

**A STATISTICAL STUDY ON THE RESULTS OF  
ADVANCED LEVEL SCIENCE STUDENTS IN THE  
WESTERN PROVINCE IN SRI LANKA**

**by**

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**Thesis submitted to the University of Sri Jayewardenepura for the  
award of the M. Sc. Degree in Applied Statistics on 2006.**

## Declaration

The work described in this thesis was carried out by me under the supervision of Mr. P. Dias and a report on this has not been submitted whole or in part to any university or any other institution for another Degree/Diploma.

  
.....  
W.S.D. Jayasundara

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## **Declaration**

I/We certify that the above statement made by the candidate true and that thesis is suitable for submission to the University for the purpose of evaluation.

A handwritten signature in blue ink, appearing to read 'P. Dias', is written over a horizontal dotted line. A long, straight horizontal line extends to the right from the end of the signature.

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## Table of Contents

|                  | Page No.   |           |
|------------------|--|-----------|
| Acknowledgement  | VII  |           |
| Abstract         | VIII   |           |
| <b>CHAPTER 1</b> | <b>INTRODUCTION</b>  |           |
| <b>1.1</b>       | <b>Background of the study</b>                                       | <b>1</b>  |
| 1.1.1            | History of the education   | 1         |
| 1.1.2            | Basic Educational Information  | 4         |
| 1.1.3            | Present education in Sri Lanka                                       | 7         |
| 1.1.4            | Education cost and its tendencies                                    | 9         |
| <b>1.2</b>       | <b>Objective of the study</b>  | <b>10</b> |
| <b>1.3</b>       | <b>Significance of the study</b>                                     | <b>11</b> |
| <b>1.4</b>       | <b>Limitations and assumption of the study</b>                       | <b>12</b> |
| 1.4.1            | Limitations  | 12        |
| 1.4.2            | Assumption   | 12        |
| <b>1.5</b>       | <b>Organized of the report</b>                                       | <b>13</b> |
| <b>CHAPTER 2</b> | <b>LITERATURE REVIEW</b>   |           |
| <b>2.0</b>       | <b>Introduction</b>  | <b>14</b> |
| <b>2.1</b>       | <b>Literature reviews of the performance<br/>of school education</b> | <b>14</b> |

|                  | Page No.   |
|------------------|--|
| <b>CHAPTER 3</b> | <b>METHODOLOGY</b>   |
|                  | <b>3.0 Introduction</b> 20                                   |
|                  | <b>3.1 Considered variables for the study</b> 20             |
|                  | 3.1.1 Response variable 20                                   |
|                  | 3.1.2 Quantitative explanatory variables 22                  |
|                  | 3.1.3 Qualitative explanatory variables 23                   |
|                  | <b>3.2 Considered technical method for the study</b> 25      |
| <b>CHAPTER 4</b> | <b>PRESENTATION OF THE DATA</b>                              |
|                  | <b>4.0 Introduction</b> 27                                   |
| <b>CHAPTER 5</b> | <b>DATA ANALYSIS</b>   |
|                  | <b>5.0 Introduction</b> 33                                   |
|                  | <b>5.1 Only one teacher for a Particular subject</b> 34      |
|                  | <b>5.2 More than one teacher for a particular subject</b> 38 |
|                  | <b>5.3 Summary of Conclusions</b> 46                         |
| <b>CHAPTER 6</b> | <b>CONCLUSION DISCUSSION AND SUGGESTION</b>                  |
|                  | <b>6.0 Introduction</b> 48                                   |
|                  | <b>6.1 Conclusions</b> 48                                    |
|                  | 6.1.1 One teacher for the subject interest 48                |
|                  | 6.1.2 More than one teacher for the subject interest 49      |
|                  | <b>6.2 Discussion</b> 49                                     |
|                  | <b>6.3 Suggestion</b> 51                                     |

