below average and small schools. Data was analysed by computing means and standard deviations for each group.

The investigation brought out several disturbing conclusions. The actual performance even in the best schools was not upto expected standard and there was a marked disparity among schools, with the performance of below average and small schools being shockingly poor.

A similar study by Abeykoon (1981), inquiring into the comprehension abilities of G.C.E.(O.L) students, had utilised an equally acceptable method of investigation. A test constructed to test the abilities of comprehension (identified from an examination of the G.C.E.(O.L) Sinhala Language question papers)

had been administered to 600 students from eight districts. The study concluded that the majority had obtained relatively high marks. The study also revealed that the teachers possessed an adequate understanding of the concept of comprehension and that supplementary reading and the techniques used to teach comprehension had exerted a significant influence on the students' level of comprehension.

Dharmadasa (1982) attempted to find out how the students' perception of Social Studies objectives affected students' achievement. Perception and achievement scores of 300 students randomly selected from three educational districts, comprising an equal number of urban and rural students and boys and girls, were obtained by means of standardized perception and achievement tests, and the scores were analysed by computing statistics such as means, standard deviations, and correlation coefficients. The study revealed significant differences between rural and urban students, girls and boys, and among districts in perceiving Social Studies objectives and also in achievement. The correlation between the perceptions of Social Studies objectives and achievement was very low. The urban students were found to be relatively higher in perception of objectives and in achievement.

Welgama (1985) attempted to determine the influence of school games on academic achievement. Specific objectives were to find out the correlation between games and education, the effect of games on student educational achievement, how success in games affects job opportunities and the views held by teachers

and parents regarding student participation in games. Questionnaires, end-of-term-test marks, a special test/assessment to academic achievement, and survey of records were used for collection of data from 300 students selected by stratified random sampling. The study revealed that there was a positive correlation between participation in games and low academic achievement but that job opportunities were enhanced by participation in games and contrary to common belief, parents and teachers were in favour of having games in schools and recognized the value of such activities in moulding student character.

These studies have focussed on the influence of socio-economic or external factors on student achievement. Alshakoon (1977) attempted to find out the influence of socio-economic factors on the academic achievement of Grade Nine students in selected schools in the Nandy district. Achievement was assessed by the performance of students at National Certificate in General Education Examination (NCGE) in five subjects and a questionnaire survey was used to obtain information regarding socio-economic status, which took account of variables normally used in research. The study revealed that socio-economic status of parents had an influence on overall performance at the NCGE and performance in the five subjects probed into. Attitudes of parents which were highly correlated with their socio-economic status had influenced academic achievement but not the size of the family. Irrespective of socio-economic status, parents were seen to place a high premium on education.

Walton (1980) studied socio-economic and motivational factors related to intelligence and achievement of G.C.E.(O.L) students in four selected schools in the Jaffna district. A questionnaire, an intelligence test, and assessment of achievement based on performance at G.C.E.(O.L) Examination were used for a sample of 150 students. The study brought out a significant relationship between socio-economic and motivational factors on the one hand and intelligence and achievement on the other. Parents of higher socio-economic background were seen to influence their children in providing a more conducive environment, exemplified by higher aspirations for their children. Self-concepts of students were shown to depend largely on the level of the parents' education and status. The generalizability of these findings is questionable due to the restricted sample which was again selected from an educationally developed district.

Chaudrusena's (1979) study was on the external factors influencing the achievement of students in the Tangalle Educational Region. At the outset, a lack of clarity is indicated in respect of the delineation of 'external' factors, for the researcher has conglomerated school-, teacher-, and student-related factors under this category. Performance in five of the subjects for the NCCE Examination was considered as the index of achievement and correlated with the above variables. The sample, however, was wide and representative enough to warrant generalizability. The study concluded that some variables such as library facilities, completion of syllabuses, teacher qualifications, teacher training, family income, fathers' occupation, listening to the radio, purchase of daily newspapers and school attendance

had correlated with achievement. Variables which did not reveal such an influence were, laboratory facilities with achievement in Science, teachers' leave, experience of teachers and number of siblings. The researcher concluded that the deprived environment prevalent in the educational region studied had, on the whole, affected the level of achievement of students.

A similar research by Gunawardena (1982) had attempted to find out the extent to which lower socio-economic groups in Sri Lanka have access to science education at secondary level, the relationship between the variables of academic achievement and the school attended and socio-economic background; and also, the relationship between achieved socio-economic status and social background. The data was gathered by a mail questionnaire from a representative sample of students drawn from schools in different geographical locations. The study revealed that although science education is comparatively easily accessible socio-economic background of students had influenced their academic achievement, post-secondary employment, and achieved socio-economic status. Only the Central Schools, had to some extent, helped students from a lower social background to overcome their initial handicaps.

Navaratne (1985) examined the validity of the Grade Five Scholarship Examination conducted for the purpose of selection of students to prestigious schools and for provision of financial assistance. A sample of 845 scholars successful at the above examination in 1966, 1973 and 1974 comprised the

sample, and their performance at GCE (O.L) Examination six years later is compared to gauge the predictive validity of the Scholarship Examination. The content validity of the question papers is also evaluated in comparison with the syllabus, according to Bloom's Taxonomy of Educational objectives. The study concludes that the predictive validity of the examination as well as content validity was very low. This study stands out in that it questions the very basis of selection of students as exceptional.

A related study was carried out by Gunaratne and Perera (1983) entitled, 'A framework for the rationalization of school network in the City of Colombo based on flow of pupils and schooling facilities.' This study has been undertaken in respect of primary, junior secondary and senior secondary pupils. It found that the projected enrolments of children of the expected inflow of pupils to City Schools would exceed the available number of places at junior secondary level by 1990 but, there is no need to further expand the G.C.E.(A.L Science facilities. The significance of the study for the review in hand lies in that it draws attention to the fact that the demand for school places in the Colombo City schools resulting from the perceptions of these schools as effective by parents may in the long run result in overcrowding and insufficiency of facilities in these schools, which itself may give rise to a reduction of their effectiveness.

The two remaining studies inquired into the programmes of teacher education in Sri Lanka, which would in

the long run, have an impact on the effectiveness of schools. Gunawardena (1972) administered questionnaires to 850 teacher trainees in eight Teachers Colleges, and to teacher educators and held interviews with principals of Teachers' Colleges. The study revealed that the teacher education programme in operation at the time fell far short of achieving their broad objectives and that it had not been organized in accordance with the normally accepted principles of teacher education development. Problem areas identified were the perception of the two-year-teacher education course as a once-and-for-all training of teachers, the selection procedure used, the insufficiency and relatively low quality of teacher educators, the load of subject content, the problem of balance between theory and practice, the problem of integration, use of methods of teaching, school practice, its evaluation, and the problem of developing the teacher as a person and as an agent of change.

