

Core Content

Cluster Title: Summarize and describe distributions.
Standard: 5. Summarize numerical data sets in relation to their context, such as by: d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.
MASTERY Patterns of Reasoning:
<p>Conceptual: Understand how the context of the data gathered may determine the measures of center and variability chosen to interpret the data. Understand how the shape of the data distribution may determine the choice of measure of center and variability. Understand that measures of center emphasize different attributes for the data set. (e.g., mean income v. median income)</p> <p>Procedural: Choose the most appropriate measure of center (mean or median) and variability (range).</p> <p>Representational: Represent a set of numerical data in order to show the shape of the data distribution (e.g. in a dot plot).</p>

Supports for Teachers

Critical Background Knowledge
<p>Conceptual: Know definitions of mean, median, and range.</p> <p>Procedural: Accurately plot a set of numerical data in a dot plot.</p> <p>Representational: Represent a set of numerical data in a dot plot (line plot).</p>
Academic Vocabulary
Context, data distribution

Instructional Strategies Used	Resources Used
<p>Expose students to data from a company. Students must choose the best measure of center for different situations (such as choosing between mean and median when showing profit or loss).</p>	<p>http://www.ohiorc.org/pm/math/richproblemmath.aspx?pmrid=62 This is a rich mathematical problem from the Ohio Resource Center which addresses all four subparts of standard 6.SP.5</p>
Assessment Tasks Used	
<p>Skill-based Task Given a data plot graph with background information, students will identify the context of the data and the measure of center used and will explain why that measure of center was chosen.</p>	<p>Problem Task: Interpret the following statement in terms of how the context of the data gathered could have influenced the shape of the data (how more music students were on the high end of the honors and awards and grades).</p> <p>“According to the National Education Longitudinal Study of 1988, music students received more academic honors and awards than non-music students. A higher percentage of music participants received As, As/Bs, and Bs than non-music participants.” <i>(Source: NELS:88 First Follow-up, 1990, National Center for Education Statistics, Washington D.C.)</i></p>