

The Status of Statistics Education in the Philippine Secondary Schools

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1.Introduction

The Department of Education, Culture and Sports (DECS) is in charge of supervising and maintaining the basic education (elementary and secondary levels) for constitutional compliance, regulation, resource funding, and quality implementation. The Philippine constitution provides for free elementary and secondary education in all its public schools.

In the pursuit of quality education and its accessibility to all, the DECS through its Curriculum Development Division developed the Philippine Secondary School Learning Competencies (PSSLC) in the different disciplines. Included in the competencies for mathematics are those of statistics education.

The Mathematics program of competencies is restructured so that each curriculum year includes algebra, geometry and statistics concepts arranged in increasing complexity in the four levels in the secondary level (also called high school) both public and private. Below are the learning competencies in statistics for all the levels.

FIRST YEAR LEVEL 1. Understanding and skills in the effective use of graphs and tables and averages in analyzing and interpreting data for problem solving. 2. Understanding and skills in the calculation and use of mean, median and mode of statistical data, grouped and ungrouped.

SECOND YEAR LEVEL 1. Describe a set of data by analyzing the measure of central tendency together with the measures of variability. 2. Calculate the different measures of variability relative to a given set of data ungrouped or grouped.: range, average deviation and standard deviation.

THIRD YEAR LEVEL 1. Use of quartiles and percentiles to infer information from a set of data. 2. Calculate quartiles and deciles of a set of data, ungrouped or grouped. 3. Apply knowledge of quartiles and deciles to solve problems on calculating and interpreting

FOURTH YEAR LEVEL. 1.Understanding of experimental and theoretical probability. 2. Manifest ability to organize and interpret relationships between two sets of numerical data using the concept of correlation. 3. Using scatter diagram and two-way tables. 4. Finding the strength of linear correlation by calculating certain statistical correlation measures and interpreting the results. Using Pearson r or Spearman Rho (for ranked data)

2.The Students' Learning Performance in Statistics

Since teaching mathematics in the high school is integrative for all levels, most of the students do not fully absorb the subject matter, especially in statistics. The syllabus for the teaching of statistical concepts is generally scheduled in the last grading period. There are 4 grading periods in the High school. Hence, most teachers are unable to teach the subject matter in depth for reasons of time constraints. In the 4th year, more emphasis is placed on trigonometry while probability and

correlation are barely given attention. Fortunately, in few specialized public schools such as the science high schools, and some private schools, statistics is offered as one separate subject in the 4th year level.

3. Teacher Preparation in Statistics Teaching

Most Statistics teachers in the secondary schools are mathematics majors with only 3 or 6 units in basic statistics, if at all. Many may not be confident in their teaching because their field of specialization may be in algebra and geometry and thus has weak background in statistics.

4. Recommendations

1. There should be professional development of teachers of statistics at the secondary level. Presently, the DECS is implementing an aggressive education modernization program by sustaining project RISE (Rescue Initiative for Science Education) which aims to retrain science teachers nationwide over a five-year period and encourages greater use of Information Technology (IT) in education. There is a greater move to promote Project RISE to Mathematics and Statistics teachers.
- 2 Statistics should be taught as a separate subject in all high schools. There is a current view that distinguishes between mathematics and statistics as separate disciplines. Moore (1992) argues that statistics is a mathematical science but is not a branch of mathematics and has clearly emerged as a discipline in its own right, with characteristic modes of thinking that are more fundamental than either specific methods or mathematics theory.
3. Give proper motivation to students for the application of statistics in the form of manipulative and graphic projects, contests, researches, and the like. Motivate the teachers for rank promotion purposes to participate in professional development in statistics education.

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RESUME:

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