

Depth and Complexity

Teachers must respond to the diversity of their students' needs, interests, and readiness levels. With that in mind, Winebrenner (2001) in her book, *Teaching Gifted Kids in the Regular Classroom*, encourages teachers to recognize that students are at different levels in their learning and need constant opportunities to work at those various levels. Furthermore, Winebrenner stresses that gifted students require regular opportunities to become engaged with learning activities that require more depth and complexity.

To differentiate a lesson for gifted students, teachers must modify

- Content (modify according to depth and complexity)
- Process
 - Grouping (individuals, pairs, small groups, heterogeneous, homogeneous)
 - Instruction (vary teaching methods; use inductive, deductive, or hands-on strategies; alter pace; utilize compacting; for instance, in a lesson, consider pretesting, graphic organizers, demonstrating relevance, adding an intriguing twist)
- Products (many, varied, authentic, and representative of the real work of the discipline)

Sandra Kaplan (2001), associate professor of learning and instruction at the University of Southern California, suggests that teachers guide gifted students into greater depth and complexity by implementing the following dimensions of depth and complexity.

Dimensions of Depth

For Kaplan (2001), depth is a deep understanding of the content of the field of study. It is achieved when students can understand the specialized language of the discipline; learn as many details as possible; understand the patterns; are aware of trends and rules; understand the ethics involved; know the big ideas, principles, and generalizations; and look for unanswered questions.

Depth

- Refers to approaching or studying something from the concrete to the abstract, from the known to the unknown.
- Requires students to examine topics by determining the facts, concepts, generalization(s), principles and theories related to them.
- Necessitates uncovering more details and new knowledge related to a topic of study.
- Encourages students to adopt perspectives and to see patterns in connections.
-

Depth involves exploring a discipline by looking below the facts and investigating generalizations, principles, and universal concepts.

Depth has the following major dimensions:

- **Language of the Disciplines:** specialized vocabulary, names of skills or tasks, tools used
- **Details:** attributes, parts, factors, variables
- **Patterns:** repetition, predictability
- **Trends:** influences, forces, direction
- **Rules:** structure, order, hierarchy, explanation
- **Ethics:** points of view, different opinions, judging
- **Big Idea:** generalizations, principles, theories
- **Unanswered Questions:** discrepancies, missing parts, unclear ideas, incomplete ideas

Language of the Discipline

Students identify terms or words that are specific to a subject or discipline and recognize how professionals in the field talk to one another (i.e., appropriate terminology).

Details

Students are instructed to note the attributes, traits, or characteristics of an idea or event.

Patterns

Students are instructed to identify recurring events, to recognize that patterns repeat themselves, and to use patterns to predict.

Trends

Students identify factors or events (social, political, economic, and geographic) that cause events to occur or happen and identify influences or forces.

Unanswered Questions

Students are instructed to question what is still not known or understood, to identify what is still unclear, to find discrepancies, to determine if any conclusions need further investigation, evidence or support.

Rules

Students are instructed to define how the topic is structured and to define the orders, laws, norms, and formulas followed.

Ethics

Students are instructed to identify any dilemmas or controversies of the idea or event and to determine the elements that reflect bias, prejudice, or discrimination.

Big Ideas

Students determine the overarching statement (e.g., generalization, principal or theory) that best summarizes what is being studied.

Dimensions of Complexity

Kaplan (2001) defines complexity as scholarly insights into the connections across time, people and disciplines. Complexity is demonstrated in the students' ability to make connections over time, look for elements from several perspectives, and make interdisciplinary connections.

Complexity

- Includes making relationships, connecting other concepts, and layering.
- Why/how approach that connects and bridges to other disciplines to enhance the meaning of a unit of study.

Complexity encourages students to

- Relate concepts and ideas at a more sophisticated level
- See associations among diverse subjects, topics or levels
- Find multiple solutions from multiple points of view

Complexity involves the ability to see relationships between and among ideas in and within a discipline.

Complexity has three major dimensions:

- **Relationships Over Time:** relationships between the past, present and future, and within a time period

- **Relationships From Different Points of View:** multiple perspectives, opposing viewpoints, differing roles and knowledge
- **Interdisciplinary Relationships:** with, between and across the disciplines

Over Time

Students describe how the passage of time changes the idea or event and examines the origin, the present, and the future.

Multiple Perspectives

Students are instructed to investigate the opposing points of view, roles, status, or values and to examine the event from the perspective of different disciplinarians (e.g., anthropologist, economist, sociologist, artist) in order to gain in-depth knowledge of an issue by knowing it from both sides.

Interdisciplinary Relationships

Students explore the topic across two or more academic disciplines by formulating questions, identifying similarities (common elements) and differences of the disciplines.

