Dimensions of Depth and Complexity

By Language Services and Student Programs
Great ideas need landing gear as well as wings
Developing appropriately challenging curriculum for all students

- Clear focus
- Providing opportunities for in-depth learning
- Organized
- Coherent
- Engaging
- Using old learning with new one
- Joyful/satisfying
- Choices
- Meaningful collaboration

- Products that matter
- Connections with real life
- Fresh
- Real, purposeful
- Rich
- Profound
- Problem solving
- Setting goals
- Stretches the student
The Power of the Teacher as Curriculum Decision Maker

• The teacher has the power to:
  • Differentiate content
  • Differentiate process
  • Differentiate product
Dimensions of Depth and Complexity

- The following icons are designed to facilitate the understanding of depth and complexity within content at different levels of sophistication.
- These icons should be introduced one at a time.
- Once various dimensions are learned by the students, the icons can be combined to extend the depth of their learning.
Looking at Depth:
- Specialized vocabulary
- Skills and tasks specific to the discipline
- Tools used
- Benefit to society

Key Questions
- What terms or words are specific to the work of the _____(disciplinarian)?
- What tools does the ___(disciplinarian) use?

Examples
- Describe the causes and effects of a historical event using the language of a sociologist, such as a group organization, group interaction, and group socioeconomic factors. (Social Studies)
Looking at Depth:
- Elaboration
- Identify attributes
- Parts
- Factors

Key Questions
- What are its attributes?
- What features characterize this?
- What specific elements define this?
- What distinguishes this from other things?

Examples
- Describe the many and varied details that relate to this event in History. (Social Studies)
- State the details affecting the operations needed to solve this problem. (Math)
Patterns

Looking at Depth:
- Identify reoccurring elements or events
- Determine the order of events
- Predict what comes next

Key Questions
- What are the recurring events?
- What elements, events, ideas, are expected overtime?
- What was the order of events?
- How can we predict what will come next?

Examples
- Describe the patterns of erosion. (Science)
- Provide evidence to substantiate the pattern(s) of the characters’ behaviors. (Language Arts)
Looking at Depth:

- Note factors that cause events to occur
  - Social
  - Political
  - Economic
  - Geographic
- Identify patterns of change over time

Key Questions

- What ongoing factors have influenced this study?
- What factors have contributed to this study?

Examples

- Describe the changes in communication over time.
- Identify trends in the characters’ behaviors.
Unanswered Questions

Looking at Depth:
- Identify unclear ideas or missing information
- Discuss areas yet to be explored or proven
- Note conclusions that need further evidence or support

Key Questions
- What is still not understood about this area/topic/study/discipline?
- What is yet unknown about this area/logic/discipline?
- In what ways is the information incomplete or lacking in explanation?

Examples
- Is global warming fact or fiction?
- Is war the solution for peace?
Looking at Depth:
- State the explicit or implicit factors that govern an area of study
- The structure
- The order
- The hierarchy
- The elements that set the standards

Key Questions
- How is this structured?
- What are the stated and unstated causes related to the description or explanation of what we are studying?

Examples
- Describe the implicit and explicit rules of the water cycle. (Science)
- Define the consequences of the intended and unintended rules governing the behavior of the major characters. (Language Arts)
Looking at Depth:
- Identify value laden ideas
- Determine elements that reflect bias, prejudice, and discrimination
- State pro and con arguments in terms of ethics

Key Questions
- What dilemmas or controversies are involved in this area/topic/study/discipline?
- What elements can be identified that reflect bias, prejudice, and discrimination?

Examples
- How those the ethics of the character define who he is?
- Explore the rules (if any) that media follows to get a story?
Looking at Depth:

- Identify a rule or general statement that summarizes information or draws a conclusion based on evidence drawn from a collection of facts or ideas.

Key Questions

- What overarching statement best describes what is being studied?
- What general statement includes what is being studied?

Examples

- Define the meaning of the statement “change is inevitable” by studying changes in the environment, government, and portrayal of a character in a story.
Looking at Complexity:
- Describe relationships between past, present and future
- Describe relationships within a time period
- Explain how or why things changed or remained the same

Key Questions
- How are the ideas related between the past, present, future?
- How are these ideas related within or during a particular time period?
- How has time affected the information?
- How and why do things change or remain the same?

Examples
- Compare changes in life styles from the time of your parents’ teenage years to the teenagers of today.
- Make a timeline of the history of the United States.
Looking at Complexity:
- Discuss multiple perspectives related to an area of study
- Explore opposing viewpoints (pros & cons)
- Reflect on advantages of diversity within a society

Key Questions
- What are the opposing viewpoints?
- How do different people and characters see this event or situation?

Examples
- Analyze the pros and cons of sweet drinks being sold at school.
- What are mathematicians’ viewpoints on the metric system versus the standard system of measurement?
Looking at Complexity:
- Relate/integrate the area of study to include the methodology of other disciplines.
- Describe a topic’s place in more than one discipline or subject area.

Key Questions
- How do experts in a discipline learn from experts in other disciplines?
- How do different people and characters see this event or situation?

Examples
- How is human behavior expressed through music and history?
- How has history affected art over time?
- How has technology affected literature?
Applications of these dimensions to the content of a lesson or unit of study modify the content to more appropriately challenge gifted and advanced students to develop a deeper, more complex, and extensive understanding of subject matter.

(Educator to Educator 2003)