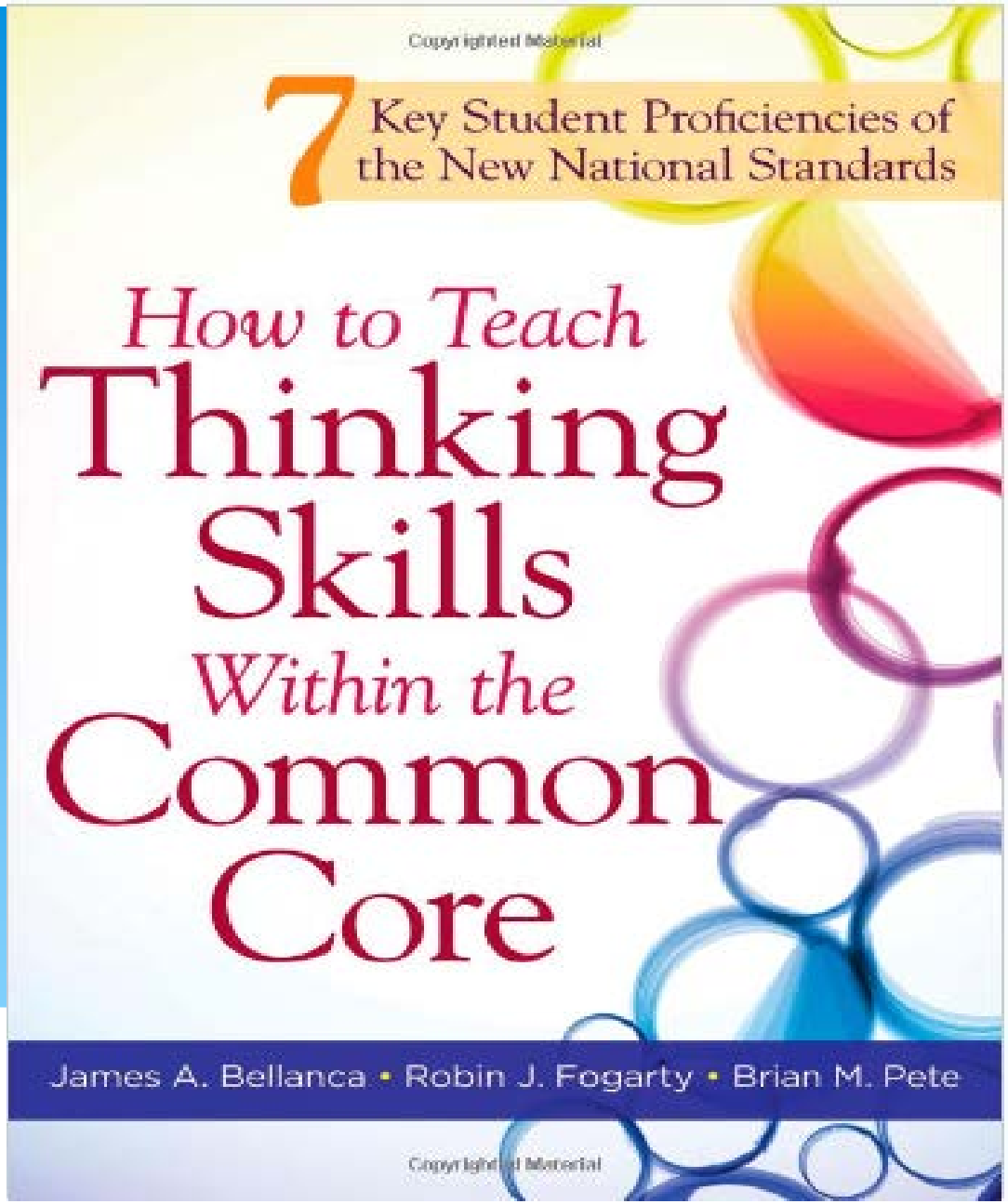


Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete

Training Norms

Community
of
Engaged Learners

LCSD PLC Book Study

School District of Lee County
2013-2014 Professional Development Plan
Administrators and School Professional Development Leaders

Academic Priorities Plan for Learning Increase Rigor Focus on Writing		
PLC Implementation Focus	**Training Delivery Dates**	**PD Focus**
Continuous Improvement Model (FCIM/PDSA): Goal-Setting and Action Planning	**Principal Meeting**: September 26th **Assistant Principal Meeting**: Elementary: October 3rd Middle: October 10th High: October 17th **School PD Leaders:** September **Faculty:** October	**Administration:** Goal Setting/Action Planning- SMART Goals Continuous Improvement Model FCIM/PDSA Admin. Book Study: The Collaborative Administrator Chapter 11
	Online Training **Administration and School PD Leaders**: September **Faculty:** October	**Administration, School PD Leaders and Faculty:** Book Study: Thinking Skills: *Analyze*

