



Designed to Fit:

Educational Needs of Gifted Adolescents, Part 2: Ways of Knowing

Shelagh A. Gallagher, Ph.D.
Engaged Education
sgallagher5@carolina.rr.com



Curriculum as **JAZZ**



Lost in the Translation

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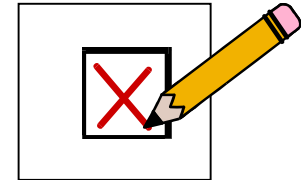
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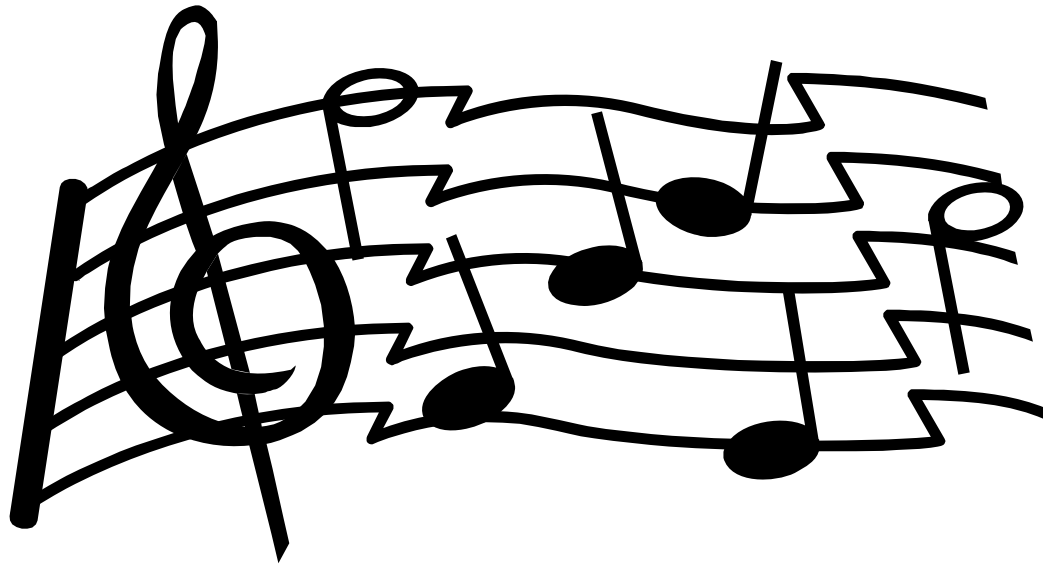
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STUDENTS ARE FULL PARTNERS IN OUR EFFORTS TO CULTIVATE WISDOM THROUGH KNOWLEDGE.

David Finster, Wittenberg University



WHO Contributes to the Melody?





DUALISM

- See critical thinking as remembering answers and using rules to find right answers

Dualism

Belief about Knowledge

Teachers Role

**Valued
Critical
Thinking**

Success in Learning

Everything is known, all legitimate questions can be answered

To dispense known information

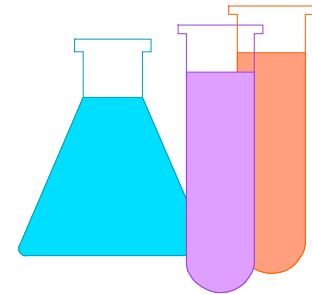
Memorization, information retrieval

Absorbing and reciting as much as possible



Example: Biology

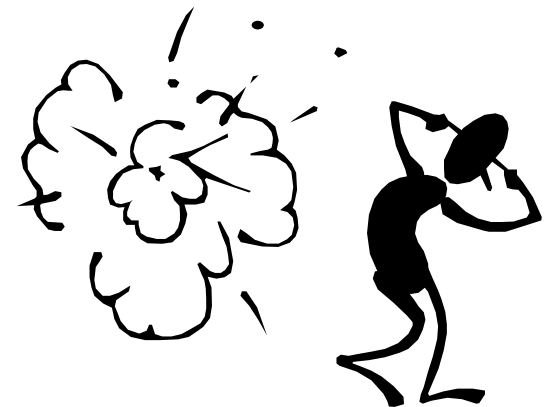
A teacher of biology asked students to read an article that described the evidence for the theory of evolution and then presented a fundamentalist Christian critique of that evidence. The students were then asked to write a short essay in which they expressed an opinion about the issue, indicated whether they thought that their opinion could be “right or wrong,” and explained why scientists might have different views on the issue.



