

**THE CONCEPT OF FUNCTION IN THE SECONDARY SCHOOL
MATHEMATICS EDUCATION IN
SRI LANKA**

A PROJECT REPORT PRESENTED BY

RANASINGHE ARACHCHIGE AMAL SHANTHA ROHITHA RANASINGHE

to the Board of Study in Science Education of the

POSTGRADUATE INSTITUTE OF SCIENCE

*in partial fulfillment of the requirement
for the award of the degree of*

MASTER OF SCIENCE IN SCIENCE EDUCATION

of the

UNIVERSITY OF PERADENIYA

SRI LANKA

2005

590998

ABSTRACT

R.A.A.S.R. Ranasinghe
K/ Ranabima Royal College
Peradeniya
Sri Lanka.

The concept of function plays a central and unifying role in mathematics. It is also the necessary mathematical tool for the study of natural phenomena. In 1893 Felix Kline stressed the important of the concept of function in school mathematics. Since then a great deal of work has been carried out to make it an integral part of the secondary school mathematics curricula in many countries and it is now considered to be the most important concept in their secondary school mathematics curricula.

In order to understand how this concept has been treated in Sri Lankan mathematics curricula, we extracted concepts that are relevant to the concept of function from grade 7 to GCE (A/L) under each of the four revision of curricula made since 1974. The result was a surprising one: 1974-1978 curriculum was the only one where the concept of function was given a central role. In subsequent revisions this concept has been given little or no prominence.

A Test on functions was administered to 63 top-ranking A/L students from 5 schools in the Kandy district. The results of this test show that the level of understanding of the concept of function of the students surveyed was at a low level. There was a clear lack of ability to work with different representation.

It is clear from these considerations that there is a strong need to revise our curricula in order to make them comparable to current international standards.

A study of the evolution of the concept of function was carried out with a view to make suggestions on the sequential development of the concept of function based on Piaget's theory of intellectual development.