Jathumarechchi (1982) in his study of in-school training programmes implemented by Teachers' Colleges in Sri Lanka, interviewed an adequately wide sample of teacher trainees, lecturers and principals of Teachers' Colleges using different interview schedules. It found that over 60 per cent of both lecturers and trainees preferred the inter-sped practice to block practice. Fifty-six per cent of principals believed the training period was adequate and eighty per cent of them thought the trainee-group size should not exceed 10 per lecturer. Both lecturers and trainees favoured the use of new teaching techniques. Supervision of practical lessons was considered as not

adequate. No significant difference was apparent among the evaluations of the different supervisors.

## 2.6 Comparison of within-region differences and their influence.

Research undertaken so far in Sri Lanka have focussed more on regional imbalances rather than on differences within regions. The studies discussed under this sub-topic therefore, are mainly those which have looked into the regional disparities.

Enquist et.al. (1985) made a sector analysis of education and training in Sri Lanka. Its primary objective was to identify educational sectors which need to be developed. The study records the rapid development that has occurred in education from 1946 to 1980. Education of girls appear to have made headway, on par with boys. Although education is provided free, other costs of retaining children at school appear to result in a high rate of wastage as indicated by the participation ratios of - 86%, 56% and 26% for primary, junior secondary and senior secondary levels respectively. Inter-school and inter-district variations in standards are shown to be considerable while the hardest-hit are the small schools which include estate schools. The researchers stated that organization and roles have failed to achieve equality of access to education.

Gunaratne et.al. (1983) have attempted to assess the progress made and the problems encountered in ensuring universalization of primary education. The study notes that

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enrolments in all grades had increased by about 300 per cent during the period from 1959 to 1962. The greater part of this increase was in the primary level and the network of schools (enrolment ratio 90 per cent in 1961) reached out to the remotest part of the country. The researchers point out that the extent of participating in education is a function of inter-related factors like distribution of facilities, socio-economic factors and community values.

The above two studies had relied on official documents for their information and through their surveys of the entire system had portrayed a general picture. Though useful in this perspective these studies lack the in-depth analysis that is needed to initiate further development in education in the future. Other studies reviewed below, to some extent, succeed in filling this gap.

Gunaratne and Navaratnarajah (1962) looked at the inter-district comparisons of indices of educational performance. Even here, the sources of information are the same, as in the previous studies, population census and school census data: a more scientific and analytical method has been used here, by constructing indicators to show the extent of participation (a) of the 5-14 population in education, (b) of the population at schools in the 12 for secondary science education program, (c) the efficiency of the system in terms of learners graduating from the primary cycle and the period years taken for its completion and (d) the level of intake. Further, a synthetic indicator is constructed to show the relative positions of the

districts in a rank order based on overall performance as indicated by the chosen parameters.

The study revealed that between 1977 and 1981, all the districts had achieved higher participation rates, increased science enrolments, the number of pupil years taken by a cohort of pupils to complete or graduate from the primary cycle had fallen and the literacy rates had increased in all districts. In spite of this progress, the inter-district disparities had persisted. In over-all performance, six districts had retained their rank unchanged from 1977 to 1981, and in both years, Moneragala and Batticaloa had remained at the bottom with Colombo at the top.

The same picture emerged from Rupasinghe's (1983) study on 'Some disparities in the secondary school system of Sri Lanka' and Jayaweera's (1978) paper on 'The educational scene in Sri Lanka: some myths and realities'. The methodology used was similar to that of the previous studies. Rupasinghe (1983) draws attention to the fact that disparities exist among regions in respect of the number of schools provided, distribution of teachers, especially Science and Mathematics graduates, the size of the schools, the availability of such facilities as assembly halls, libraries and laboratories, student enrolment, according to grades and curriculum streams and drop-out rates. In addition, imbalances exist within regions too, with differences in distribution patterns of different categories of teachers, number of students in different courses, and differences between urban and rural schools.

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Jayawoora (1978) in her paper points out the shortcomings that persist in spite of the progress that has taken place in Sri Lankan education. She notes that between 1963-1973 primary enrolment ratio dropped from 85.5% to 75.1%, the rate of participation of the 5-14 year old population dropped from 75.2% to 69.8% and that of the 15-19 age declined from 68% to 54%. She attributed this to <sup>a</sup> decline in socio-economic conditions of the masses. Increased emphasis on quality improvement appeared to have tended to increase disparities. Resource constraints have limited the expansion of educational opportunity. The lag between educational expansion and economic development is also pointed out.

A study commissioned by the Unicef on the basic needs of children and adolescents in Sri Lanka was carried out by the Marga Institute (1974). The study by analyzing the demographic structures in different districts identified three broad types of demographic structures which depict different patterns of demand and which require different strategies of investment in regard to the services catering to children and adolescents. It also identified five groups of districts each of which represents a typical combination of educational needs and problems.

The planning of formal educational services for the young age groups and the different strategies needed are investigated in depth by selecting one district from each group. Similarly, for non-formal education too, programmes which can be

utilised are outlined. The study attempted to identify the patterns in which significant regional variations occur and in this manner, pointed to a broad typology of needs and problems in relation to the needs of children and adolescents.

Jayaweera's (1980) study on the survey of small schools had been carried out as a part of the mid-term evaluation of the UNICEF programme of assistance to small schools. Data had been collected by a questionnaire mailed to 2657 such schools and 302 estate schools, to make an assessment of the current situation regarding students, programmes, development, problems and needs of small schools. The study revealed that small schools cater to a deprived clientele. The pattern of attendance was closely related to the rhythm of economic activity in the community. repetition and drop-out rates were higher than the national rates. These schools lacked the basic facilities and the new curriculum had posed problems. There appeared to be little flexibility in school organization to meet their special needs. The study thus focussed on a type of school, which is disadvantaged in many an aspect and which likewise caters to a deprived clientele, a type of school manifesting one extreme of the disparities.

A similar study, again commissioned by the Unicef was carried out by Peiris et.al (1981) of a representative sample of estate schools in five regions with a concentration of tea and rubber estates. The data had been collected according to a specially prepared format from schools, through observation of students and the school situation and by

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interviewing parents and community members. The study attempted to assess the current situation and to discover any hidden reasons related to attitudes, customs and beliefs that retarded educational progress and to suggest strategies for improvement.