Example: Chemistry

- **Historical examples of beliefs about chemistry that were once considered “facts” but are currently seen as errors.**
- **Ask students to consider contemporary scientific problems, such as whether rain is becoming increasingly acidic, causing environmental damage (reliability /validity, what and how one knows in science) .**

(Finster, 1992)



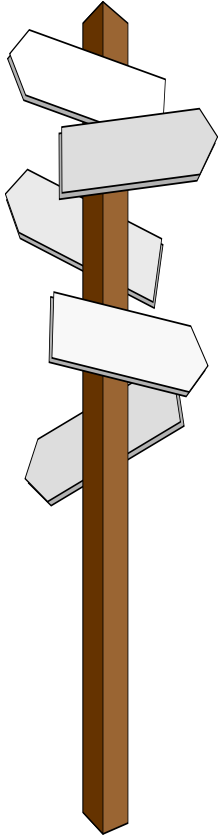
MULTIPLICITY

Personal truth



- Divide reality into two realms, one where authority provides correct answers and a second where, absent such answers, each person's answer is fully valid for him/her

Multiplicity



Belief about Knowledge

Most questions are answered, although there are some that are unanswered

Teachers Role

Knows right answer or provides ‘right’ opinion

Grades for ‘good expression’

Valued Critical Thinking

Unbridled speculation hypothesis posing

Form without substance

Some use of evidence

Success in Learning

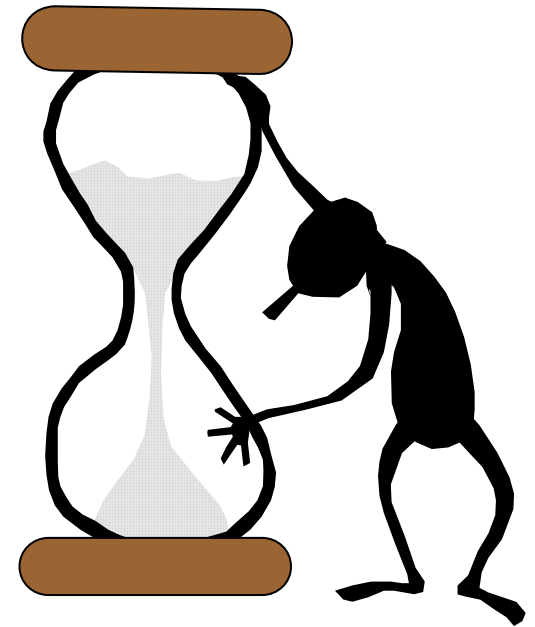
Figuring out what the teachers position and repeating it.

...from “Ignorant Certainty” to “Intelligent Confusion”

Example: History

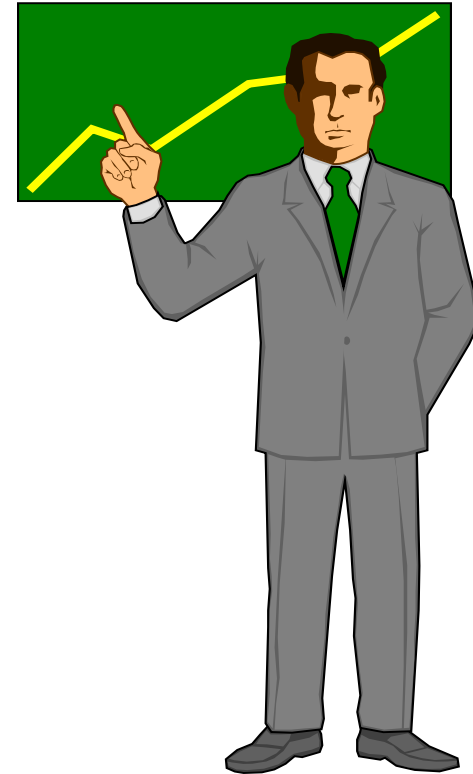
- About contrasting accounts of the battle of Ap Bac (Vietnam)
- When historical accounts of the same event differ, can you believe one of the accounts more than another?
- Is either of these accounts more likely to be true?

