Through the Roof: Raising Students' Thinking Skills through Depth & Complexity

with Lisa Van Gemert
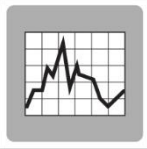
What is Depth & Complexity?

→ a _____ for academic exploration
→ uses common _____ and a set of universally agreed-upon _____
→ guide scholarly endeavor _____ content areas, grade levels, & standards
→ We are not teaching about _____. We are teaching about _____.
→ We are looking through a lens that _____.

A Brief Tour of the Elements of the Framework [the four left columns used by permission of jtayloreducation]

Element	Icon	Questions	Terms	Examples
Language of the Discipline		What vocabulary terms are specific to the content or discipline?	Tools Jargon Icons Acronyms Special phrases Terms Slang Abbreviations	Create a brochure advertising the literary element[s] the author uses to best effect.
Details		What are the defining features or characteristics? Find examples and evidence to support opinions and ideas.	Parts Factors Attributes Variables Distinguishing Traits	Illustrate how ___ would change if we ____. Use a graphic organizer to share the evidence that __.
Patterns		What elements reoccur? What is the sequence or order of events? Make predictions based on past events.	Predictability Repetition	With a partner, design a 20 Questions game that reveals the pattern of ___.
Rules		What structure underlies this subject? What guidelines or regulations affect it? What hierarchy or ordering principle is at work?	Structure Order Reasons Organization Explanation Classification "Because…"	Using a Bracket Map, organize the ____ into four classification categories. Match the characters in the story to at least three conflict types.

Trends		Note factors (Social Economic, Political, Geographic) that cause events to occur. Identify patterns of change over time	Influence Forces Direction Course of Action Compare, Contrast and Forecast	Write a brief explaining to the president the social and political influences that led to the Civil War.
Unanswered Questions		What information is unclear, missing, or unavailable? What evidence do you need? What has not yet been proven?	Missing Parts Incomplete Ideas Discrepancies Unresolved issues Ambiguity	Describe three factors that make this problem ambiguous. How can you explain the discrepancy between your hypothesis and your result?
Ethics		What moral principles are involved in this subject? What controversies exist? What arguments could emerge from a study of this topic?	Values Morals Pro and Con Bias Discrimination Prejudice Judging Differing Opinions Point of View Right and Wrong Wisdom	Justify why it would/would not be fair to ___? Analyze the benefit in ____ and write a persuasive essay sharing your analysis. How did the previous experience of ___ impact the attitude of ___?
Big Ideas		What theory or general statement applies to these ideas? How do these ideas relate to broad concepts such as change, systems, chaos vs. order, etc? What is the main idea?	Draw conclusions based on evidence Make generalizations Summarize Theory Principle Main Idea	Create a poster displaying your analysis of which era of history can be summed up "purification of government and family." Share how the idea "matter cannot be created or destroyed" applies to this situation in a photo essay.
COMPLEXITY				
Changes over Time		How are elements related in terms of the past, present, and future? How and why do things change? What doesn't change?	Connecting points in time Examining a time period Compare and Contrast	Make a news segment explaining in what way the water cycle is different now than it was one million years ago.
Multiple Perspectives		How would others see the situation differently?	Different roles and knowledge Opposing viewpoints	Create a frame summarizing the perspectives of everyone in your group with regard to ____.
Across the Disciplines		Relate the area of study to other subjects within, between, and across disciplines.	Connect Associate Integrate Lind Ideas Cross-Curricular study	How did trends in poetry and art both reflect and inform changing mores in WWI-era Europe?

Notes:

Best Practices:

- → Combine the elements with high levels of _____.
- → Combine the elements with a quality _____.
- → Raise the level for GT with _____.
- → Avoid doing the Sherman _____ through _____ thing.

Keep Exploring:

Intro to depth & complexity: **bit.ly/depth-complex-byrd**
More resources: **bit.ly/depth-complex-more**.
But wait! There's more! **depthandcomplexity.wikispaces.com**.
And then of course there's this **bit.ly/depth-complex-math** for the math peeps.

Depth: Language of the discipline, big idea, essential details, rules, patterns, trends, unanswered questions, ethics: **bit.ly/elements-of-depth**.

Complexity: Change over time, multiple points of view, across the disciplines. **bit.ly/depth-complex2**.

Introduction slide deck: **bit.ly/intro-depth-complex**. Ugly, but comprehensive and with good techniques in the classroom.