The study revealed a high percentage of non-attendance arrested to some extent by the distribution of free books, higher non-attendance in the case of girls and increased drop-out after Grade Two. While non-enrolment and non-attendance stemmed mainly from the deprived home background, low educational standards was the result of out-moded methods of teaching and lack of facilities. Many of these schools lacked sufficient resources such as buildings, teachers' quarters, furniture, facilities for storage of equipment and even water. While teacher-pupil ratio was high, teachers were mostly unqualified. Parents, on the whole, have low educational aspirations for their children.

## 2.7 Management Techniques and Styles at School Level.

It is believed that the management of a school, to a large extent, determines its effectiveness. This area, however, was among the least researched.

Gunasekera (1974) studied the decision-making process of a selected group of secondary schools in Sri Lanka and its nature and de Silva (1982) classroom management in selected secondary schools in the educational region of Colombo.

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Gunasekera (1974) investigated into (a) the elements of the decision-making situation, (b) individuals who make decisions, and (c) decision-making procedures in Sri Lankan Secondary schools. A representative sample of schools of various types was selected for the study and data collected by means of a questionnaire. The study revealed that a principal is compelled to make decisions under the influence of various rules and regulations and traditional values, constrained as he is by a bureaucratic hierarchy. The highest degree of agreement appeared between departmental officers and the principals, while least agreement was between the officers and the teachers. On the whole, two camps of opinion were discernible; the principals and the officers on one side, and the teachers on the other. Teacher cliques, senior teachers and more qualified teachers were seen as weakening the decision-making authority of the principals.

De Silva's (1982) study was based on a survey of attitudes of students in classes selected by a stratified multi-stage sampling from among Grade Nine classes in representative schools in the City of Colombo, and of teachers of those classes. Data was collected by two questionnaires and interviews and the use of an attitude scale.

The study revealed the importance of classroom management for the success of any teaching-learning situation and also the complex nature of classroom management. It revealed the relative importance of the influence of each of the identified concepts in classroom management and also that the location of the

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school, the type of students predominant in the school and their socio-economic background had influenced classroom management. Wide differences existed between schools with regard to classroom management, class climate, leadership, discipline, control techniques, teachers' role and the influence of the peer group, leading to differences in classroom management.

Paucity of research studies underscores the need to undertake more research in the area, which would throw light not only on how management takes place in the school setting, and the extent to which management styles determine the effectiveness of a school as/well as/on how management itself is influenced by the external factors.

It should be noted as pointed out earlier that although we had reviewed the selected fifty research studies under the given seven sub-topics the demarcations between some of these sub-topics are rather hazy, questioning the validity of certain studies being categorized under a particular sub-topic. Thus for example while the studies reviewed under the fourth sub-topic revealed that socio-economic factors have largely determined the characteristics of retention, promotion and transition, those discussed under the fifth sub-topic indicated likewise that achievement too is determined to a large extent by the same background factors. Similarly the emergence of urban rural location as a factor deciding achievement was also brought out by the studies included under the sixth sub-topic, differences within regions. In addition a

certain imbalance is noted with more studies having probed into a few favoured areas e.g. achievement, curriculum and methods of instruction, with others receiving scant attention i.e. use of instructional time and management at school level.

Chapter III

Synthesis

3.0 In this chapter, a synthesis of the findings of the research studies reviewed will be discussed (a) to identify the determinants which contribute to effectiveness (b) to identify any limitations and gaps in existing research and (c) to make suggestions for improvements in the conceptual framework.

3.11. Discussions of Research Findings

It is significant that ten of the thirteen studies reviewed under the first sub-topic had focussed attention on the secondary school level, especially on junior secondary school. The explanation lies in the fact that in 1972 a major curricular reform had been introduced to the nation's schools at junior secondary level. This curriculum had a number of innovative features which distinguished it from the traditional subject curriculum. The radical revisions of the aims and objectives of the curriculum, its organization and the methods of instruction utilized in different disciplines, provided an ideal field for exploration by researchers. Although some significant changes had taken place, in primary level they had occurred mostly in the methods of instruction than in content.

Though the subjects examined, the level at which they were taught and the methodology used differed, the

investigations into the content point out the basic problem of selection of content, especially when a new integrated discipline is substituted for several compartmentalized subjects. These studies investigating into the integrated subjects of Mathematics (Ruberu 1980) and Integrated Science (Sivanesan 1982) showed that selection of content from the different component subjects had resulted in the content prescribed being too wide and difficult to be covered within the stipulated time.

Further some of the objectives of the Mathematics Curriculum, were found to be inappropriate to junior secondary level and the curriculum had laid excessive emphasis on conceptual development at the expense of the computational skills.

A similar shortcoming in Aesthetic Activities at primary level pointed out by de Silva (1982) was that the three subjects, Art, Dancing and Music did not represent the totality of Aesthetics and that this fact had hindered the attainment of the objectives of the subject. Yet it is noteworthy that at primary level Aesthetic Activities had not been substituted for the component subjects of Art, Dancing and Music as was done at junior secondary level as pointed out by the researcher. The above studies caution us against the practice of conglomerating different component subjects into one broad area as an integrated subject and strongly suggests the need for curricular revision, carefully matching the objectives of subjects against the maturity level of the learners of the grade in which it is being taught and also to bring about a cohesiveness in the discipline itself. Such revision would contribute to the rectification of most other

shortcomings specific to each of the three areas studied that were pointed out by the researchers.

These studies however, indicate to us where the gaps in research lie. Especially in view of the fact that a major curricular revision has been introduced to Sri Lankan schools in 1972, rather expeditiously and in view of the above findings, a need for research to be conducted is indicated in the primary school curriculum and also at junior secondary school level, especially in the subjects in which integration has been effected.

Other studies reiterate the need to have continuous evaluation when a curricular innovation is introduced to the school. Evaluation can indicate the appropriateness of introducing certain content to a particular grade level, as in the case of population education which was found to be more suitable for introduction to grade 8 than grade 7 (Jayawardena 1979). Researchers have inquired into the relevance of the Integrated curriculum to the subsequent vocational education and of the secondary school curriculum to employment, Nettananda (1978) point out that the Integrated Science curriculum equipped students with only about 50 percent of the scientific knowledge required for vocational courses while Amarasinghe (1984) concluded that although the objectives, content and methodology of a wide array of subjects of the secondary school were designed for the development of skills for self employment, the curriculum had only provided the foundation for relevant attitudes and skills. It has to be pointed out however, that while Integrated Science curriculum did not have the specific objectives of preparing the

Secondary School student for vocational education, the total curriculum also had not specifically stated preparation for self-employment as one of its objectives. These Studies still indicate that just as the evaluation of the curriculum of different subjects has to be carried out to test how far the objectives for each had been realized, the outcomes of the total curriculum should be evaluated against its specified objectives e.g. the inculcation of desirable attitudes, for relevance and further improvement. Research carried out so far indicate that mere introduction of a curricular innovation does not warrant complacency and that among others continuous evaluation is needed. Research forms the essential base for such evaluation.

