



## Forum Guide to Metadata: The Meaning Behind Education Data

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In the complex world of education data, answers to even apparently straightforward questions often depend on highly complicated and technical data. Take, for example, the “simple” question, *How many eighth grade English teachers are in your schools?* On one end of the spectrum, there may not be any full-time certified English teachers teaching an English class to only eighth-grade students in the single middle school in the district this semester. At the same time, 50 or more full- or part-time teachers may be leading reading, writing, or language classes with at least one eighth-grade student at some point during the academic year. Clearly, the “right” answer depends on the context of the question and the data being used to answer it—and metadata provide that context.

Metadata are defined as “data about data.” A well-managed metadata system ensures that the definitions, parameters, usage instructions, and history of each element are maintained in an accurate and up-to-date manner. Additionally, metadata are essential for bridging programs and databases because they provide the framework for data exchange and communication within and between organizations.

Metadata systems may not have been necessary when data sets were relatively small and simply organized. Under these circumstances, data were usually used by only a handful of people who were intimately familiar with each data element’s definition, source, uses, limitations, and technical characteristics. But the education enterprise has grown in complexity over the past decades, resulting in the seemingly exponential growth of information collected, stored, managed, used, and reported. In the field of education, as with other industries, metadata have become a necessary component of sound data systems.

The purpose of this guide is to empower people to more effectively use data as information. To accomplish this, the publication explains what metadata are; why metadata are critical to the development of sound education data systems; what components comprise a metadata system; what value metadata bring to data management and use; and how to implement and use a metadata system in an education organization. The primary audiences for this guide include technology, program, policymaking, administrative, and data staff in state and local education agencies. It may also be useful to other education stakeholders, including anyone engaged in operations or decisionmaking that depend on accurate, reliable, and timely information.

This publication is available electronically at [http://nces.ed.gov/forum/pub\\_2009805.asp](http://nces.ed.gov/forum/pub_2009805.asp). Instructions for ordering print copies are also available on the National Forum on Education Statistics website.

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