(Kroll, 1990)



Example: Economics/Math

There has been considerable debate over the current size of the federal debt. Some economists and government officials claim that a large federal debt is damaging the economy. Others argue that the economy cannot be improved by reducing the federal debt.

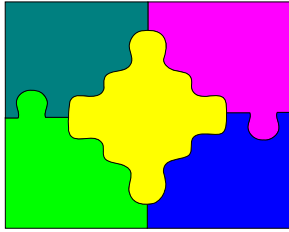


CONTEXTUAL RELATIVISM

Decisions within disciplines

- Students understand the criteria and evidence used within a field to select preferable theories





Contextual Relativism

Belief about Knowledge

Knowledge is contextual and subjective as is it is filtered through perception and judgment.

Only interpretations of evidence, events, etc are known.

Teachers Role

To show how different disciplines approach uncertain questions:

The structure of the discipline.

Valued Critical Thinking

**Tools of the discipline:
Logical consistency,
Error analysis,
Agreement with data
Advanced comparisons**

Success in Learning

Building defensible arguments using the tools of the discipline

What is the Structure of Your Discipline?

What are the Essential Questions?

What are the tools you use to answer the Essential Questions?

What criteria do you use to judge better/worse answers to the Essential Questions?

Intellectual Standards

- Precision
- Breadth
- Depth
- Power
- Clarity
- Consistency
- Logical
- Complete
- Fair
- Elegance
- Parsimony
- Fecundity



The Fundamental Task of Sophisticated Thinking:

The Comparison of Human Generated Ideas

Tasks for Contextual Relativism

- Teach students structure of the discipline, skills, answers, rules
- Ask for understanding instead of belief-- emulate contrasting approaches
- Help students realize that what works in one discipline doesn't necessarily work in another
- THEN, push the envelope...

What is a ‘Discipline?’

Psychology:

Child Development

Freudian Analyst

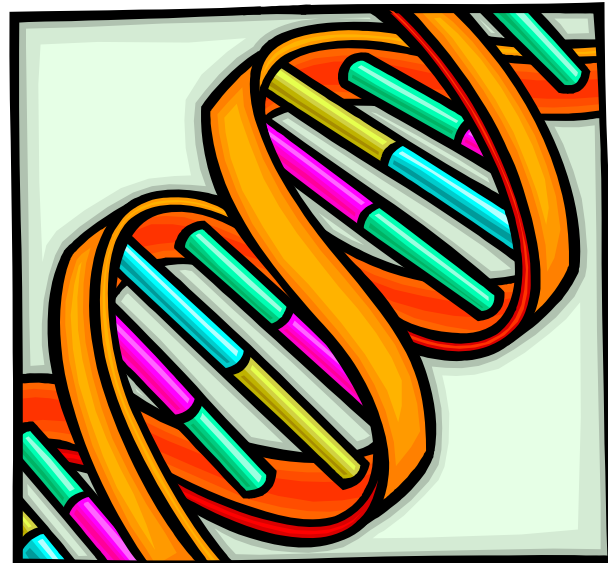
Drug Research

Human Relations

Social Psychology

Here's what you study:
molecular structures of DNA
What's your discipline?

molecular biology
genetics
biochemistry
quantum mechanics

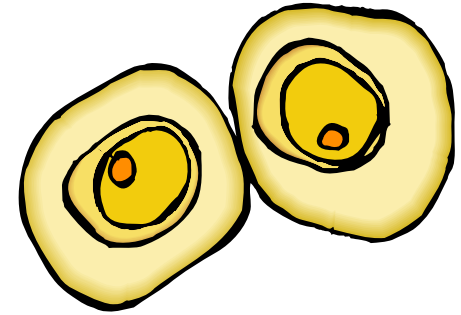


The Forces of Knowledge Growth

Centripetal forces: digging inward

Centrifugal forces: propel discipline outwards

Explanations of Disciplinary Permeation



- **relations with neighboring disciplines**
- **pull of powerful or fashionable new tools, methods, concepts and theories**
- **the pull of problem-solving over strictly disciplinary focus**
- **the complexifying of disciplinary research**
- **redefinition of what is considered intrinsic and extrinsic to discipline**

(Klein, 1993, p. 185)

DIALECTIC

Responsible knowing

- Students know that problems can be approached from diverse frameworks and can delineate the advantages of various frameworks, address tradeoffs, and articulate why they advocate a particular approach

Dialectic

Belief about Knowledge

Knowing requires a personal commitment to unraveling complexity

Complexity is preferable (although not easier) than simplistic answers

Teachers Role

Mentors and companions in the search for helpful paradigms

Models of the personal search for values associated with paradigms of thought

Valued Critical Thinking

Comparison and thoughtful selection of paradigms

Question formulation

Values in the discipline

Success in Learning

Flexibility in looking at problems

Ability to describe different perspectives and defend one personal position and belief.