It is also pointed out that the parents, in general accept English as essential for excellence in higher education, that English has a practical value for efficiency and employment, and that English enables a person to be in touch with local and international affairs and consequently that English should be made compulsory as a Second Language. This finding is tantamount to the converse of popular belief in the sixties, when most Sri Lankans considered English as dispensable due to its dethronement from the position of the official language. The significance of this research lies in the direction it gives to the policy makers that research should indicate the social relevance of any curricular innovation/change that has been introduced. Research such as this could help to indicate, on the one hand, the relative importance attached to particular curricular objectives and content

by contemporary society in the light of continuous societal change and also facilitates the implementation of newly introduced changes by realistically assessing the temperament of the groups participating in the educational venture.

Several studies looked into the teaching of different subjects in the curriculum : the teaching of Sinhala Language (with two studies investigating the teaching of Sinhalese grammar), Social Studies and Religion at junior secondary level and of reading at primary level. Attention is drawn by the studies to the importance of the sequence in teaching reading and also the crucial importance the teachers' attitudes, experience and skills, play in imparting the skill of reading to children (Bias 1980). Even in the case of other subjects teacher characteristics were shown to be an important factor in the improvement of teaching.

Thus lack of competencies and negative attitudes of teachers, in spite of improved syllabuses and schemes of study (Kularatne 1975) and lack of motivation and training in addition to shortcomings in curriculum development (Harath Mudiyansa 1981) were pointed out as contributing to the low standard of teaching in these subjects. Sirimanna's (1980) study arrived at the conclusion that there was no significant relationship between performance in Sinhala grammar and the number of teachers or the qualifications of teachers in a school.

On the whole, the above studies indicate that the methods of teaching followed by the teachers, to a large extent, depend on their preparation, i.e. their knowledge, attitudes and

skills, which will also determine how effectively they would make use of the curricular materials designed for the classroom in accordance with the guidelines issued.

Research has also shown the possibility of using traditional methodology of instruction, for effective learning provided the methods are properly geared to the specific objectives of different subjects. Thus Atukorala (1977) found that several methods used to teach Sinhala Language at grade six had proved effective even though they were not entirely novel or non-traditional. It is noteworthy however, that unlike in most of the subjects of the new secondary curriculum of 1972, content in Sinhala Language had not undergone much change.

These findings highlight three important issues related to curricular content which need special consideration. These are the problem of integration, matching curricular objectives with the maturity level of the students and selection of content which is socially relevant. In relation to methods of instruction, the significance of the role of the teacher is emphasized. A need to gear methods to achieve objectives of different subjects is also indicated.

Overall, the review of research studies falling under the category of the first sub-topic in the given framework (efficacy of traditional and non traditional instructional methods) indicates the need to distinguish between the two categories of research studies considered together. It is relevant to suggest that the curricular content should be considered as a distinct sub topic separating it from that of instructional methods.

3.12 There is scant research on the use of instructional aids in the Sri Lankan classroom. The two studies reviewed elucidate that though systematically developed instructional aids can facilitate the teaching learning process (Pathirana 1982), use of instructional aids in Sri Lanka is negligible (Palpola 1982). Both studies revealed that teaching aids make teaching more effective although they use these minimally. Among the reasons inhibiting the use of instructional aids are a general reluctance among teachers to use them, the low economic status of teachers, inadequate facilities in schools, insufficiency of training for teachers and lack of incentives to use teaching aids.

Among the issues raised by these studies are the need to improve teaching aids in keeping with the development of technology in the environment and the need to obtain the participation of students in the preparation of instructional materials.

It is also noteworthy that two of the major mass media, the educational broadcasting and the educational television, had so far failed to attract researchers' attention. This appears as a promising area for future research.

3.13 A similar paucity of research is noticeable under the third sub-topic considered here, instructional time. One of the factors which tends to reduce scheduled instructional time, is teacher absenteeism and was seen to vary according to teachers' background characteristics. It was shown that teacher absenteeism had affected teacher pupil relationship, the quality of education

and discipline. Even this study, though it touches upon both a cause and effect of the reduction of instructional time, had not been undertaken with that express purpose in mind. It is pertinent to note here, that while the increasing popularity of private tutoring is generally believed to be a result of a lowering of standards of education in schools, the latter is often perceived as an outcome of the fact that instruction is being superseded by engagement of students in co-curricular work and in various functions and festivities, school, community and national, within the time scheduled for instruction. Especially in rural schools where supervision is exercised less and in disadvantaged schools where discipline is given precedence over <sup>research</sup> instruction, /on instructional time may yield fresh insights.

3.14 A considerable proportion of the studies reviewed had probed into the influence of external factors, mainly of social factors, on the performance of schools. These studies ranged from those which had a direct impact on the effectiveness of school to those, whose influence could only be indirect. Among the first category the majority considered some index, of participation at school, as a dependent variable and attempted to find out the relationship between the external factors and this dependent variable. While the methodology employed by these researchers differed, the majority used validated instruments on representative samples and thus could claim generalizability for their findings.

A high degree of consensus appeared in the findings of the researchers. Thus a positive relationship was revealed between socio economic background of pupils and their drop out/ and repetition. (Siriwardena 1982, Haputantri 1979, Gomes 1979, Jayasundara 1980, Jayasuriya 1981, Manatunga 1982). In addition it was pointed out that teacher-related factors had also contributed to the problem of dropout but the generalizability of these findings derived from the study of one school are questionable. (Jayasundara 1980).

These studies highlight the fact, that mere provision or expansion of educational facilities is not sufficient to enable students from disadvantaged areas to overcome their initial handicaps and pinpoint the need to look for compensatory measures in order to reduce an educational stratification, conforming to social stratification.

Some researchers focussed on three aspects which could help make the schools more effective; the social needs felt by adolescent students (Layalatha 1981); the needs of slow learners in primary schools (Piyasena 1981) and the needs of gifted adolescents (Karunaratne 1980). The value of these studies lies in the directions they can give in order to minimize wastage at school level by taking into consideration the different types of student needs and the needs of different categories of students. This area of studies appears as one which should be given priority in future research. and decisions on education, curricular as well as co-curricular matters, should take into consideration the needs of the students. Research into what students hope to gain from

schooling, their aspirations and how far these needs can be satisfied, can undoubtedly provide a more realistic framework for educational policy making and planning.