Depth and Complexity

An essential part of differentiating the curriculum through the dimensions of depth and complexity is utilizing the key questions and thinking skills (see *Facilitating the Understanding of DEPTH and COMPLEXITY* chart on the following pages) associated with these dimensions which provide teachers with a frame of reference and encourage them to use these strategies consistently. They provide a common vocabulary for teachers and students.

Use the dimensions within classroom lessons:

- Say "Look for (appropriate dimension) in our lesson today on (content area)."
- Use the Big Idea to summarize or end lessons.
- Label the classroom's daily agenda and lesson plans with the dimensions reviewed.
- Have students identify and label all work with the appropriate dimensions of depth and complexity.
- Label all classroom work and charts with the dimensions.
- Post a listing of the dimensions clearly in the classroom

These ideas encourage the integration of the dimensions of depth and complexity into discussions and shows students that the teacher values the icons as learning tools. Teachers are not teaching the icons, but rather they are teaching concepts to new levels of depth and complexity using pictures to stand for the thinking strategies.

Connecting Depth and Complexity to Higher Order Thinking Skills

The verbs below serve as **thinking keys** to activate the type of higher order thinking skill that will occur within the dimensions of depth and complexity.

Keys to Activate Deeper Learning (Depth):

- **Language of the Discipline:** *categorize, identify*
- **Details:** *describe, differentiate*
- **Patterns:** *summarize, make analogies*
- **Trends:** *prioritize, predict*
- **Rules:** *judge credibility, hypothesize*
- **Ethics:** *judge with criteria, determine bias*
- **Big Idea:** *prove with evidence, identify main idea*
- **Unanswered Questions:** *note ambiguity, distinguish fact from fiction*

Keys to Activate Complex Learning (Complexity):

- **Different Points of View:** *argue, determine bias, classify*
- **Relationships Over Time:** *relate, sequence, order*
- **Relationships Across Discipline:** *compare and contrast, show relationship*

Resources

Conklin, Wendy and Shelly Frei. *Differentiating the Curriculum for Gifted Learners*. Huntington Beach, CA: Shell Education, 2007. Print.

Erickson, H. Lynn. *Concept-based Curriculum and Instruction for the Thinking Classroom*. Thousand Oaks, CA: Corwin, 2007. Print.

Kingore, Bertie. *Differentiation: Simplified, Realistic, and Effective – How to Challenge Advanced Potentials in Mixed-Ability Classrooms*. Austin, TX: Professional Associates Publishing, 2008. Print.

Renzulli, Joseph S. and Sally M. Reis. *Enriching Curriculum, 2nd Ed.* Thousand Oaks, CA: Corwin Press, 2008. Print.

Tomlinson, Carol A. *The Differentiated Classroom: Responding to the Needs of All Learners*. Alexandria, VA: ASCD, 1999. Print.

Tomlinson, Carol, Sandra Kaplan, Joseph Renzulli, Jeanne H. Purcell, Jann Leppien, and Deborah Burns. *The Parallel Curriculum*. Thousand Oaks, CA: Corwin Press, 2002. Print.


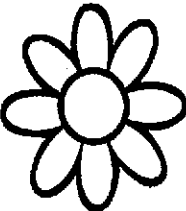
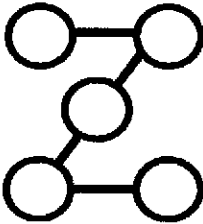
Winebrenner, Susan. *Teaching Gifted Kids in the Regular Classroom*. Minneapolis, MN: Free Spirit Publishing, 2001. Print.



Facilitating the Understanding of DEPTH and COMPLEXITY

Note to the teacher:

- Key questions can be used in the context of lesson plans to probe understanding and to prompt students during discussions.
- The thinking skills can be used to initiate the type of cognitive operation or thinking that could best prompt each of the dimensions of DEPTH of COMPLEXITY.
- The resources listed are the most logical references in which to locate the type of information required by each of the dimensions of DEPTH of COMPLEXITY. Teachers may add to any of these lists as appropriate.

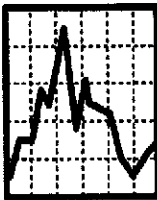

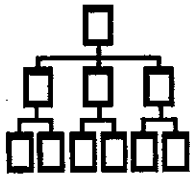
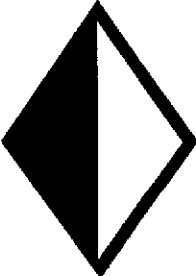
ICONS	PROMPT	KEY QUESTIONS	THINKING SKILLS	RESOURCES
	LANGUAGE OF THE DISCIPLINES	What terms or words are specific to the work of the _____? (disciplinarian) What tools does the _____ use? (disciplinarian)	<ul style="list-style-type: none"> • Categorize • Identify 	<ul style="list-style-type: none"> • Texts • Biographies
	DETAILS	What are its attributes? What features characterize this? What specific elements define this? What distinguishes this from other things?	<ul style="list-style-type: none"> • Identify traits • Describe • Differentiate • Compare/ contrast • Prove with evidence • Observe 	<ul style="list-style-type: none"> • Pictures • Diaries or journals • Poetry
	PATTERNS	What are the reoccurring events? What elements, events, ideas, are repeated over time? What was the order of events? How can we predict what will come next?	<ul style="list-style-type: none"> • Determine relevant vs. irrelevant • Summarize • Make analogies • Discriminate between same and different • Relate 	<ul style="list-style-type: none"> • Timelines • Other chronological lists

