QUANTITATIVE LITERACY VALUE RUBRIC 2.0

For more information, please contact value@aacu.org

Definition

The creation of this VALUE rubric was informed by AAC&U's collaboration with the National Numeracy Network and the robust scholarly literature that explores the concept of quantitative literacy (QL). Our definition of QL is most influenced by Karaali et al. (2016), who argued that QL consists of four components: (1) an ability or habit of mind (2) grounded in the domain of numerical information (3) where students can analyze or use that information (4) within a particular real-world context. With these components in mind, we define Quantitative Literacy—sometimes referred to as Numeracy or Quantitative Reasoning—as follows:

"The skills needed to represent, analyze, and draw conclusions from quantitative information in meaningful, real-world contexts."

Framing Language: Quantitative Literacy Across the Disciplines

Current trends in higher education demonstrate that faculty are recognizing the steadily growing importance of Quantitative Literacy (QL) in an increasingly quantitative and data-dense world. AAC&U's recent surveys (2021, 2023, 2025) have shown that concerns about QL skills are shared by employers, who recognize that many of today's students will need a wide range of high-level quantitative skills to complete their work responsibilities. Virtually all of today's students, regardless of career choice, will need the ability to analyze and draw conclusions from numerical information.

This rubric captures the multifaceted nature of QL, describing it in terms of five dimensions of performance. It is intended for the assessment of student work samples from a variety of disciplines and was designed to be as content-agnostic as possible. It can be used to evaluate single work samples or collections of student work in a variety of formats (e.g., written papers, video presentations). The team that created this revised version of the rubric hope that it will aid in the assessment of QL as a learning outcome as well as support institutions and individuals in the effort to more thoroughly embed QL across the curriculum in higher education.

Key Terms

The key terms and descriptions that follow were developed to clarify the language used within this rubric only.

- **Analysis**: The act of examining something to discover more about it (e.g., the analysis of data).
- **Assumption**: An assertion that one believes to be true.
- **Conclusion**: A reasoned judgment made after conducting an analysis.
- **Consistent (with)**: Compatible or in agreement with
- **Contexts:** Contexts may include (but are not limited to) practical, disciplinary, sociopolitical, ethical, and/or societal considerations as well as one's own position/role in the interpretive process.
- **Implication**: The effect or impact that a conclusion can have.
- **Insight**: A clear, deep understanding of a question or problem.
- **Meaningful**: Significant, consequential
- **Reasonable**: Based on sound judgment; fair
- **Relevant**: Pertinent; appropriately connected to the problem at hand
- **Results**: The outputs of the analysis or analyses.
- **Tools and Technologies:** Typically used to analyze data and may include (but are not limited to) equations, theories, algorithms, calculators, procedures, software, research databases, and artificial intelligence.

This work is licensed under a CC BY-NC-SA 4.0 International License.

QUANTITATIVE LITERACY VALUE RUBRIC 2.0

For more information, please contact value@aacu.org

*Evaluators are encouraged to **assign a zero to any dimension when there is no evidence** of the performance descriptors in the student work.*

	Capstone 4	Milestones 3	 2	Benchmark 1
Context *Identifies information that is contained in or surrounds a quantitative question or problem and that connects it to real-world circumstances or contexts, influencing how quantities can or should be interpreted.*	Identifies information that **clearly** connects the quantitative question or problem to real-world circumstances. **Additionally, incorporates that information in a meaningful way** when interpreting quantities.	Identifies information that **clearly** connects the quantitative question or problem to real-world circumstances**.** **Additionally, acknowledges that the information can influence how quantities are interpreted.**	Identifies information that **clearly** connects the quantitative question or problem to real-world circumstances.	Identifies information that connects the quantitative question or problem to real-world circumstances in a **basic or limited way.**
Representation *Accurately converts quantitative information into alternative forms (e.g., equations, words, graphs, diagrams, tables) that provide deeper insight and/or enable subsequent analysis.*	**Accurately** converts **relevant** quantitative information into one or more alternative forms. **Additionally, identifies how** the alternative form(s) **provide deeper insight and/or enable subsequent analysis.**	**Accurately** converts **relevant** quantitative information into one or more alternative forms **that provide deeper insight and/or enable subsequent analysis.**	**Accurately** converts **relevant** quantitative information into alternative forms that maintain the representation **without enabling new insights**.	**Attempts** to convert quantitative information into an alternative form.
Analysis Using Tools and/or Technologies *Completes an analysis using tools and/or technologies that are reasonable for the work being performed.*	**Effectively** completes analysis using tools and/or technologies that are **reasonable** for the analysis. **Additionally, explains the suitability** of the tools and technologies chosen for the work being performed.	**Effectively** completes analysis using tools and/or technologies that are **reasonable** for the analysis.	**Attempts** to complete analysis using tools and/or technologies that are **reasonable** for the analysis.	**Attempts** to complete analysis using tools and/or technologies that are **unreasonable or incompatible** with the analysis.
Conclusions *Draws conclusions that are consistent with the results of the analysis presented. Acknowledges any assumptions that were made and describes the ways these assumptions may limit the conclusions drawn.*	Draws conclusions that are **clearly consistent with** the results of the analysis presented. **Additionally, acknowledges assumptions or limitations** and **describes the ways they may limit the applicability** of the conclusions drawn.	Draws conclusions that are **clearly consistent with** the results of the analysis presented.	Draws conclusions that are **mostly consistent with** the results of the analysis presented.	Draws conclusions that are **inconsistent with** or **not supported by** the results of the analysis presented.
Insights or Implications *Connects conclusions to meaningful insights or implications within real-world circumstances or contexts.*	Connects conclusions to **relevant** insights or implications. **Additionally, connects insights or implications to the context** of the analysis presented or beyond.	Connects conclusions to **relevant** insights or implications.	Connects conclusions to **general or surface-level** insights or implications.	**Restates** conclusions as insights or implications.

This work is licensed under a CC BY-NC-SA 4.0 International License.