

A STUDY ON PUPIL ACHIEVEMENT IN
YEAR 10 AND YEAR 11 MATHEMATICS
OF THE WESTERN PROVINCE
WITH SPECIAL REFERENCE
TO PUPIL ERRORS, STRATEGIES AND
THEIR CONCEPTUAL DEVELOPMENT IN ALGEBRA

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Abstract

This study is mainly concerned in achievement of pupils and the causes for their errors in attempting to solve algebraic problems. A screening test and an interview schedule based on Newman error analysis model had been used to gain insights into the difficulties that pupils encounter in attempting to solve mathematical problems. The clinical interview method used by Piaget had been used here for pupil interviews.

A random cluster of 288 pupils from the Western province of Sri Lanka was selected for the administration of the achievement test. Later 64 pupils proportionate to the percentage number of errors were selected from the above sample for interview purposes.

The main findings were

1. Year 10 male students were better than year 10 female students in achievement.
2. Year 11 male students were better than year 11 female students in achievement.
3. For both sexes, year 11 pupils were far better than year 10 pupils in achievement.
4. As a whole males were better than females in achievement.
5. Most number of errors committed by children was observed during the processing stage of the interview schedule.
6. The causes for the observed errors in this study were
 - 6.1 The difficulties in transition from arithmetic to algebra.
 - 6.2 Difficulties in understanding the notation and convention in algebra.
 - 6.3 Misunderstanding of basic concepts in algebra.
 - 6.4 Difficulties in selecting the correct method.
 - 6.5 The occurrence of other non-algebraic errors during the solving process.