Hemachandra's (1982) study represents an exploration into a novel phenomenon, private tuition which is steadily and speedily gaining ground even as to threaten the formal school. In conjunction with the earlier suggested research, further probing into this area on a wide scale can provide answers to what the students/parents see in an effective school.

On the whole, the influence of external factors has been, subjected to adequate attention by researchers. It yet remains to be investigated through research, however, what measures can be taken to increase the effectiveness of schools so as to overcome the influence of external factors.

3.15 The fifth sub-topic of school effectiveness, achievement, has been investigated by many a researcher in Sri Lanka. This is explained by a pre-eminence which achievement has gained especially as measured by examination success in the formal school system in recent years. Most of these studies attempt to find out what factors influence educational achievement in different school subjects or general achievement in certain examinations.

Most of these studies had examined achievement at secondary level, e.g. Abeykoon (1981) Dharmadasa (1982) Welgama (1985) Alahakoon (1977) Walton (1980) Chandrasena (1972); while

Kariyawasam and Wanasinghe (1982) investigated into achievement of primary level students in Reading and Mathematics. The level of achievement in Reading and Mathematics was seen to be deplorably low, though in general, the level of comprehension of Sinhala was adequately high (Abeykoon 1981).

Kariyawasam and Wanasinghe (1982) found that there was a marked disparity among schools, with the performance of students in small and below average schools being very poor. A strong correlation was revealed between achievement and urban and rural location and sex (Dharmadasa 1982) and between achievement and socio-economic background (Alahakoon 1977, Walton 1980, and Chandrasena 1979). The last study though lacks methodological clarity as the researcher had indiscriminately lumped together diverse variables which were school-related, teacher related and SES - related (socio economic status) as 'external' variables. One study noted that although, on the whole, a significant correlation existed between educational achievement and subsequent social mobility and socio-economic background of students, the Central Schools has emerged as avenues leading to success for students of deprived backgrounds (Gunawardena 1982).

In addition, researchers have attempted to probe into other factors that could exert an influence on achievement. Among such factors examined are the influence of the perception of objectives and participation in extra-curricular activities on achievement, the validity of the Scholarship Examination, student flow into city schools and teacher preparation.

It was pointed out that the perception of objectives was not related to achievement (Dharmadasa 1982). Welgama's (1985) study is significant in that it identifies school games as being valued by parents and teachers for character formation and enhancement of job opportunities, but as affecting academic achievement adversely. A noteworthy conclusion arrived at was that the predictive and content validity of the Scholarship examination which is used to select students for admission to prestigious schools is low (Navaratna 1985). The perceptions of City Schools as effective by parents creates a demand for school places, and that unless the student flow is rationalized, this can result in overcrowding and insufficiency of facilities in these schools was also pointed out (Gunaratna and Perera 1983). The importance of teacher preparation for increasing the effectiveness of schools is emphasized and suggestions for improvement of the existing courses are consequently made (Gunawardena 1972, Jatunarachchi 1982).

The studies reviewed here clearly indicate why equalization of facilities becomes critical if effective schools are to become a reality in this country. They also indicate the lop - sidedness that is evident in the area examined under the determinant of achievement. The major focus of attention has been the influence of socio-economic factors. School related factors such as plant facilities, instructional materials and other amenities or impact of teacher preparation or teacher quality have received only scant attention.

3.16 Researchers have repeatedly pointed out that despite significant progress made in the expansion of educational facilities in the country, marked disparities in provision of educational facilities and teachers especially in Science education at primary level, persist both among districts and within districts. (Enquist et.al 1985, Gunaratne et.al 1983, Gunaratne and Navaratnarajah 1982, Jayaweera 1978, Marga 1974). Some of these analyses of national statistics on education had used scientifically developed procedures for comparison. Two studies have examined in depth the effectiveness of two types of schools in disadvantaged environments (Jayaweera 1980, Peiris et.al 1982). These studies while pointing out that facilities themselves are not equitably distributed also unanimously confirm the findings of the studies which were reviewed here earlier, that provision of schools alone does not amount to a provision of equal educational opportunity; that socio economic and environmental factors operate so as to decide the educational success of individuals entering schools as well as the effectiveness of schools themselves. The need in the case of this issue, therefore, is for further research to inquire into the efficacy of specific, concrete measures that can minimize the effect of the environmental factors so that policy makers could decide the extent to which such measures should be implemented.

3.17 School management is among the least researched areas in Sri Lanka. Gunasekara (1974) has identified several factors that influence the decision making by a school principal. These are bureaucratic hierarchy, rules and regulations, traditional values,

teacher cliques and senior and more qualified teachers. It was shown that the principal had to take decisions responding to two camps, officers one side and the teachers on the other, with the principals tending more often to agree with officers.

The other study which probed into classroom management (De Silva 1982) identified school location, type of students predominant in a school and their socio-economic background as factors influencing classroom management and discovered variations in class climate, leadership, discipline, class control, teachers' role and the influence of peer groups from school to school. It is specially noteworthy that though good management is often considered as the key to effectiveness, very little effort has been taken to assess its role or impact on the Sri Lankan schools.

### 3.2 Limitations and gaps in existing research

The majority of the fifty research studies reviewed here, are dissertations submitted as a requirement for the award of higher degrees in Universities. These have mainly utilised survey methods for data collection and studies employing participatory observation are notably lacking. It is increasingly believed that the complex nature of the school demands the use of socio-anthropological methods to catch what goes on in schools, to make them effective, and the absence of such studies appear as a gap in existing research.

The same fact that the majority of the studies are student research, which is often limited in scope due to concern

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for feasibility, has resulted in less emphasis on applied research. Action or professional research undertaken to identify problems in practice and to find solutions for them is sparse.

The school level on which research has focussed is also important because the question of generalizing from the findings of one school level to different levels would crop up. As stated earlier, a considerable number of studies reviewed have concentrated on junior secondary school level. The problem of generalizing from these findings to primary level or to senior secondary level may not be wholly appropriate.

It is also noteworthy that upto now research has been narrowly tied to precisely measurable variables such as performance at examinations, as effectiveness is generally equated with student academic achievement. This amounts to an ignoring of other outcomes of schooling prized by many parents and educators, such as learning to make decisions, developing self esteem, higher order thinking skills and an aesthetic sensibility. Other characteristics which distinguish effective schools such as the school climate or the overall atmosphere, a definite value system, coeducative relationships, have not even been given recognition in research. Thus the most notable shortcoming in existing research literature appears to be the preoccupation with quantifiable aspects of effectiveness leading to a neglect of qualitative aspects.