**REFERENCES**

**52**

**APPENDICES**

Appendix 1

54

Appendix 2

54

Appendix 3

54

Appendix 4

55

Appendix 5

55

Appendix 6

55

## List of Tables

|   | <b>Page No.</b> |
|---|-----------------|
| Table 1.1.2.1 Distribution of schools in Sri Lanka (1996 – 2003)  | 4               |
| Table 1.1.2.2 Distribution of Government schools by functional grade in Sri Lanka (1996 – 2003)   | 5               |
| Table 1.1.2.3 Distribution of pupils and teachers in Sri Lanka (1996 – 2003)  | 6               |
| Table 1.1.3.1 Results of G.C.E. (A/L) and its tendencies (1997-2003)  | 8               |
| Table 1.1.4.1 Education cost (1992 –2003)   | 9               |
| Table 4.1 Number of schools classified by school grades and number of teachers for a subject  | 28              |
| Table 4.2 Number of schools classified by school grades and total number of student for a subject   | 28              |
| Table 4.3 Computer facilities of schools which have one teacher or more than one teacher for a subject  | 29              |
| Table 4.4 Percentage of teachers by gender  | 29              |
| Table 4.5 Percentage of total number of teachers by school grades and teachers' professional qualifications (one teacher for a subject)           | 30              |
| Table 4.6 Percentage of total number of teachers by school grades and teachers' professional qualifications (more than one teacher for a subject) | 30              |
| Table 4.7 Number of schools classified by District, school grades and library facilities  | 31              |
| Table 4.8 - Number of schools by school grades and school location  | 32              |
| Table 5.1.1 - Correlation matrix of the Chemistry subject.  | 34              |
| Table 5.1.2-Correlation matrix of the Biology Subject   | 36              |
| Table 5.2.1 Correlation matrix of the Physics subject   | 38              |

|  |    |
|--|----|
| Table 5.2.2 Correlation matrix for the Chemistry subject   | 40 |
| Table 5.2.3-Correlation matrix for the Biology subject     | 42 |
| Table 5.2.4 Correlation matrix for the Mathematics subject | 44 |



## **List of Figures**

|   | Page No. |
|---|----------|
| Figure 1.1.1.1 Change of the literacy rate in Sri Lanka during 1931-2001                                | 3        |
| Figure 4.1 Distribution of the 1AB schools in Western Province classified by school grades and District | 27       |
| Figure 4.2 Distribution of 1AB schools by District and school location                                  | 31       |

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W.S.D.Jayasundara

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**ABSTRACT**

The target of this study is to identify factors related to the results of science subjects (except Agricultural science) at the General Certificate of Education (Advanced Level) Examination in Western Province in 2003. The relevant secondary data were obtained from the Statistics Branch of the Ministry of Education and the Research and Development Branch of the Department of Examination.

Analysis was done under two separate sections viz data from schools, which have one teacher for a subject and more than one teacher for a subject. When considered the case where one teacher for a subject, the significantly related factors were identified only for the two subjects, i.e. Chemistry and Biology.

The variable, total number of students for a subject is the commonly significant factor for the performance of all subjects irrespective of the number of teachers per subject. Schools, which have more than one teacher for chemistry shows a positive relationship between

Chemistry results and school location. However Chemistry results and school location negatively associated for schools which have one teacher for chemistry subject.

Furthermore, postgraduate qualification of teachers is positively related factor for Chemistry results of schools, which have one teacher per subject. The variables, number of absent days of teachers and pupil-teacher ratio are other negatively related factors of Biology results of schools, which have one teacher and more than one teacher for Biology subject respectively. In addition, school category is negatively related with results of Biology and Mathematics.

Whether the selected school is a national school or not, equipped with library and laboratory facilities are the other considering explanatory variables in this study. These factors do not significantly relate on G.C.E. (A/L) science results. But there are some other factors may be affected for the science results such as tuition facilities and the time spent for studies by pupils. If these factors are treated as explanatory variables, probably they could have been significant for the science results.

# **Chapter 1**

## **Introduction**

### **1.0 Background of the study**

Education is the fundamental rights and also the necessity of the human being. Therefore, it can be very useful through out our lifetime as a powerful tool. The people improve their abilities to take correct decisions thought the education. Therefore, the education plays a major role in the national development. Hence planning education should be done with care.

