

## Experiences and Challenges of Teaching Science at Junior Secondary Level

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**Abstract:** Transformation of a conventional society into a conceptualized innovative scientific society is a herculean task. Educating science needs the confrontation of misconceptions and formation of correct concepts. Educational reforms in Sri Lanka were introduced with the intention of transforming the nation towards a scientific society. Even after four decades of such reforms, the national level GCE O/L science achievement is not that satisfactory and still remains at 62%. Therefore, the scope of this study was to investigate the historical basis of science education in schools, pros and cons of present educational reforms and the challenges faced in achieving the national educational goals. To achieve the above objectives, the study was conducted through a critical review of literature on education reforms and a questionnaire survey on factors affecting the teaching-learning process using a random sample of 126 (13%) Sinhala medium science teachers in the Kandy district, central province. Data were collected on qualifications, training, teaching methods, teaching aids and student achievements at the G.C.E. O/L examination. According to the findings, 'integrated science' had been introduced in 1972 for the first time at the junior secondary level to facilitate day to day life of people. Two minor revisions were followed; in 1985, 'introductory science' was introduced to year five and in 1998, 'science' was changed to 'environmental science' for grade six. The present reform; student centered, activity based 5E learning cycle was introduced in 2006. Although it is too early to conclude its performance, the teacher survey revealed that this particular method is not yet properly implemented by them due to various reasons. Majority of teachers still use other teaching methods and therefore some schools perform 100% while the others stay at 4.5%. Although, the teacher qualifications and their training are at a satisfactory level, equity of resources, use of proper teaching methods and change of students' attitudes are still found to be challenging factors to achieve the national educational goals.

**Keywords:** 5E Learning Cycle, Concepts, Curriculum Reforms, Integrated Science