



## ANALYTICAL THINKING

*The ability to reason, interpret, analyze, and solve problems from a wide array of authentic contexts.*

### Notes Regarding the Selection of Artifacts or Application of Rubric:

This rubric addresses the **products** of analysis and inquiry, not the **processes** themselves. The complexity of inquiry and analysis tasks is determined in part by how much information or guidance is provided to a student and how much the student constructs. The more the student constructs, the more complex the inquiry process. For this reason, while the rubric can be used if the assignments or purposes for work are unknown, it will work most effectively when those are known.

### Glossary

- **Conclusions:** A synthesis of key findings drawn from research/evidence.
- **Limitations:** Critique of the process or evidence.
- **Implications:** How inquiry results apply to a larger context or the real world.

SLOs:	Advanced (4)	Above Average (3)	Proficient (2)	Beginner (1)
<b>Express and manipulate quantitative information, concepts, and thoughts in verbal, numeric, graphical, computational, and symbolic forms.</b>	Skillfully converts relevant information into an insightful mathematical portrayal in a way that contributes to a further or deeper understanding.	Competently converts relevant information into an appropriate and desired mathematical portrayal.	Completes conversion of information but resulting mathematical portrayal is only partially appropriate or accurate.	Completes conversion of information but resulting mathematical portrayal is inappropriate or inaccurate.
<b>Identify and apply appropriate methodology or theoretical frameworks to inquiry.</b>	All elements of the methodology or theoretical framework are skillfully developed. Appropriate methodology or theoretical frameworks may be synthesized from across disciplines or from relevant subdisciplines.	Critical elements of the methodology or theoretical framework are appropriately developed; however more subtle elements are underdeveloped or unaccounted for.	Critical elements of the methodology or theoretical framework are missing, incorrectly developed, or unfocused.	Inquiry design demonstrates a misunderstanding of the methodology or theoretical framework.
<b>Organize and synthesize evidence to reveal insightful patterns, differences, or similarities.</b>	Organizes and synthesizes evidence to reveal insightful patterns, differences, or similarities related to focus.	Organizes evidence to reveal important patterns, differences, or similarities related to focus.	Organizes evidence, but the organization is not effective in revealing important patterns, differences, or similarities.	Lists evidence, but it is not organized and/or is unrelated to focus.
<b>Support, evaluate, and communication conclusions based on quantitative or qualitative data.</b>	States a conclusion that is a logical extrapolation from the inquiry findings. Insightfully discusses in detail relevant and supported limitations and implications.	States a conclusion focused solely on the inquiry findings. The conclusion arises specifically from and responds specifically to the inquiry findings. Discusses relevant and supported limitations and implications.	States a general conclusion that, because it is so general, also applies beyond the scope of inquiry findings. Presents relevant and supported limitations and implications.	States an ambiguous, illogical, or unsupported conclusion from inquiry findings. Presents limitations and implications, but they are possibly irrelevant and unsupported.

*This rubric is adapted from the AAC&U's VALUE rubrics for **Quantitative Literacy and Inquiry & Analysis**.*