#### **1.1.1 History of the education**

Initially, the system of writing was introduced by the Aryan people who migrated to Sri Lanka from North India about in the 6<sup>th</sup> century B.C. Later, during the period of the King Devanampiyatissa, with the arrival of Mahinda Thero, a lot of positive changes were taken place in the cultural and educational history of the Island.

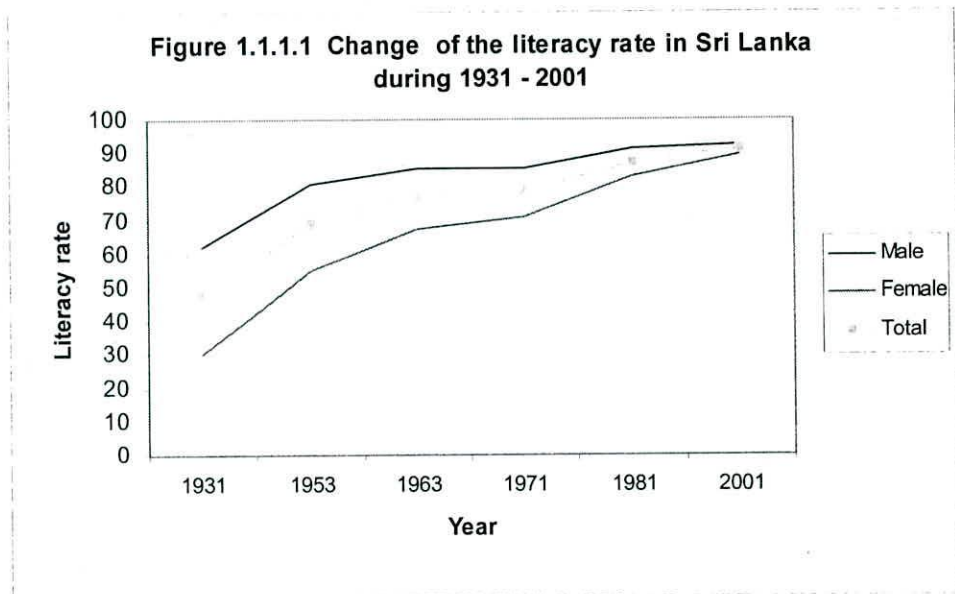
When 1505 A.D., after the advent of the Portuguese to Ceylon, the paper is started to use as a writing material. Before that the people used the bark of trees, the leaves of the palm trees and the strips of bamboo trees instead of the above mention writing material.

When 1815 A.D., the government of the British, There were a lot of changes in the social structure in the country. The whole system of education was controlled by the Christian Missionaries. The first school commission was began in 1834. After that in 1841, the central school commission and in 1869, the Department of Public Instructions too, was situated in the country. After that in 1896, the Board of Education was established. Due to the failure of this system also, in 1912 it was popularized in the name of Department of Education. (Education in Ceylon- A centenary volume, 1969)

“In 1930 head of special committee on education, Dr. C.W.W. Kannangara recommended free education to provide equal opportunities to all. It considering that English schools, which provided courses of study leading to the best opportunity of employment and higher education, were fee levying and therefore patronized only by the well-to-do, recommended that in order to make equality of educational opportunity a reality, education should be made free in all schools. (Education in Ceylon- A centenary volume, 1969)”

“He drafted the bill of the free education scheme and it consisted of seven parts. The Education Bill that contained the Free Education Scheme was opposed from the beginning but this special committee explained the benefits of free education to the masses and generated strong public opinion in its favour. Dr. C. W. W. Kannangara, then won over the majority members in that august assembly and saw the free

education Bill passed in the state council. (History of Education in Ceylon 1796- 1965; Sunday Observer- June 05, 2005)”



Source: Ministry of Human Resource Development, Education and cultural Affairs.

“1931 – 1953 period shows educational progress in Ceylon, reason for that is Ceylon gave all the pupils equal opportunity in the education sphere from 1945.10.01. Sri Lanka has the highest position among South Asian Countries, in respect of literacy. But statistics revealed that we were losing that position since 1980’s. The main reason for that was the non-enrolment of about 10% of the school- going age population. In 1991, the compulsory education law was introduced as a solution for this problem. (Report of the Progress in Education 1995/96-NIE)”