

BYU-HAWAII DATA-DRIVEN VALUE RUBRIC

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Definition

This is a "habit of mind," competency, and comfort in working with numerical data and concepts. Individuals with strong skills possess the ability to reason and solve problems from a wide array of authentic contexts and everyday life situations. They understand and can create sophisticated arguments supported by quantitative and/or data driven evidence and they can clearly communicate those arguments in a variety of formats (using words, tables, graphs, mathematical equations, etc., as appropriate).

This rubric is based on the Quantitative Literacy Value Rubric created by and with acknowledgement to



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Evaluators are encouraged to assign a zero to any work sample or collection of work that does not meet benchmark (cell one) level performance.

	Capstone 4	Milestones		
		3	2	1
Interpretation <i>Ability to explain information presented in mathematical/ data-driven forms (e.g., equations, graphs, diagrams, tables, words)</i>	Provides accurate explanations of information presented in mathematical/ data-driven forms. Makes appropriate inferences based on that information. <i>For example, accurately explains the trend data shown in a graph and makes reasonable predictions regarding what the data suggest about future events.</i>	Provides accurate explanations of information presented in mathematical/ data-driven forms. <i>For instance, accurately explains the trend data shown in a graph.</i>	Provides somewhat accurate explanations of information presented in mathematical/ data-driven forms, but occasionally makes minor errors related to computations or units. <i>For instance, accurately explains trend data shown in a graph, but may miscalculate the slope of the trend line.</i>	Attempts to explain information presented in mathematical/ data-driven forms, but draws incorrect conclusions about what the information means. <i>For example, attempts to explain the trend data shown in a graph, but will frequently misinterpret the nature of that trend, perhaps by confusing positive and negative trends.</i>
Representation <i>Ability to convert relevant information into various mathematical forms (e.g., equations, graphs, diagrams, tables, words)</i>	Skillfully converts relevant information into an insightful mathematical/ data-driven portrayal in a way that contributes to a further or deeper understanding.	Competently converts relevant information into an appropriate and desired mathematical/ data-driven portrayal.	Completes conversion of information but resulting mathematical/ data-driven portrayal is only partially appropriate or accurate.	Completes conversion of information but resulting mathematical/ data-driven portrayal is inappropriate or inaccurate.
Calculation/Description	Calculations/Descriptions attempted are essentially all successful and sufficiently comprehensive to solve the problem. Calculations/Descriptions are also presented elegantly (clearly, concisely, etc.)	Calculations/Descriptions attempted are essentially all successful and sufficiently comprehensive to solve the problem.	Calculations/Descriptions attempted are either unsuccessful or represent only a portion of the calculations/Descriptions required to comprehensively solve the problem.	Calculations/Descriptions are attempted but are both unsuccessful and are not comprehensive.
Application / Analysis <i>Ability to make judgments and draw appropriate conclusions based on the quantitative/ data-driven analysis of data, while recognizing the limits of this analysis</i>	Uses the quantitative/ data-driven analysis of data as the basis for deep and thoughtful judgments, drawing insightful, carefully qualified conclusions from this work.	Uses the quantitative/ data-driven analysis of data as the basis for competent judgments, drawing reasonable and appropriately qualified conclusions from this work.	Uses the quantitative/ data-driven analysis of data as the basis for workmanlike (without inspiration or nuance, ordinary) judgments, drawing plausible conclusions from this work.	Uses the quantitative/ data-driven analysis of data as the basis for tentative, basic judgments, although is hesitant or uncertain about drawing conclusions from this work.

	Capstone 4	Milestones		
		3	2	1
Assumptions <i>Ability to make and evaluate important assumptions in estimation, modeling, and data analysis</i>	Explicitly describes assumptions and provides compelling rationale for why each assumption is appropriate. Shows awareness that confidence in final conclusions is limited by the accuracy of the assumptions.	Explicitly describes assumptions and provides compelling rationale for why assumptions are appropriate.	Explicitly describes assumptions.	Attempts to describe assumptions.
Communication <i>Expressing quantitative evidence in support of the argument or purpose of the work (in terms of what evidence is used and how it is formatted, presented, and contextualized)</i>	Uses quantitative/data-driven information in connection with the argument or purpose of the work, presents it in an effective format, and explicates it with consistently high quality.	Uses quantitative/data-driven information in connection with the argument or purpose of the work, though data may be presented in a less than completely effective format or some parts of the explication may be uneven.	Uses quantitative/data-driven information, but does not effectively connect it to the argument or purpose of the work.	Presents an argument for which quantitative/data-driven evidence is pertinent, but does not provide adequate explicit numerical/data-driven support.