

## Data Literacies Definitions

| Term                            | Definition   | Clarification   |
|---------------------------------|--|---|
| action plan                     | a sequence of steps that must be taken, or activities that must be performed well, for a strategy to succeed. An action plan has three major elements: specific roles, timelines, and resources.                                 | An action plan for improvement serves as the guide for all staff in implementing strategies to achieve a goal. The plan will direct each staff member over a period of time and should help all staff implement strategies to improve student learning. |
| analytic approach               | any method based on breaking down a complex process into its parts so as to better understand the whole  |   |
| articulated curriculum          | curriculum that has been sequenced and aligned across grade levels (vertical alignment), classrooms (horizontal alignment), and subject areas  |   |
| assessment                      | an instrument used to collect data about and evaluate student performance  |   |
| authentic assessment            | a continuous evaluation of student learning based on pre-determined criteria, such as a rubric, that requires students to demonstrate their understanding of content or acquisition of skills in a meaningful or applied context |   |
| baseline data                   | the level of performance at the start of a data collection or process that can be used to measure change in indicators in the future.  |   |
| categorical data                | information that consists of counts or observations in specific categories rather than measurements  | Categorical data that have a meaningful order (e.g. 1-5 rating) are referred to more specifically as <i>ordinal data</i> , whereas categorical data without a meaningful order (e.g. yes-no response) are known as <i>nominal data</i> .                |
| cohort                          | a group of individuals who share a similar characteristic or experience  | For example, a student's "expected graduation year" or "cohort" is determined by adding four years to the school year in which the student enters grade nine for the first time.  |
| communication medium            | a means or method of distributing information appropriate for identified audiences   |   |
| comprehensive assessment system | a system and process for gathering, managing, analyzing and disseminating data from multiple measures to guide and inform instructional decisions.   |   |
| continuous data                 | a variable, score, or distribution that can take on any numerical value within its range   | There are two types of continuous data, interval and ratio. <ul style="list-style-type: none"> <li>• interval data has no defined zero point (e.g. temperature)</li> <li>• ratio data has a true zero</li> </ul>  |

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|                               |  | point (e.g. student assessment score)  |
| cut scores                    | selected points on the score scale of a test; used to determine whether a particular test score is sufficient for a specific purpose                                     | On the NeSA testing, a scale score that classifies a result as below, meets, or exceeds.   |
| data profile (school profile) | a comprehensive, organized set of demographic, perceptions, student learning, and school process data. A profile includes multiple years of data for determining trends. | The profile should include a collection of clear charts and graphs with succinct summary statements that will aid in an analysis of progress and needs.  |
| demographic data              | statistical characteristics of human populations (e.g. ethnicity)  | May include numbers of students at each grade level, longitudinal enrollment trends, the number of males and females, current numbers and trend data of minority students, special education and Title I membership, etc. Demographic data can also include participation information, such as enrollment patterns in elective programs and participation in extracurricular activities. |
| disaggregation                | the process of breaking down data into smaller units or sets of observations   |  |
| effect size                   | any of various measures of the magnitude or meaningfulness of a relationship between two variables   | Often effect sizes are interpreted as indicating the practical significance of a research finding.   |
| equal interval scale          | the requirement for an interval scale to have an equal distance between numbers or units over all parts of the scale.  | The difference between 1 and 2 would be equal to the difference between 19 and 20. e.g. NWEA RIT scale   |
| formative assessment          | a continuous process of evaluating student learning to make adjustments in teaching and support to meet student learning needs   | Information that can be collected and used to improve or inform progress during a learning opportunity. In contrast to summative assessment that is used to measure skill acquisition at the end of an instructional period.   |
| improvement plan              | plan(s) for organizing people, processes and systems to implement improvement strategies/interventions   | Also known as a school improvement plan or continuous improvement plan.  |
| instructional processes       | techniques and processes teachers use in learning environment  |  |
| longitudinal data             | describes data that are collected on a specific group of people over a period of time. The data are useful for understanding change over time.                           |  |
| mean                          | the numerical average of a set of scores, computed as the sum of all scores divided by the number of scores  | 1, 2, 4, 8, 10 added together = 25<br>$25 \div 5$ (number of values in the distribution) = 5<br>5 is the mean of this distribution of values   |

