Getting the most out of NQF statistics: A guide for users

Part 4 – Creating a Report

This section provides some general guidelines for structuring a report and ways of discussing analyses. Whenever data analysis is carried out for reporting purposes (e.g., to a school board or to the Education Review Office), it will be necessary to organise it into a report. Even when analyses are performed by an individual teacher or head of department for their own uses, writing the results into a brief report can be useful. A report provides a focus and a format in which various analyses and data comparisons can be discussed. Even if a set of analyses is carried out primarily for the benefit of the person performing them, it may also be of interest to others, and a well considered report is more valuable than a set of apparently disconnected graphs and tables. In addition to making the reason for, and results of, an analysis explicit to a reader, writing a report can also clarify the findings for the author. Keeping a report brief and to the point is important. The exact form that a report will take depends on its purpose and the types of analyses performed.

Introducing the report

A report should include a brief introduction that clearly states the high-level question or questions to be addressed, the reason for asking these questions and a brief description of how the questions are to be addressed analytically. This helps people to make sense of the statistics.

If the report is being prepared for an authority (such as a school board), a summary of the findings might also be useful. A summary would typically be placed at either the very beginning or very end of a report.

Visual presentation of data

The main body of a report should contain tables or graphs/histograms containing the data being reported. Each graph or table should be as simple as possible. Too many numbers in one illustration can be off-putting, especially for people who are not familiar with reading data analyses.

It is a good idea to write a brief interpretation after each table or graph to highlight points of interest and, in particular, how the data reflect upon the questions asked. Such interpretations should be focused on the data at hand, whilst the end of a report is more appropriate for wide-ranging discussion.

Any formal statistical analyses (e.g., a chi-square test) should also be reported in the text and related to the data.

Discussion of data

A good report contains a clear explanation of the statistical analyses. Many people are not statistical experts, so it is important to include any caveats or limitations on interpretation that apply. Examples of potential limitations have already been discussed throughout the guide, but a summary of points to consider, and the circumstances in which each caveat might apply is given in Table 1.

Table 4.1 Some limitations and caveats to bear in mind when interpreting analyses

Type of analysis	**Limitations / caveats**
Comparing success rates of students at different schools in external assessments to determine which school is the most successful.	Schools vary greatly in their demographic characteristics. Demographic characteristics influence performance in assessments. A comparison of schools is therefore meaningless without taking careful account of demographic differences between them.
Comparing success rates of students studying different courses (at the same school) to determine which department is the most successful.	In addition to demographic differences between students undertaking various courses, some subject areas are on average, more challenging than others. The relative difficulty of assessments therefore needs to be taken into account in any comparison of this kind.
Comparing rates of qualification acquisition for, say, Year 12 students, in successive years, to determine whether their success rate is increasing, decreasing, or stable.	Changes from year to year, especially small ones, do not necessarily indicate a trend. Small changes due to natural variability are to be expected. Also, even quite large changes from one year to the next might be one-off effects, rather than indicating a long-term trend.

This is not an exhaustive list, but is intended to provide some examples of critical thinking about analyses and comparisons of data. Finally, it is important to note any conclusions from the data. The main conclusions should relate to the question or questions that prompted the analysis, but any other interesting observations are also worth reporting.