CCSS and Domain Alignment

How to Teach Thinking Skills Within the Common Core	Common Core Instructional Shift Alignment: ELA/ Literacy	Common Core Instructional Shift Alignment: Math	Common Core Math Practices	Teacher Evaluation Indicators Exemplary
Critical Thinking: Analyze, Evaluate, Problem Solve	Balancing Informational and Literary Text	Focus	Make sense of problems and persevere in solving them	**3b.Using Questioning and Discussion Techniques** The teacher checks for understanding of content at all key moments. Checks always provide an accurate pulse of the class' understanding, such that the teacher has enough information to adjust subsequent instruction if necessary. The teacher regularly asks questions that reflect high expectations and are culturally and developmentally appropriate, always allows sufficient time for students to answer, promotes critical and creative thinking, ensures that all voices are heard, and frequently responds to students' correct answers by probing for higher level understanding in an effective manner. The teacher frequently uses guided discussion techniques with success.

The World Class Way: Monthly Academic Focus Themes

How to Teach "*Analyze*" Within the Common Core

Objective: The participant will:

* Understand the Three-Phase Teaching Model
* Utilize the PART Strategy in the teaching, practice and application of **analysis**

Rationale

WHY?

Critical thinking begins with the ability to *analyze*, the most prevalent thinking skill in the ELA standards.

Examples From the CCSS: Analyze

Phonics and Word Recognition: RF.4.3. Know and apply grade-level phonics and word analysis skills in decoding words.

Key Ideas and Details: RL.8.1. Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.

What does it **mean** to "analyze"?

Analysis involves:

1. taking ideas and objects apart.
2. looking carefully at the various components, then reorganizing the ideas by similarities and differences.
3. comparing and contrasting
4. classifying and sorting
5. Discerning points of view, nuances and prioritizing
6. Sequencing and delineating

What's in it for me?

Inside or outside of school, analysis is a premier survival skill for today's students, like…

* the ability to figure out situations
* make sense of schoolwork
* keep oneself safe
* understand how little clues can solve big problems
* make sense of a big decision, etc.

Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete

Rigorous Analysis

Throughout their school experiences and into the job world, students are asked to perform rigorous analyses. Analysis is one of the basics in the thinking process.

School:

* Math- data
* Literature- setting, theme, character, motivation, plot, etc.
* Chemistry- soil composition
* Visual arts- a painter's style

Job World:

- Financial statements
- Project development
- Candidate's position
- Health-care statement
- Academic priorities

Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete

What does "analyze" **look and sound** like?

Table 1.1: Analyze Look-Fors and Sound Bites

Looks Like	Sounds Like
Students with their heads together, discussing a character's strengths and weaknesses Students highlighting parts of speech in text by underlining or using colored markers Students sorting songs into musical genres with labeled piles Students color-coding parts of speech	"This is one characteristic." "Here is an example of each quality." "This item belongs in this group." "There are forty units for each of the eight groups." "Let's take this apart, piece by piece."

Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete

Lesson Format

Phase I	Phase II	Phase III
Explicit Teaching Lesson	Classroom Content Lesson	CCSS Performance Task Lesson
		
"I do"	"We do"	"You do"
Model	Guide	Facilitate

Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete

Lesson Format

Phase I
Explicit Teaching Lesson

"I do"

Model

Phase II
Classroom Content Lesson

"We do"

Guide

Phase III
CCSS Performance Task Lesson

"You do"

Facilitate

Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete

Phase I
Explicit Teaching Lesson

Steps:

1. Motivational mindset- exercise to engage and think about analysis
2. Order of operations

   Preview the whole situation

   Assess similarities and differences

   Reorganize by these similarities and differences

   Turn the analysis into a summary or synthesis
3. Instructional strategy/tool(embedded)
4. Assessment- check for understanding
5. Metacognitive reflection- discussion of process and learning

Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete

Phase I
Talk-Through

Explicit Teaching Lesson

Teacher explicitly and systematically teaches the thinking skill.

Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete

Phase I
Explicit Teaching Lesson

Step:

1. Motivational mindset
2. Order of operations (PART)
3. Instructional strategy (embedded)
4. Assessment
5. Metacognitive reflection

Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete

Step 1 Motivational Mindset

Hook learners with a learner-friendly, high-energy exercise that will engage students and encourage them to begin to think about analysis.

