IMPACT OF THE PERFORMANCE OF G.C.E. (O/L) MATHEMATICS ON THE SUBJECT COMBINED MATHEMATICS AT THE G.C.E. (A/L) EXAMINATION IN THE BATTICALOA DISTRICT.

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ABSTRCT

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In the past two decades, I have noticed that, in general, students in the science stream who have obtained good results in the G.C.E. (O/L) examination didn't achieve good results in the G.C.E. (A/L) examination. Thus it is interesting to find out the level of correlation of the performances between the two important national level examinations held at different levels. Due to some constraints, I have selected schools in Batticaloa district where I live and work. Here I considered the results of students at OL Mathematics from 1997 to 2000 and the results of the same students at AL Combined Mathematics from 2000 to 2003.

Data were collected using specially planned charts with the help of higher authorities of the schools and the zonal education offices in Batticaloa District. Opinion survey was carried out from the students who were studied Combined Mathematics at G.C.E (A/L) from 2000 to 2003 in the Batticaloa District, and their parents, the teachers who are teaching Combined Mathematics for G.C.E (A/L) classes in the Batticaloa District, the Directors incharge in Mathematics in the Batticaloa District and higher officers in the Batticaloa District who have Mathematical background related to educational field. Opinion survey was carried out using Likert – type opinionnaire.

Performance Indicator for the subject G.C.E (O/L) Mathematics (PIM) in respect of students who studied G.C.E (A/L) Physical Science Stream in the Batticaloa District and Performance Indicator for the subject G.C.E (A/L) Combined Mathematics (PIC) in the Batticaloa District are defined and by analyzing the data it is found that PIM > 2.8 and PIC <1 for Batticaloa District. Performance indicator (PIC) indicates that no one passed Combined Mathematics in all over the Batticaloa District.

Hypothesis for the significant test magnitude of the Spearman's rank correlation (ρ) is 0.332 [significant at the 0.01 level (1-tailed)] and the Magnitude of the Pearson correlation(r) is 0.312 [significant at the 0.01 level (1-tailed)]. Both yields are not the same value, but positive low values.

The percentage of explained variance = r^2 = 0.097344 (10%). The percentage of variance not explained by the predicator variable = 1- r^2 = 1- 0.097344 = 0.902656(90 %).The percentage of explained variance = ρ^2 = 0.110224 (11%).The percentage of variance not explained by the predicator variable = 1- ρ^2= 1- 0.110224 = 0.889776 (89%).This means that only 10% (for r^2),11%(for ρ^2) of variance in combined mathematics is predictable by

the achievement in OL mathematics and the 90%(for1- r^2), 89%(for1- ρ^2) is due to the factors such as difficulty in understanding concepts in combined mathematics, students motivation, teachers commitment, parents commitment, learning environment, family income, family education, etc ....

In G.C.E (A/L) Combined Mathematics, new topics are introduced and for those topics background knowledge is needed in advanced. Moreover concepts of Combined Mathematics are deeper than the concepts in the G.C.E (O/L) Mathematics curriculum. Thus G.C.E (O/L) Mathematics curriculum is inadequate to equip the students with the appropriate foundation to do Combined Mathematics successfully at the G.C.E. (A/L). The new techniques to teach Mathematical concepts in step by step at both levels and trained teachers to adapt new teaching methods are needed to make the Mathematics teaching-learning environment healthy. A remedial teaching-learning program in Mathematics for the students who are willing to study at AL in the science stream is an absolute necessity for this purpose.