

# Dualism

Belief about Knowledge	Teacher Role	Valued Critical Thinking	Success in Learning
Everything is known; all legitimate questions can be answered	To dispense known information	Memorization, information retrieval	Absorbing and reciting as much as possible

## Teacher Tools to Transition from Dualism to Multiplicity:

### **Exposure to Multiple Opinions About a Subject or Issue—Introduce Ambiguity**

Example: Escaping Dualism

- Historical examples of beliefs about chemistry that were once considered “truth” that aren’t true any more.
- Exposure to consider unsolved contemporary problems, such as whether rain is becoming increasingly acidic, causing environmental change.
- Comparing two points of view using primary resources.

# Multiplicity

Belief about Knowledge	Teacher Role	Valued Critical Thinking	Success in Learning
Most questions are answered, although some important questions are not answered	Knows the right answer or the ‘right’ opinion	<ul style="list-style-type: none"> <li>• Unbridled speculation, hypothesis posing, debate</li> <li>• Form without substance</li> <li>• Some use of evidence/one sided</li> </ul>	Figuring out and repeating the teacher’s position

## **Personal Truth—With Two Realities:**

1. **One, where authority provides correct answers**
2. **Second, where, absent such answers, each person’s answer is fully valid for him/her**

## Teacher Tools to Transition from Multiplicity to Contextual Relativism:

### **Exposure to Multiple Paradigms of Thought — Exposure to Multiple Theories About a Subject or Issue — Different Methods for Analyzing Arguments— Introduce to criteria and explain the means to get there**

Examples:

- When historical accounts of the same event differ, how can you tell which to believe?
- How does the Newberry committee choose a ‘best’ novel from among many excellent novels?
- Which solution to the math problem is the efficient? The most interesting? The most elegant?



# Dialectic

Belief about Knowledge	Teacher Role	Valued Critical Thinking	Success in Learning
Wisdom requires a personal commitment to unraveling complexity	Mentors and companions in the search for helpful paradigms.	Comparison and thoughtful selection of paradigms.	Flexibility when considering problems.
Complexity is preferable (although not easier) than simplistic answers.	Models of the personal search for values associated with paradigms of through	Question formulation.  Values in the discipline	Ability to describe different perspectives and defend one's personal position and belief.  Seeing the limitations of specific paradigms.

## Dialectic: Responsible Knowing

Students know that problems can be approached from *diverse frameworks* and can describe the *advantages* of different frameworks, *address tradeoffs*, and explain *why they support (believe in) a particular approach*

## Dialectic/Commitment: Comparing, Selecting and Integrating Perspectives

- Comparing paradigms and deciding which approach to use
- Cross disciplinary comparisons: What is similar about physics and literature? What does each have to say?
- Discuss the core values of the area you're studying: How selecting a field of study reflects your own values?

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# Summary

- Each stage represents a **QUALITATIVE SHIFT** in views of knowledge
- The mismatch between stage and instructional approach can be: frustrating, debilitating, or disillusioning
- Griffith (1985) found that the 'average' stage for 9th grade students was Dualism, and by 12th grade most students had reached multiplicity

## Encouraging Transitions:

- From Dualism to Multiplicity: Comparing multiple opinions—What do different people think?
- From Multiplicity to Contextual Relativism: Comparing multiple perspectives—How do different people analyze?

## Implications for Middle School:

- Middle school is PIVOTAL
- Gifted students are in a QUALITATIVELY DIFFERENT Phase than standard students
- Differentiation should follow this Scheme:
  1. Emphasis on moving from opinion to discipline-based reasoning
  2. Introducing theories, how they are constructed, compared and defended