Example:

"If you had to decide on only one technology device, which would you choose and give three reasons why?

Iphone, Ipod, Ipad, e-reader, laptop, computer, etc.

Think-Write-Share

Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete

Reflection on Part 1

What did you do to decide which device you would choose?

Teacher prompts:

* Why?
* If you were trying to convince someone that this was the best device, what evidence would you use to persuade that person?

Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete

"You just analyzed!"

* Analysis involves taking ideas and objects apart, looking carefully at the various components, then reorganizing the ideas by similarities and differences.
* Related terms include *diagnose, examine, classify, differentiate, and distinguish*

Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete

Step 2 Order of Operations

PART

Preview the whole situation

Assess similarities and differences

Reorganize by these similarities and differences

Turn the analysis into a summary or synthesis.

Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete

Instructional strategies embedded in the process to support analysis

* Concept map
* 5 E's
* "Unlock the problem"
* Outlines, etc.

Instructional strategies help students sort out the parts of a bigger idea into headings, subheadings and details.

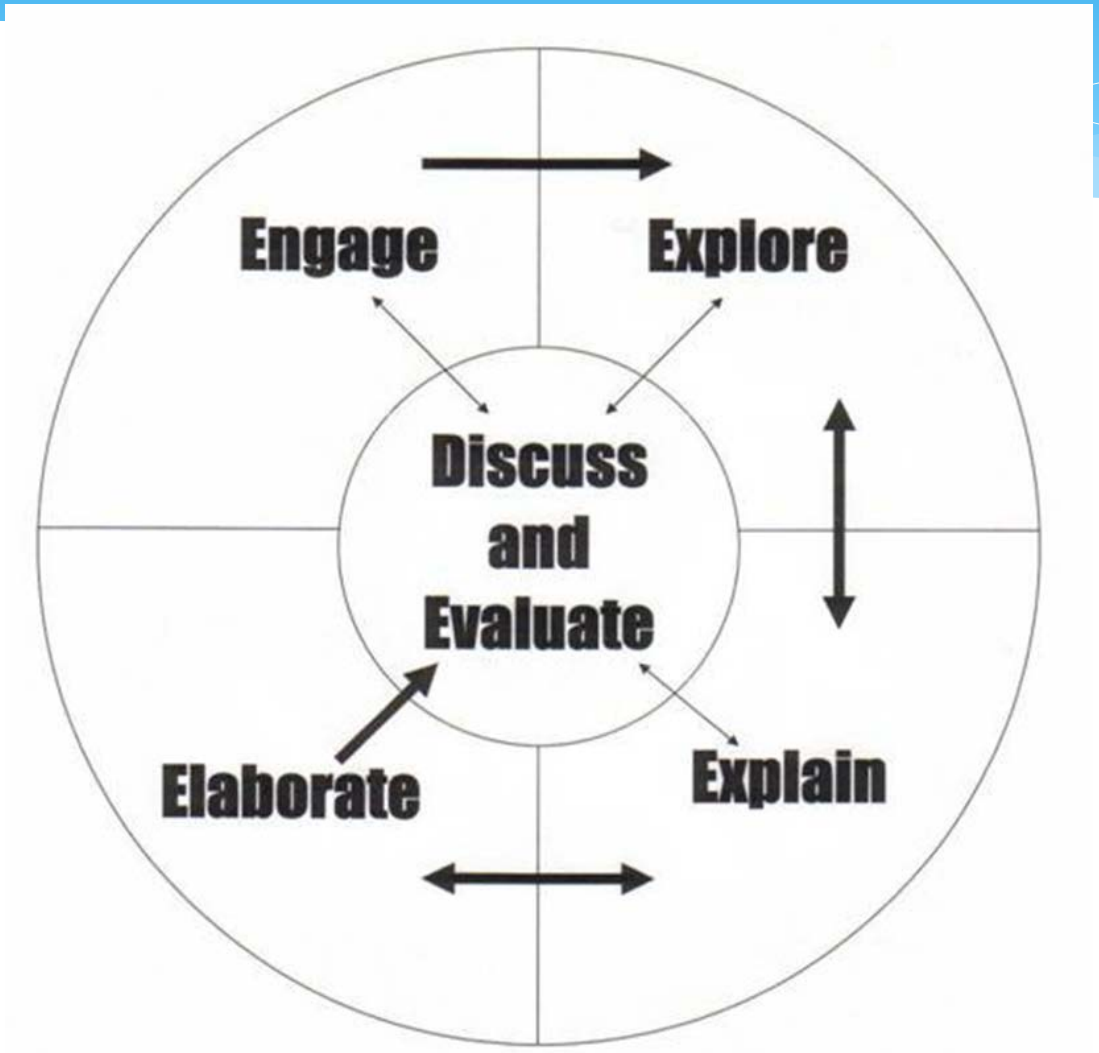
Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete

Concept Map

Grade 2

Intensive Reading

5Es Inquiry Model



Unlock the Problem

Problem-Solving Steps

- **Understand the Question**
  - Read the problem (visualize – make it come alive – What's the story?)
  - Explain the problem to your partner in your own words
  - What are you trying to find out?

