Reasoning Skills

Alicia Foy
Gifted Specialist

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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
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
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 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
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

<table>
<thead>
<tr>
<th></th>
<th>Q 1</th>
<th>Q 2</th>
<th>Q 3</th>
<th>Credible?</th>
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<tbody>
<tr>
<td>Text 1</td>
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<td>Text 2</td>
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<td>Text 3</td>
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<tr>
<td>My Opinion</td>
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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?
Resources:

• [https://gifteded.rutgers.edu/free-demand-webinars](https://gifteded.rutgers.edu/free-demand-webinars)
• [https://www.johnzola.com/teaching-strategies](https://www.johnzola.com/teaching-strategies)
• [https://education.illinoisstate.edu/downloads/casei/5-02-Revised%20Blooms.pdf](https://education.illinoisstate.edu/downloads/casei/5-02-Revised%20Blooms.pdf)
• [http://www.readingeducator.com/strategies/request.htm](http://www.readingeducator.com/strategies/request.htm)
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Date of presentation:

Time of session:

Presenter: Alicia Foy
Contact Information

• Alicia Foy
  • Literacy in the Content Area/Gifted Specialist
  • Alicia.foy@fldoe.org