Another aspect which appears to be neglected is that no studies have been directed to investigate the totality of a school. While isolated factors and characteristics which contribute to the effectiveness of a school have been probed, researchers are oblivious of the fact that an effective school is an amalgam of several positive characteristics which have to be considered together. A noteworthy gap in the research reviewed is the paucity of case studies of different types of schools in different environments.

Moreover a noticeable lopsidedness in the research carried out appears as these studies have focussed attention only on the policies, measures that have been introduced to schools suggesting that the majority are evaluative. The number of researchers who have been tempted to experiment or try out novel concepts, methods or aids in the classroom situation with a futuristic objective to make suggestions as to their appropriateness is negligible. This situation is perhaps explainable by the fact that opportunities for professional and applied research is limited.

### 3.3 Suggestions for improvement to the conceptual framework

The review enables us to suggest revisions to the conceptual framework utilized. Firstly there appears a need to distinguish between curricular content from instructional methodology although both these categories of research studies were included under the same sub-topic in the given framework. Content demands to be considered as a determinant on its own

right, firstly because content relevant to the needs of the student and society, can to a large extent determine the effectiveness of schools, and secondly, because the major step taken toward improving the effectiveness of Sri Lankan schools in the past has been a curricular innovation.

There appears a need to be more specific about the fifth sub-topic, i.e. the necessary physical and educational resources. The term educational resources can even include physical resources, while teacher resources have not been explicitly mentioned. Teacher resources have a direct impact on achievement and resource investment in teacher development is related to student achievement. In addition socio-economic factors appeared in the reviewed studies as a factor determining achievement, and therefore this sub-topic can be re-worded to include socio-economic factors and physical and human resources that determine achievement.

Another determinant of effective school which has been totally overlooked in research and absent from the conceptual framework is the school culture which encompasses several aspects such as the school climate, relationships among participants in the educational enterprise at school level and the values and goals deemed as important by participant groups.

On the whole, only minor revisions are suggested to the conceptual framework: to include one extra sub-topic, that of the school culture, to split up the first sub-topic into two, distinguishing curricular content from instructional methodology;

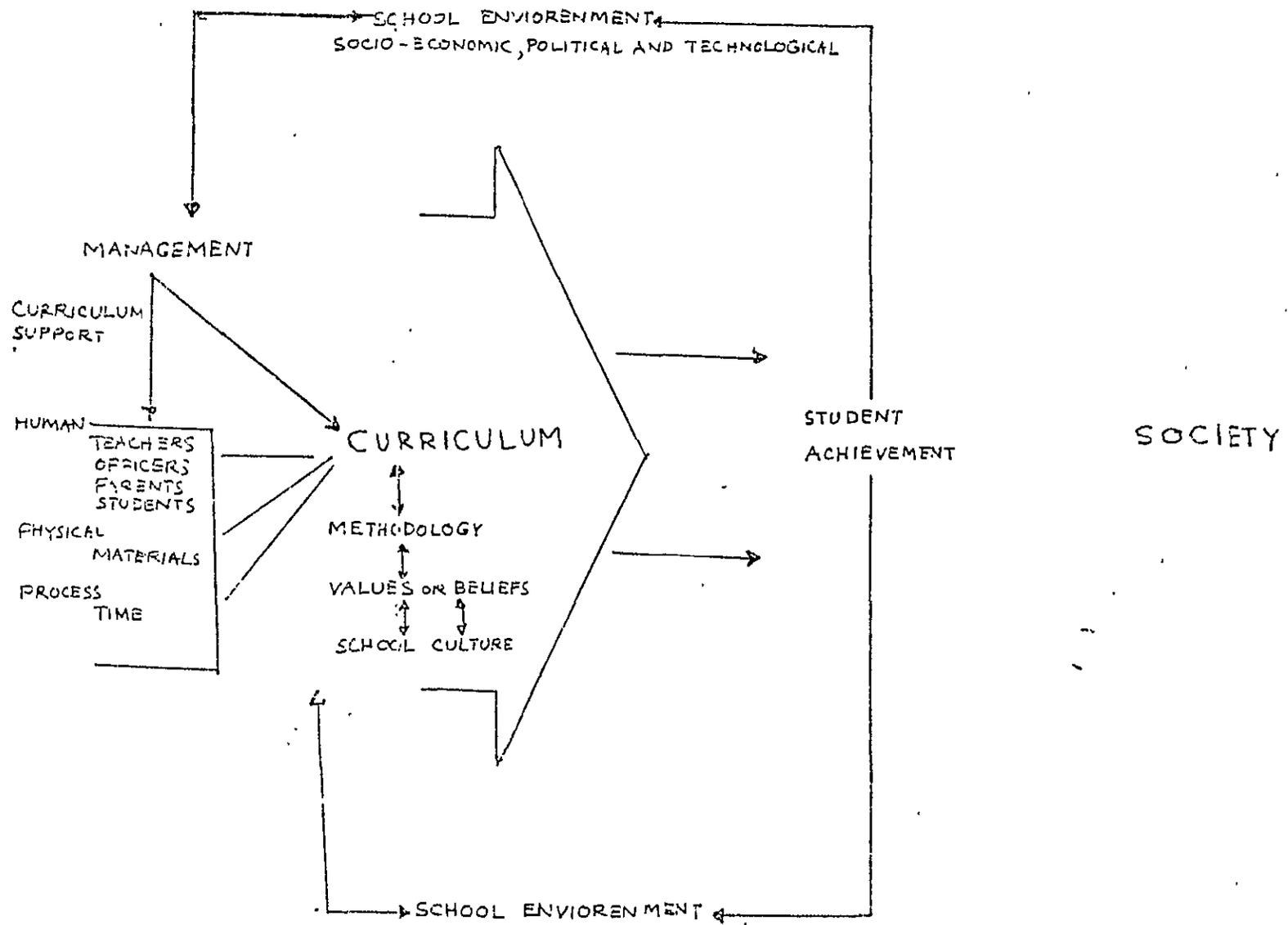
and to change the fifth sub-topic from physical and educational resources to socio-economic factors and physical and teacher resources.

The review of the selected research studies and its synthesis thus allows us to identify several determinants of the effective school.

These are:

- (1) curricular content
- (2) instructional methodology
- (3) instructional time
- (4) social and economic factors
- (5) school related factors viz physical and teacher resources
- (6) environmental factors including geographical, technological and political factors
- (7) management at school level and
- (8) school culture.