- **Develop a Plan**
  - How might you enter into the problem? What strategy or tool might you use?

- **Work the Plan**
  - Try your strategy.
- **Check Back**
  - Does your answer make sense? How do you know?
  - If it doesn't make sense, try another strategy.
  - Keep working until you find a reasonable solution you can justify.

Step 2 Order of Operations PART

Preview the whole situation

This is a global look at the entire situation or circumstance, taking in as much information as possible.

When you "preview the whole situation" you identify the big idea, main theme, essential question, etc. from the content. This is guided by your academic plan.

Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete

Step 2 Order of Operations

PART

Assess similarities and differences

Assess the obvious parts, elements or components.

Sort the examples (similar and different) grouping ideas that belong together

Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete

Reorganize by these similarities and differences.

Reorganize the information by **labeling** the parts by categories

Turn the analysis into a summary or synthesis.

Students turn the analysis of the parts into a succinct summary of facts.

Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete

Video Demonstration

* **Elementary Video Link:**

mms:/mms.leeschools.net/curr/13-14/cape_elementary.wmv

* 0-8:30 minutes Introduction
* 8:31-29:39 minutes PART
* 29:40-34:47 minutes Connections to Content

* **Secondary Video Link:**

mms:/mms.leeschools.net/curr/13-14/part_strategy.wmv

* 17:50 minutes PART

Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete

Step 2 Order of Operations

PART

Preview the whole situation

Assess similarities and differences

Reorganize by these similarities and differences

Turn the analysis into a summary or synthesis.

How does "Analyze" relate to something that you already do in the classroom? (think-write-share)

Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete

Use your Academic Plan

What is the **Big Idea**, **content concept** and **essential question** that will drive your lesson?

What do you want them to learn?

What vehicle will provide the engagement with this learning?

* A piece of Text?
* Historic Timeline?
* Science experiment?
* Math word Problem?
* Oral discussion?

Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete

Understand

Option One – Explicit Teaching of Understand

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

How to Teach "*Understand*" within the Common Core

Objectives

The participant will:

* Understand the Three-Phase Teaching Model
* Utilize the GIST process in the teaching, practice and application of **understand**

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

What does it mean to "understand?"

"*Understanding* goes beyond just having a sense of what is going on; the student *knows in a deeper way* – a way that enables him or her to explain and elaborate on the idea, concept, or skill under study" (Bellanca, Fogarty, & Pete, 2012, p. 91).

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

When do students need to "understand?"

English Language Arts

* Reading informational or literary text with a sharp mind
* Identifying parts such as characters, events, symbols, and important scenes
* Finding the connections among parts, words, and phrases
* Communicating the ideas they have developed

Math

* Knowing how to solve problems
* Explaining why students reasoned in a certain way
* Defending why that way ended in a logical solution

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

What does "understand" look and sound like?

Looks Like	Sounds Like
Students completing a math equation on the board Student celebrating after a science experiment Student winning a debate Students completing a complex task	"I did this because.." "The reason for doing it this way was..." "The clues I used were..." "You will find the evidence on page..." "The most important ideas include..."

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

Step 2: Order of Operations

Get the big idea, main idea, theme

Identify details to support the main idea.

Say it in your own words.

Test by creating a summary.

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

Order of Operations GIST

Get the big idea, main idea, or theme

* Theme

Questioning and Discussion Techniques

* Essential question:

HANDOUT: 3b article

Teachers who are skilled at questioning do what?

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

Order of Operations: G I ST

* As you read the article, highlight or underline behaviors that respond to the question, "Teachers who are skilled at questioning do what?"

Identify details to support the main idea

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

Order of Operations: GIST

* Share with a partner two behaviors you highlighted. Provide rationale for the selection of the behaviors in relationship to the question "Teachers who are skilled at questioning do what?"

Say it in your own words.

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

Order of Operations: GIST

* Using the behaviors you highlighted, write a 20 word summary of the piece of text that responds to the question, "Teachers who are skilled at questioning do what?"

