



**An Inquiry into the organization of lessons
towards the intended outcomes of the science
curriculum of 2007 at the junior secondary level
in the schools of Sri Lanka**

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Abstract

The impact of science and technology on society makes it imperative that citizens in all societies throughout the world become literate in the field. This includes not only the awareness of science concepts but also the process of acquiring knowledge and its influence. In order to achieve the scientific and technological literacy goals, the whole system needs to be changed; namely the science curriculum content, the teaching and learning process, the assessment of students' outcomes and the training of science teachers.

Alleviating the shortcomings identified in the previous science curriculum, 2007 science curriculum has been introduced. In this curriculum reform, the constructivist view of learning science has been given priority and many of these constructivist ideas are embedded in inquiry- based science teaching.

Therefore this study was planned to examine the organization of lessons of the science curriculum of 2007 at the junior secondary span with the aim of investigating the level of application of inquiry- based science instruction embedded in the 5E learning cycle.

A random sample of schools (16) of the Sri Jayawardenapura education zone in the Colombo district was selected as the study sample. From four divisions of that education zone 4 IAB schools, 4 IC schools and 8 type 2 schools, 36 science teachers, 4 science instructors were included in the respective sample. The observation schedules, teacher questionnaires and interview schedules were effectively used to collect data and other information. Mainly qualitative methods were used for data analysis.

As revealed, though inquiry is a multifaceted activity and 5E learning cycle is ideal to structure lessons which contain inquiry-based elements, its application is less visible as a whole in this study. It is evident that the dogmatic and authoritarian mode of

teaching science is still prominent in the present science learning teaching process though it is supposed to be more students- oriented.

It was also revealed that there are a considerable percentage of teachers who still have problems in interpreting the expected science curriculum of 2007 and the interpretation level of the curriculum of the teaching staff is different division wise and school type wise. The analyzed data on the awareness of the expected role of the teacher revealed that 38.8% of the teachers are still confused in implementing the competency based science curriculum. 52.7% of the teachers are still less attentive in directing their students in effective transfer of learning which is a key aspect in the development of competencies.

The inquiry on the supporting role of in-service teacher education programme in disseminating the expected science curriculum of 2007 revealed that it is inadequate in terms of conducting exemplary lessons using real classrooms, in making aware of effective use of curriculum materials, in conducting assessment, evaluation and giving feedback, feed - forward and of empowering the teachers in the preparation of student based evaluation tools and their effective use and in extending lessons. The dissemination level, as uncovered in this study is said to be unequal among the four divisions and different types of schools in Sri Jayawardenapura education zone.

The awareness given on empowering the teachers in organizing the lessons for expected outcomes of science curriculum of 2007 is also said to be inadequate. So at the class room level organization of lessons to the expected outcomes is less visible.

One of the prime objectives of in-service teacher education: introducing the teachers to the strategies of self evaluation and competencies in the continued process of self evaluation has been neglected as revealed in the study. The other important fact uncovered in this study is that use of lecturing as the most frequently used mode of disseminating the expected science curriculum of 2007 which is the least important in this aspect. And division wise, the use of different modes is comparatively higher in the Maharagama and the Kolonnawa divisions, and school type wise in IC type schools.

As revealed in this study the majority of teachers have the chance of getting assistance from their instructors once a term and the teachers in the Kolonnawa division have got more chances than that of in other three divisions.

Thus the study uncovers that the present system of in-service teacher education programmes are not in a position in assuring to give science teachers an equal chance of understanding of the new curriculum expectations and a proper skill in planning flexible and creative lessons irrespective of the disparities of the best and the poorest schools. Accordingly, in the fifth chapter, some suggestions have been made on science teaching, teacher training and supervision respectively so that it would enable the present teaching staff more effective in organizing the lessons for the expected learning outcomes of the science curriculum of 2007.