Seeing limitations of specific paradigms



Dialectic: Comparing, Selecting and Integrating Tunes

- Entry point for intellectual empathy and values
- From teacher games to ownership
 - comparing paradigms and deciding which one to use when
 - cross disciplinary comparisons
 - answer what are the core values of the area you're studying? How does majoring in this area reflect your own values? What conflict is there between your values and the disciplines and how do you see those conflicts play out over the next few years?

Dialectic: Entry point for intellectual empathy

- **Dualism: Threatening**
- **Multiplicity: Unlimited Tolerance--irritating**
- **Contextual Relativity: Unlimited Tolerance--dangerous**
- **Dialectic: Selective Tolerance and commitment**

Intellectual Virtues

- Courage
- Independence
- Insight into egocentricity/ sociocentricity
- Humility
- Integrity
- Perseverance
- Confidence in reason
- Suspending Disbelief

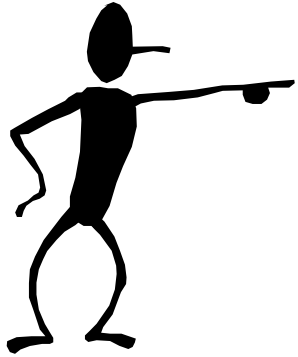
From Teacher Games to Ownership

**comparing paradigms and deciding which one to
use when**

cross disciplinary comparisons

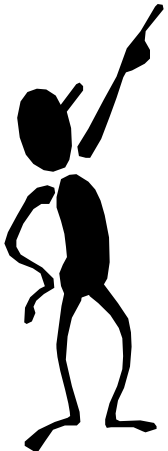
address questions of commitment

- What are the core values of the area you're studying?
- How does majoring in this area reflect your own values?
- What conflict is there between your values and the disciplines and how do you see those conflicts play out over the next few years?



Important Points

- **Developmental**
- **Invariable Sequence**
- **Speed of progress differs based on subject, background, and other factors**



Caution!

- **Mismatch between stage and instructional approach can be:**
 - **frustrating**
 - **debilitating**
 - **disillusioning.**



Griffith (1985) In a study of high school students across four different schools found that the ‘average’ stage for 9th grade students was Dualism, that 10th grade students were in transition from Dualism to Multiplicity, and that by 12th grade most students had reached the stage of Multiplicity.

Goldberger (1981) anecdotally estimated that freshmen entering the Simon’s Rock early entrance program could be categorized as 20% Dualists and 60-70% Multiplicity.

Henderson observed that among her Freshman English students, those who had taken AP English were most challenged to meet advanced standards of the discipline and were most likely to see writing as a mechanistic event.

Murphy and Gilligan (1979) in a study of 56 Harvard/Radcliffe undergraduates found that most 19 year olds had reached the stage of Multiplicity.

Wilkinson and Schwartz (1987) assessed 19 gifted students, aged 12-15 years, according to the Perry scheme and found that 11 students were relativistic and 5 were dualistic (three students were borderline and could not be classified).

Point Well Taken: Undergraduate Honors Students

These students often experience significant disequilibria (the “imposter’s syndrome”) as they encounter educational practices designed to elicit higher levels of reflective thinking. Because they have been rewarded for thinking concretely, they are likely to require special nurturing; they have progressed through the educational system receiving high grades and recognition by giving the “right” answers and remembering details.

- First, understand the ‘tune’ of your discipline
- Second, understand shared ‘themes’
- Third, borrow instruments
- Fourth, create a new combo

Example: Practice Perspective Taking

Evaluate contrasting perspectives such as the following:

Pre-Civil War slavery law from the perspectives of abolitionist and states' right activist

US involvement in Vietnam from the perspectives of the Vietnamese, the French, the US military, and American peace activist

Food-labeling proposals from the perspectives of food manufacturers and nutritionists.

