Reasoning Skills

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Objectives

- Student cycle for development of reasoning skills

- Planning for the cycle of reasoning skills

- Reasoning Skills
  - Analogies
  - Reasoning and relevancy
  - Statement and source evaluation
  - Questioning

- Integration of skills into content areas

Reasoning Skills

- Students need:
  - Explicit, step-by-step instruction of new skill
  - Modeling of skill in content areas
  - Time to practice new skill
  - Application of skill to real-world
  - Continuum of practice through the years
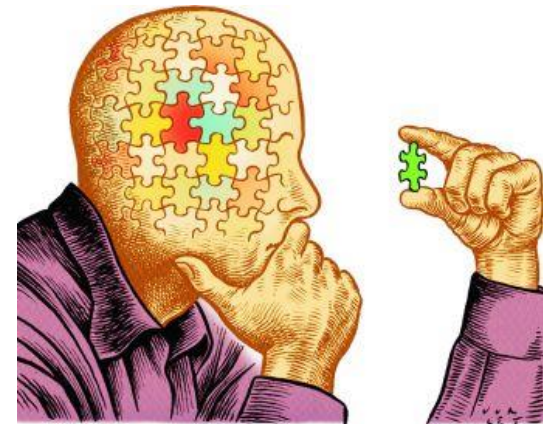
During PLCs

- Teachers could:
  - Research and develop a list of reasoning strategies
  - Plan which strategies to teach each year
  - Plan PD on how to model different strategies
  - Plan vertically and horizontally so that a continuum occurs
  - Include real-world applications in lesson plans

Reasoning Skills

Reasoning Skill: Analogies

- Using a relationship that is known to apply to something new.

    - A brother is, by definition, a sibling.
    - A _____is, by definition, a _____.

    - A characteristic of an anarchist is to oppose government.
    - A characteristic of a _____ is to oppose _____.

    https://www.englishforeveryone.org/Topics/Analogies.htm

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Integration into Content

- Reading and Writing
  - Similes, metaphors, hyperbole

- Math
  - Algebra and patterns
  - Function tables

- Science
  - Cause and effect

- Social studies/history
  - Fact and opinion

- Using graphic organizers supports analogical reasoning

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Reasoning Skill : Relevant or Irrelevant Information

Explicit teaching

- What is the problem that needs to be solved?
- What is the question that needs to be answered?
- Does the information from each sentence support or not support finding an answer?
  - If the sentence is changed into a question, do the other sentences support an answer?
  - What is the purpose of the sentence?
  - Does the sentence contain information that is not needed?

Integration into Content

- Annotation/text marking/close read strategy

- Graphic organizers
  - Two or three column category table

- Question/answer relationship strategy

- Student generated problems that contain irrelevant information

- Note taking practice

- Determining credibility of sources

- Determining bias

- http://www.fldoe.org/core/fileparse.php/3/urlt/para_dev1.doc
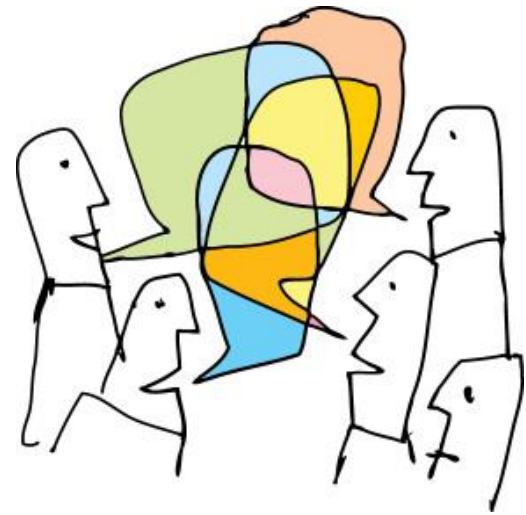
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Skill: Questioning and Evaluating

- Types
  - Clarifying
  - Challenging
  - Evidence-based
  - Point of view
  - Opinion
  - Open-ended

- Literal-what

- Interpretive-why

- Applied-how

Skill: Evaluating Statements and Sources

- Determine if a statement is:
  - Position
  - Argument
  - Evidence-based

- Source evaluation
  - Fact/opinion
  - Bias
  - Primary/secondary
  - Reliability

Integration into Content Areas

- Ethical and moral discussions
  - Justification of ideas and beliefs

- Socratic seminars

- Fishbowl strategy

- Reciprocal questioning strategy

- Journaling responses
  - Bloom's question stems

Integration into Content Areas

	Q 1	Q 2	Q 3	Credible?
Text 1				
Text 2				
Text 3				
My Opinion				

https://shanahanonliteracy.com/publications/using-writing-to-improve-reading

Reflection

- Would the cycle for development of reasoning skills be something that would benefit your students?

- How could you implement the start up and planning of a cycle for development of reasoning skills?

- Which of the strategies presented here could you model, practice and integrate into your teaching?

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Resources:

- https://gifteded.rutgers.edu/free-demand-webinars

- https://www.johnzola.com/teaching-strategies

- https://education.illinoisstate.edu/downloads/casei/5-02-Revised%20Blooms.pdf

- http://www.readingeducator.com/strategies/request.htm

- https://shanahanonliteracy.com/publications/using-writing-to-improve-reading

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