A STUDY OF THE IMPLEMENTATION OF THE INTEGRATED SCIENCE PROGRAMME IN THE TAMIL MEDIUM SCHOOLS OF THE COLOMBO-SOUTH EDUCATIONAL REGION

by

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Abstract.

The present decade had witnessed a great change in the concept of 'science education' in many countries including Sri Lanka. Following the educational reforms of 1972, 'science' has become an important subject in the curriculum of the four-year junior secondary schbol and took the form of integrated science. The present study was undertaken to study the problems, faced at the school, in implementing the new science programme in the Tamil medium schools of the Colombo-South Educational Region.

The data for the study were collected during the period July to November 1977. The sample consisted of 35 Principals/Heads of Tamil Section, 50 Science Teachers, and 418 Pupils from grades 7,8 and 9, from the schools of Colombo-South Educational Region, the two Circuit Education Officers(Tamil Section) and the In-Service Advisor for Science(Tamil Section), of the Colombo-South Educational Region, and 120 Teacher Trainees (Science Course) and 8 Lectures in Science from the two Teachers' Colleges which provide training for science teachers in the Tamil medium. Questionnaire was the main tool of data collection. Personal Observation and Interview techniques were also used. Mailed-questionnaires were used in the case of the Principals/Heads of Tamil Section, the Science Teachers and the Science Lecturers. The questionnaires were personally administered to pupils and Teacher Trainees. Percentages, averages, and simple linear correlation are the statistical techniques employed, and χ^2 test of significance was used in the case of variables falling into categories.

The study has revealed the existence of a few problems in relation to the implementation of the integrated science programme

in the selected area. As regards practical work related to science, the facilities available for such activities seem to be insufficient in certain schools. The study has pointed out to the shortage of science teachers, in some of the schools, for the teaching of science at the junior secondary level. Further, more than half of the science teachers who responded to the questionnaire, were found to be without a professional training. It has also been found that there is room for improvement on the teaching approaches adopted to achieve the objectives of teaching integrated science at the junior secondary level. As regards the pupils, 'science' as a school subject is shown as one of the subjects liked most. Yet, a need exists to get the children interested. in science to a greater extent than now, particularly in relation to extra-curricular activities in science. The report is presented in nine chapters and a brief account of these is presented below.

In chapter I, after making a brief discussion on the need for a study of this type and the statement of the aim of the investigation, the types of problems that are expected to be faced in implementing the new science programme in these schools are hypothesized. Teaching of science is begun at different levels in different countries, and many countries have made science an integral part of the curriculum of the primary school. Hence, after attempting an analysis of the objectives of the teaching of science and the practice followed in many countries, a brief examination of the psychological and socio-economic aspects of making science a secondary school subject, is undertaken in chapter II. Teaching of science as a compulsory subject at the junior secondary level is new to Sri Lanka. Therefore, in chapter III, a brief historical account of the type of

science education that existed prior to 1972 was given, and in the light of these facts, the 1972 reforms are examined. Further, the current educational scene is analysed with special reference to the teaching of integrated science at the junior secondary level and its objectives.

A study of this type leans heavily on the accurate collection of relevant data. For this purpose, it is essential that the sample on which the study has to be made should be defined, and appropriate tools are selected or constructed and utilized efficiently in the process of data collection. Descriptions of these form the major portion of chapter IV. Details of the scoring procedures and the statistical techniques to be followed, form the remaining portion of the chapter.

Chapter V analysis the situation related to such matters as standard equipments, improvisations of equipments and availability of other facilities, all of which are related to practical work in science. Chapter VI details the investigation of the situation with respect to the availability and the proficiency of the science staff, including aspects of teacher training and in-service training. Use of audio - visual aids, relating out-of-school activities to science learning, organization of science clubs and museums to bring about a better understanding of science in children, and the utilization of other teaching approaches are analysed in chapter VII. The next chapter deals with such matters as pupil interests and activities within and outside school hours, all of which have a bearing on learning of science.

In the final chapter, a summary of the findings is presented and based on these findings, suggestions for improvements are made. A few related aspects of science education are also suggested for further research.