



Curriculum Units by Fellows of the Yale-New Haven Teachers Institute
2008 Volume VI: Depicting and Analyzing Data: Enriching Science and Math Curricula through Graphical Displays and Mapping

Introduction

A graph or map, like a picture, may be worth 10,000 words. Graphic or pictorial display of data can reveal relationships that are not evident by the examination of numerical data. Graphs are an integral component of both the analysis and display of scientific data, but beyond this, daily reading of the newspaper shows that interpretation of graphs is a requirement of general literacy as well. The overall aim of this seminar was to encourage the Fellows to incorporate easy-to-understand graphical displays into as much of the curriculum as possible and to lead their students both to appreciate graphical material as they encounter it and to use it to express themselves.

This seminar was intended for teachers of science, math, social studies and business at all grade levels, as well as teachers of the graphic arts. The sophistication of the math was geared to grade level. The approaches ranged from simple arithmetic to algebraic to statistical. Spatial mapping methods were also discussed.

There is great variety in the units, reflecting the diversity of the background of the Fellows. Marisa Asarisi employs graphical displays to depict the health trends of her middle-school students. Karen Beitler uses jellybeans and strips of colored paper to build population pyramids. Jennifer Esty teaches her anatomy students the principles of mechanical drawing to help them interpret two-dimensional drawings of three-dimensional objects. Heidi Everett-Cacopardo uses a graphing unit to illustrate the extent of the HIV/AIDS epidemic. She also introduces a mapping exercise to trace the spread of a fictional disease through the classrooms of her high school. Larissa Giordano uses graphing exercises to help her second-grade students understand the links among healthy behavior, mood and performance. Beth Klingher introduces middle-school students to the power of graphical displays to justify a point or mislead the reader. Jon Knickerbocker has his high-school students use graphical displays to understand economic and environmental data. Sheila Martin-Corbin uses graphical analysis of heart and pulse rates in a high school unit on the cardiovascular system. Nicholas Perrone involves elementary- and middle-school students in graphing activities that display the physical activity of the entire school. Nancy Schmitt uses the stock market to teach about graphing and the risks of predictions based on those graphs.

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