Test by creating a summary.

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

Connections to Content

What is the **Big Idea**, **content concept** and **essential question** that students need to understand deeply?

What vehicle will provide the engagement with this learning?

* A piece of text?
* Historic timeline?
* Science experiment?
* Math word problem?

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

- Engage students in exploration of content
- Reflect on learning and thinking
- Consider new possibilities
- Give think time
- Encourage all students to participate
- Probe
- Seek clarification and elaboration
- Show students how to frame questions of high cognitive challenge
- Show students how to use questions to extend learning
- Use discussion format as a technique to extend knowledge
- Facilitate student responsibility for depth and breadth of discussions
- Draw students into conversation
- Seek all students perspectives
- Keep discussion on topic
- Utilizes follow-up questions; “Who would like to comment on…”, “Does anyone see another possibility?”
- Supports students generation of questions involving analytical thinking

Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete

Reason

Explicit Teaching of Reason

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

How to Teach "*Reason*" within the Common Core

Objectives

The participant will:

* Understand the Three-Phase Teaching Model
* Utilize the LOGIC process in the teaching, practice and application of **reason.**

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

Reasoning is a two-step act.

1- Logic is used to arrive at a conclusion.

2- That reasoning is communicated to others to convince them of the conclusion.

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

“What’s in it for me?”

Reasoning is what humans do. We take clues and draw conclusions.

* Doctors- diagnose and communicate the proposed line of treatment
* Police- reason based on clues that prove a person’s guilt
* Brokers- financial trends that inform rationale for transactions
* Plumbers- reason source of a leak and communicate what work is required.
* Teenagers- must provide reason to argue for new rights: “If I’m old enough to drive a car, I must be old enough to stay out an extra hour.”

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

When do students need to "reason?"

English Language Arts

* Reading informational or literary text with a sharp mind
* Trace a line of argument in a given text.
* Explain how reasons and evidence support a given position.
* Communicating the ideas they have developed
* Persuasive composition

Math

* Knowing how to solve problems
* Explaining why students reasoned in a certain way
* Defending why that way ended in a logical solution
* Define relevant information needed to solve a pro

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

What does "reason" look and sound like?

Looks Like	Sounds Like
• A student proving a math equation • Students engaged in a mock trial • A student describing how he solved a puzzle • A student team discussing which project to choose • A student offering a conclusion for a failed experiment.	• "What's you reasoning?" • "Are these facts connected to this case?" • "What facts are we missing?" • "What is your evidence?" • "What is your justification?"

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

What does it mean to "reason?"

"To *reason* is to come to a conclusion by thinking logically and to communicate a position based on logic. Related words include *argue, deduce, derive, advocate, surmise, rationalize, contend, and assert*."

(Bellanca, Fogarty, & Pete, 2012, p. 141).

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

Step 2: Order of Operations

Look at all the facts.

Offer connecting details.

Gather explanations.

Identify the most sensible reason.

Conclude and communicate.

HANDOUT

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

Order of Operations Logic

Look at all the facts.

* Theme

Analyze, understand and reason are skills utilized daily.

* Essential question:

How are the thinking skills of analyze, understand and reason interrelated?

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

Order of Operations: LOGIC

* As you consider the skills **analyze, understand** and **reason**, and their corresponding processes (PART, GIST and LOGIC), what do they have in common?

Offer connecting details

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

Order of Operations: LOGIC

Compose three statements, with supporting evidence, that answer the question "How are the thinking skills of analyze, understand and reason interrelated?"

Gather explanations

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

Order of Operations: LOGIC

"How are the thinking skills of analyze, understand and reason interrelated?"

From the statements generated, conclude by identifying the one that answers the question most thoroughly.

Identify the most sensible reason.

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

Order of Operations: LOGIC

"How are the thinking skills of analyze, understand and reason interrelated?"

Share your conclusion and defend your reasoning.

Conclude and communicate.

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012

Connections to Content

What is the **Big Idea**, **content concept** and **essential question** that students need to apply reasoning?

What vehicle will provide the engagement with this learning?

* A piece of text?
* Historic timeline?
* Science experiment?
* Math word problem?

Adapted from How to Teach Thinking Skills in the Common Core by J. Bellanca,R. Fogarty, and B. Pete (2012)

Thinking Skills

* Analyze
* Understand
* Reason

* Solve (2014-15)

Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete

EXIT SLIP

What is the most helpful take-away concerning these critical thinking skills?

What will you do to help student become better with these skills? Be specific

Adapted from "How to Teach Thinking Skill Within the Common Core", Bellanca, Fogarty and Pete