Quantitative Literacy Club
Draft Mission Statement

Definition

Quantitative Literacy(QL) – also known as Quantitative Reasoning (QR) is a "quantitative habit of mind", proficiency, and comfort in dealing with and rationally processing numerical data. Individuals with strong QL skills possess the ability to analyze quantitative problems in everyday life situations using logical reasoning steps. They are able to read and understand numerical data. They can create valid arguments based on quantitative evidence and know how to interpret their conclusions. They are capable of clearly communicating their analyses and arguments in a variety of formats (including words, tables, graphs, mathematical equations and models, as appropriate).

Expanded definition:
The formal definition of Quantitative Literacy implies competency in different fields of basic mathematics, and their application to diverse problems in the sciences, business and administration, politics, economics, and in everyday life. Most importantly, QL requires an understanding of the mathematics that is deeper than mere memorization of, and facility with, calculation procedures. Possession of strong QL skills requires competency in critical areas:

1. Approximation / estimation – The ability to do effective approximation and estimation.
2. Mathematical models – The ability to understand the assumptions behind mathematical models, and the implications that those assumptions have for the validity and scope of conclusions that are drawn.
3. Tables and graphs - The ability to represent and understand data in graphical forms and other visual representations.
4. Algebra – The ability to understand and manipulate algebraic equations, including the ability to draw conclusions from functional dependencies. Competency in this area thus goes beyond the ability to substitute for known variables and to perform the requisite arithmetic.
5. Geometry – The ability to think and visualize in higher dimensions, including an understanding of the dependencies of geometric properties, such as volume, on the dimensions of the shapes. The ability to express properties in terms of angles.
6. Statistics – The ability to draw appropriate conclusions from statistical data, including an understanding of statistical distributions and properties such as average, median, and standard deviation. The ability to incorporate uncertainties in the data when drawing conclusions.