Using SAS® Reporting for Self Evaluation of High Schools

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Abstract. The aim of this poster is to show how the results of a National assessment were exhibited to the schools through a simple, clear, and easily interpreted report created using SAS reporting and ODS thus minimizing potentially misleading statistical interpretations of results.

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1. Introduction

The objectives and functions of NCEE, among others, are to monitor and evaluate global and regional performance of students in order to improve the quality of the Croatian educational system. National assessment is a testing procedure conducted on high school students with the goal of learning about student knowledge and about the educational system. To constantly improve the quality of school functioning, schools in Croatia are obligated to use results from the National assessments and all other educational efficiency indicators for constant analysis and periodic self-evaluation [1].

National assessment results represented the first comparative data on student achievement acquired through tests based on objective evaluation criteria and therefore these were generally accepted as both a good start point for discussions of current school efficiency/quality and as a benchmark for improvement.

The aim of this poster is to show how the results of the National assessment were exhibited to the schools.

To avoid misleading interpretation of the results (as for example would ensue, if a naked average/mean score was used as the comparison tool) the report had to be both clear and easily accessed, but at the same time give evaluators the bigger picture in proper context.

2. Methodology

The report was generated by NCEE (Informatics Department) and University Computing Center, Zagreb using SAS® 9.1 software following the National assessment data collection in May 2006. Key SAS procedures used were proc report and proc capability. SAS Output Delivery System (ODS) allows the user to create hierarchical reports in HTML format which are linked and could easily be published on the web [2].

3. Results and discussion

Below is the main report schools received following the National assessment (please see Figure 1). Along with the mean/average result of the test for school, program and class, the report also contains the percentage of students in a specific class/program/school that (based on their scores) fall into one of the four categories at the national level (represented/exhibited by quartiles).

The main benefit of this approach is that the schools can now easily compare themselves at the national level. In addition to the table report, the schools were presented with a graphical display (histogram). For purposes of comparison at the national level, two histograms were generated for each school, one representing the distribution of the school results and another representing the results at the national level.

To differentiate the scores, the traffic lighting idea was used. This approach is generally recognized as a simple and valuable technique for use in performance/evaluation reporting [3].

Another helpful tool for comparison is a reference line visible on each graph, representing the 1st, 2nd, and 3rd quartile at the national level.

In addition to reporting on the naked mean score of the test, schools were also presented with the
percentage of their own students in each school/class/program falling into different quartiles at the national level.

4. Conclusion

This simple, clear, and easily interpreted report facilitates self-evaluation by the school at the national level thus minimizing potentially misleading statistical interpretations of results. After the first National assessments were conducted in May 2006, the first systematic implementation of self-evaluation/improvement were begun in all of the gymnasium program secondary schools in Croatia.

5. References


![Figure 1. Schools Level Report for Results of the National Assessment. (Screenshot)](image-url)
Figure 2. Distribution of School Results (bottom histogram) and of Results at the National Level (top histogram)