It should be noted, however, that even these identified factors determining effectiveness do not operate singly, but interact so as to form elements of a complex whole. As such attempts at improvement of school effectiveness should not be directed toward manipulation of each individual factor but should consider them as parts of an integrated framework.



PROPOSED CONCEPTUAL FRAMEWORK

## Chapter IV

### Implications and Recommendations

#### 4.0 Introduction

Research findings cannot be regarded as prescriptions that should be used to direct policy or mandate administrative decisions. But they can be communicated to decision makers, who should be stimulated to reflect on and critically analyse the suggestions that would represent policy or planning decisions. Research can also trigger off further research to probe into problems and issues not fully explained hitherto.

Thus the implications and suggestions emerging from research included in the present review are considered under the three headings of educational policy, educational planning and research. Those recommendations and suggestions explicitly or implicitly made by the researchers which demand a revision of the existing policy or a new policy decision will be discussed under implications and recommendations for policy formulation. Those suggestions and recommendations which can be accommodated within the existing educational policy are discussed under implications and recommendations for planning. Any gaps discernible in the research hitherto carried out and recommendations which, though suggested, do not indicate a need for policy revision, and thus necessitate further research will be considered under implications and recommendation for research, highlighting the priority issues identified.

It is noteworthy, however, that as the review included a selection of studies carried out after 1970, some of the recommendations of the researchers have already been accepted or implemented. The recommendations and their implications which will be discussed in this chapter are those which reviewers consider as contributing to school effectiveness.

#### 4.1 Implications for Policy

Existing research has highlighted the disparities prevalent within regions and among regions in Sri Lanka, in spite of a phenomenal quantitative expansion of the provision of education in the last few decades. The schools perceived as 'more effective' are generally located in 'historically favoured areas of the country. Although it may not be possible to completely eliminate such disparities, the situation undoubtedly calls for a policy decision to make use of 'positive discrimination' to reduce the imbalances among regions and schools. Thus allocations of resources to the districts and to schools should be based on an assessment of their respective needs.

Another need identified by the review, was the need to reduce the influence of the external factors, i.e., environmental and socio-economic factors that affect student participation and achievement, as well as the effectiveness of schools. It is therefore proposed, that education needed for disadvantaged areas should be recognized as a 'composite interlinked package of services' in formal education, non-formal education, health, nutrition and recreation.

Research has also pointed out the excessive emphasis placed on academic achievement. Thus success at written examinations is equated with 'education', and the effectiveness of schools is also judged by the examination success of their students. It is also noteworthy that while curricular revisions emphasise the need to consider an all-round development of the individual as the aim of education, examinations continue to assess only acquisition of knowledge. This clearly indicates the need for a more systematic and balanced procedure of evaluation. Thus it is proposed that a system of evaluation in which the continuous assessment of students' progress is done, paying due regard to the wide range of outcomes such as originality, and higher forms of cognitive behaviour expected from schooling, should be adopted as a policy.

#### 4.2 Implications for Planning.

The research review repeatedly pointed out, various shortcomings on the selection and organization of curricular content. It is noteworthy that a major means of recognizing several outcomes that are valued by educators is a reform of the curriculum. Thus the educational planner should take steps to attach sufficient emphasis to such outcomes as the development of creativity, critical awareness and adaptability to change, which tend at present to be overshadowed by examinations, through curricular revisions. Similarly curricular revisions can help to make school a more practical institution

which is linked to the world of work. A need for a re-examination of the manner in which the organization of content under integrated disciplines is likewise indicated. Although much headway has already been made in this direction, the review indicated the need for further action.

Curricular revisions should be accompanied by an adequate provision of comprehensive teachers' guides, handbooks, up-to-date teaching materials, supplementary practical books and readers to ensure proper curricular implementation. Especially in the case of smaller schools, schools in which the majority of the students are from low socio-economic backgrounds, and schools in which teachers lack an adequate training, the provision of the above resources appear as essential.

Supply of needed resources would not be sufficient to make an impact on the effectiveness of a school, unless an adequate number of teachers, qualified and willing are available to make maximum use of the provided resources. Most of the research studies reviewed pinpoint the importance of this factor and it is noteworthy that a recommendation which occurs most often in research is the need for better preparation of teachers. At present teacher preparation is being given much prominence. What the planners should specifically contemplate in addition, is on the improvement of the qualitative and motivational properties of teachers. It was shown that more than a lack of knowledge or skills, what our teachers lacked most were the desirable attitudes towards the profession. A well-planned system of teacher improvement which emphasizes

not only teacher training but also recognizes the need for impartial procedures of teacher recruitment, transfers and promotion, using a balance of incentives, rewards and punishments to mould congenial conditions of work should be formulated by the planners to induce the necessary attitudinal and motivational changes in teachers.

In addition, the social organization of the school also, should create a positive culture within which learning can flourish. The school policy should be clear as to the importance of different aspects of learning that it attempts to enforce- academic orientation, order and discipline, social relationships and participation in co-curricular activities etc. This necessitate a climate in which teachers can engage in teaching with minimum interruption.

Research also highlighted the constraints on school effectiveness that are imposed by environmental factors. This fact demands the educational planners to search for means of reducing the hindering nature of these environmental factors. It is pertinent to suggest, therefore, that a programme of positive discrimination should be introduced so that students from disadvantaged backgrounds could be helped by provision of resources, guidance and counselling to overcome the handicaps of their family background. Such programmes can be effectively linked with school based programmes of community development, to allow the school to become an initiator of socio-economic change in a community.

Implementation of community development programmes under the auspices of rural schools would be effective, however, only to the extent that the administrators encourage originality, so that identified centers could be allowed to interpret the national curriculum programme in the context of the geographical, social and economic environment in which the school is located. Success of such innovations would also depend to a large extent on the management capability of the principal, who with his colleagues on the teaching staff has to meet the challenge demanded by these programmes.

Especially in such schools, and in all schools in general, the effectiveness of a school can, to a large extent, depend on school management. Educational Management has been now identified as an area which should be given priority and this should be further strengthened. The question of pre-service training of principals acquire much significance as the appointment of teachers with insufficient experience and training as principals is detrimental to school effectiveness. A scheme should therefore be designed to create a pool of potential principals by :

- (1) identifying effective principals in schools.
- (2) identifying promising teachers with potential to assume responsibility as school managers, and
- (3) training such teachers as under studies to effective principals.

Nearly 20% of the Sri Lanka schools fall under the category of small schools and due to low enrolment they lack

sufficient teachers to provide one teacher for each class. Thus multi-grade teaching poses as a major difficulty of the small schools. This situation creates an urgent need for the training of teachers for small schools and steps should be taken to develop a teacher education programme to fulfill this need.

