Forum Guide to Data Visualization: A Resource for Education Agencies

The Forum Guide to Data Visualization: A Resource for Education Agencies recommends data visualization practices to help education agencies communicate data meaning in visual formats that are accessible, accurate, and actionable for a wide range of education stakeholders. The recommendations have been customized to meet the specific needs of the education data and research communities—professionals who are engaged in interpreting data and communicating their meaning to a wide range of education stakeholders. The guide strives to

- introduce the concept of data visualization and the ways in which it can improve how education data are viewed, analyzed, communicated, and understood by a range of education stakeholders;
- describe key data visualization principles and practices that can be applied to education data; and
- explain how the data visualization process can be implemented to support effective data analysis and communication through an education agency.

Chapter 1 defines the concept of data visualization for the purposes of this document, describes how data visualization blends components of both science and art, and explains how data visualization can improve data use in the field of education. Chapter 2 illustrates how visualizing data can help analysts to identify trends, patterns, and cues in data. Chapter 3 presents four key principles and seven practical recommendations that will improve the effectiveness of any effort to visualize data for audiences who need to understand and use education data to make decisions. Chapter 4 describes a six-step process for visualizing data for both analytical and communications purposes. Using graduation rates as an example, the document’s key principles and recommendations for data visualization are implemented and illustrated. Appendices provide handout-ready summaries of the key points and citations for resources referenced in the text as well as related publications, including web materials from the National Forum on Education Statistics, the National Center for Education Statistics, and other organizations.

The Forum Guide to Data Visualization: A Resource for Education Agencies will be of interest to anyone concerned about the utility of elementary and secondary education data. More specifically, this guide is intended for staff in local, state, and federal education agencies whose responsibilities include any aspect of analyzing data or sharing data meaning with education stakeholders. This audience includes program and data staff, researchers, administrators, policymakers, and related roles associated with analyzing or presenting data for public consumption. This guide is a product of the National Forum on Education Statistics and is available on the Forum website at http://nces.ed.gov/forum/pub_2017016.asp. It should be noted that the guide focuses on the needs of the education community and does not reflect the full spectrum of data visualization strategies that may be useful in other fields.

The information and opinions published here are the product of the National Forum on Education Statistics and do not necessarily represent the policies or views of the U.S. Department of Education, Institute of Education Sciences, or the National Center for Education Statistics.