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| median                        | the midpoint in a distribution, that is, the score or value that divides it into two equal-sized halves  | 1, 2, 4, <u>6</u> , 8, 10, 12 ~ <b>6</b> separates the lower half of values (1, 2, and 4) from the upper half of values (8, 10, and 12)<br>2, 4, <u>10</u> , <u>14</u> , 15, 20 ~ <b>12</b> is the median; 10 and 14 separate the lower half of values from the upper half. The average of 10 + 14 is <b>12</b> |
| mission                       | succinctly defined fundamental purpose of an organization or an enterprise, that describes why it exists   |   |
| mode                          | the most frequently occurring score in a set of data   | 1, 2, 4, <u>5</u> , <u>5</u> , <u>5</u> , 6, 8, 10, 12 ~ <b>5</b> is the mode   |
| normal curve equivalent (NCE) | a way of standardizing test scores on a 0-99 scale, similar to a percentile rank, but on an equal-interval scale                                   |   |
| panel data                    | data that examine the exact same subjects on single or multiple attributes over time   | Looking at multiple years of test scores for the exact same set of students. This would include only students who had test scores in all years examined.  |
| perceptions data              | observations, opinions, beliefs, or convictions individuals have about a system or organization (e.g. school, district)                            |   |
| percentile                    | the location of a score in a distribution expressed as the percentage of cases in the data set with scores equal to or below the score in question | The 50 <sup>th</sup> percentile is the value below which 50 percent of the scores may be found.   |
| program data                  | data collected on a program that is the same from year to year   | i.e. the 7 <sup>th</sup> grade math performance in a school/district from year 1 to year 2. Programs may include instructional practices and patterns, organization, curricular and co-curricular programs, equity, safety, staffing, etc.  |
| qualitative data              | information that is not expressed numerically  | Descriptions of behavior, thoughts, attitudes, and experiences.   |
| quantitative data             | information expressed numerically  | Test scores or measurements of length or width.   |
| quality data culture          | the shared belief that good data are an integral part of teaching, learning, and managing schools  | The components of a quality data culture are accuracy, security, utility, and timeliness.   |
| range                         | difference between the highest and lowest value in a distribution of values  | <u>1</u> , 2, 4, 6, 8, 10 <u>12</u> ~ $12-1 = 11$<br>The Range is <b>11</b>   |
| raw score                     | a participant's score on a test before it is converted to other units, or another form, or subjected to quantitative or qualitative analysis       | Number of test items = 100<br>Number of items answered correctly = 72<br>Raw score = <b>72</b>  |
| reliability                   | describes stability and consistency of data between tests  | If the same test were given to a group of students twice without additional teaching, then the results would be similar.  |

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| research based strategies | refers to any concept or strategy that is derived from or informed by objective evidence consisting largely or entirely of data, academic research, or scientific findings                                 | Educators compile, analyze, and use objective evidence to inform the design of an academic program or guide the modification of instructional techniques.  |
| scale score               | a transformed version of the raw score determined by the raw score and the difficulty of the items on a specific test. Scale scores remain constant and can be compared over time.                         | A raw score is converted to a common scale score when tests have multiple versions for the purpose of comparing scores and students.   |
| school process data       | see <i>program data</i>  |  |
| snapshot data             | data collected at one specific time.   |  |
| standard deviation        | variation or dispersion from the mean (average)  | A low standard deviation indicates that the data points tend to be very close to the mean; whereas, a high standard deviation indicates that the data are spread out over a large range of values. |
| student learning data     | see <i>student performance data</i>  |  |
| summative assessment      | assessments used to evaluate learning, skill acquisition, or achievement at the conclusion of a defined instructional period   | In contrast to formative assessment that is a continuous process of evaluating student learning.   |
| trend data                | factual information, numerical or narrative, that conveys patterns or directions about student learning, instruction and/or organizational conditions over time  | This may include the exact same students year after year or those with similar characteristics.  |
| validity                  | an assessment's degree of consistency to measure what the assessment was designed to measure, such as specific content or skills   |  |
| vision                    | the desired or intended future state of an organization or enterprise in terms of its fundamental objectives relative to key, core areas that include curriculum, instruction, assessment, and environment | Includes core values and beliefs, best practice research, a core purpose, a mission for the school and support structures.   |

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