Finally, certain categories of students such as gifted and slow-learners were shown as needing special attention by the researchers. At present, there is no programme at school level to identify and provide a curriculum relevant to the needs of those student groups. Steps should be taken to evolve programmes which can be implemented to cater to these needs.

#### 4.3 Implications and Recommendations for Research

The review carried out indicated a certain top-sidedness in the nature of the research studies that had been undertaken. The majority of the studies were carried out by higher degree students and as a result have been constrained by such factors as non-availability of sufficient funds and other practical considerations. Professional research is also limited by the same factor of funding. The cumulative effect of these conditions is a notable dearth of experimental or action research studies.

As remarked earlier, the type of research, to some extent determines the methodology used by the researchers, the

most popular being survey research. Survey research, however cannot effectively capture what takes place in a complex organization, like a school. Especially research on curriculum in practice is best explored by analysis of the total situation, so that quick action can be recommended to resolve any practical problems that are identified.

A number of problems that need to be investigated from this perspective can be identified with regard to curricular content and methodology. How appropriate are the innovative curricula to the Sri Lankan context? To what extent has integration taken place? Do the teachers use the course guides and handbooks prepared for them and the instructional materials and aids advocated? If not why? Can adaptive methodology or instructional materials better suited to the Sri Lankan classroom be evolved?

- The need to investigate the curriculum process in practice with a view to assess its relevance and feasibility and for resolving identified problems, is a primary research issue.

Another research issue which looms prominent, is the need to formulate learning theories that are relevant to the Sri Lankan context without directly importing theories that have been evolved in societies which differ greatly from ours. Similarly before examining the relevance of curricular content to the different needs of students or of special categories such as the gifted or the slow learners, there is a need to

identify the needs of Sri Lankan children without conveniently using techniques developed in the West.

- A critical need appears to be to undertake experimental studies which will lead to the development of learning theories relevant to the Sri Lankan context, applicable to the needs of Sri Lankan children.

Research has indicated the need to ensure a smooth flow between education at different school levels, between school level education and education at subsequent levels, as well as between school level education and the world of work, as school effectiveness is ultimately judged by its output. On the one hand, a continuity has to be ensured between the different levels of school, primary, junior secondary and senior secondary. Especially a gap is indicated between the latter two levels. It is also pertinent to inquire the extent to which education at secondary level facilitates transition to higher or vocational education subsequently and to the labour market.

- The educational programme at school level has to be examined in relation to the need to link it to further levels of education and to the labour market.

A research issue that emerges from the reviews is the need to probe into social acceptance of school. The studies carried out on rural and small schools indicate that a school can be effective only to the extent that its aims, goals and

functions are endorsed by the wider society. This poses the issue of inquiring into popular expectations to assess how far a planned curriculum or education in general, match with societal expectations, and if conflicts are perceptible, how they can be resolved

- There is a need to research into the receptivity of community to changes/innovations introduced to school so that innovations can be reformulated to facilitate implementation indicating to the implementors how implementation should be carried out.

The above issue is closely tied up with the notion of relevance of education, especially in the case of rural and disadvantaged communities. Existing research has pointed out that disadvantaged communities exert an influence which depresses educational achievement of students and the effectiveness of schools. In such a context, an issue which invites researchers' attention is the need to look for means of using the school as a propeller of community development.

- Research should be undertaken to inquire into how school can function as a centre for community development.

A related finding emerging from research is the persistent influence that is exerted by socio-economic backgrounds of students on their participation or academic achievement. This finding presents a strong case to treat a search for measures that can counteract the negative effects of antecedent social background as a priority in research.

-The need to discover strategies that can be used to overcome the negative influence exerted by lower socio-economic background on achievement is pointed out.

In contrast to the large number of studies investigating the influence of socio-economic factors, a negligible number has focussed on school related factors. It is possible that school related factors may also determine wastage or the level of achievement of students in a school. Increased emphasis is being placed on the improvement of school related factors by curricular reform, provision of facilities and teacher preparation.

- A notable lack exist in research investigating into the relationship between school-related factors and wastage/ achievement, and future research should look into this relationship with the aim of finding solutions for any problems that may be identified.

The role of the teacher emerged as a crucial factor in school effectiveness. The properties of the teacher that were shown as having a negative impact on several characteristics of effective schools, such as instructional time, use of instructional methods and aids, were not so much a lack of knowledge or skills, but a lack of motivation. Investigation into what procedures can bring about attitudinal changes in teachers is thus indicated as a productive area of future research.

- Research points to a need to inquire into the problems that occur in bringing about an attitudinal and motivational change required of the teachers and developing strategies that can result in a qualitative improvement.

Similarly increased attention is being focussed on the improvement of management at school and classroom level. Management can help manipulate the forces that influence school management, both internal and external forces, and to improve such aspects as decision-making and time scheduling in a school. Very little research has been conducted on managing schools. School management thus poses as a research issue that should be given emphasis.

- In the context of absence of basic research to examine the relationship between management and effectiveness of schools, an urgent need appears to be more research to be undertaken to survey such relationships.

- Further, it should be reiterated, that school effectiveness is not a haphazard collection of several isolated variables but a complex whole in which a number of factors operate interacting with each other. Studies carried out in Sri Lanka so far, have overlooked the crucial role played by a positive school culture, or more specifically, its climate, in moulding a belief system which values academic achievement and everybody's contribution, and affects order and discipline to positively influence school effectiveness. Such a perspective argues strongly for research to be pursued to investigate the school culture of

effective schools - what factors, in what quantum, and relating in which manner to each other - combine to form the total school culture conducive to school effectiveness.

- The need to explore the totality of school culture of effective schools, to establish the characteristics and their interrelationships and determine effectiveness emerges as an important research issue. This can be further extended by looking into the problems that other schools face in evolving a positive culture, and how these problems can be resolved.

#### 4.4. Concluding Note

The fact that motivation to undertake research springs from the academic interest of individual researchers to study a certain issue at depth results in studies being conducted without much attention being paid to their salience or relevance. This had understandably given rise to a proliferation of research in certain areas with a parallel, total absence of interest regarding other areas. On the whole existing research appears to have focussed mostly on the efficacy of innovations introduced to schools, with hardly an attempt being made to assess the suitability of innovations through experimentation. At present the keenness is to investigate "what had happened" but not undertake research with a futuristic orientation. An urgent need arises, therefore, to undertake research on effective schools, that helps us to do what we are doing with more clarity and which only will indicate what is best done in the future.

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