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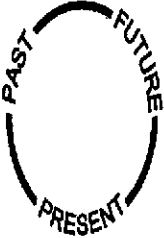


Facilitating the Understanding of DEPTH and COMPLEXITY

ICONS	PROMPT	KEY QUESTIONS	THINKING SKILLS	RESOURCES
	TRENDS	<p>What ongoing factors have influenced this study?</p> <p>What factors have contributed to this study?</p>	<ul style="list-style-type: none"> • Prioritize • Determine cause and effect • Predict • Relate • Formulate questions • Hypothesize 	<ul style="list-style-type: none"> • Journals • Newspapers • Graphs • Charts
	UNANSWERED QUESTIONS	<p>What is still not understood about this area/ topic/ study/ discipline?</p> <p>What is yet unknown about this area/ topic/ study/ disciplines?</p> <p>In what ways is the information incomplete or lacking in explanation?</p>	<ul style="list-style-type: none"> • Recognize fallacies • Note ambiguity • Distinguish fact from fiction and opinion • Formulate questions • Problem solve • Identify missing information • Test assumptions 	<ul style="list-style-type: none"> • Multiple and varied resources • Comparative analyses of autobiographical and current nonfiction articles, etc.
	RULES	<p>How is this structured?</p> <p>What are the stated and unstated causes related to the description or explanation of what we are studying?</p>	<ul style="list-style-type: none"> • Generalize • Hypothesize • Judge credibility 	<ul style="list-style-type: none"> • Editorials • Essays • Laws • Theories
	ETHICS	<p>What dilemmas or controversies are involved in this area/ topic/ study/ discipline?</p> <p>What elements can be identified that reflect bias, prejudice, discrimination?</p>	<ul style="list-style-type: none"> • Judge with criteria • Determine bias 	<ul style="list-style-type: none"> • Editorials • Essays • Autobiographies • Journals

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Facilitating the Understanding of DEPTH and COMPLEXITY

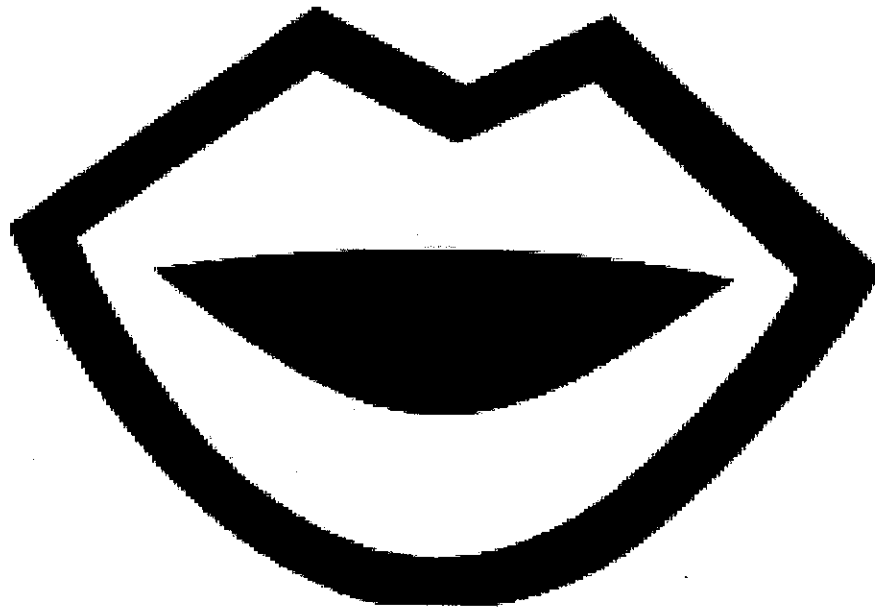
ICONS	PROMPT	KEY QUESTIONS	THINKING SKILLS	RESOURCES
	<p style="text-align: center;">BIG IDEAS, GENERALIZATIONS, PRINCIPLES, THEORIES</p>	<p>What overarching statement best describes what is being studied?</p> <p>What general statement includes what is being studied?</p>	<ul style="list-style-type: none"> • Prove with evidence • Generalize • Identify the main idea 	<ul style="list-style-type: none"> • Quotations • Discipline-related essays
	<p style="text-align: center;">OVER TIME</p>	<p>How are the ideas related between the past, present, future?</p> <p>How are these ideas related within or during a particular time period?</p> <p>How has time affected the information?</p> <p>How and why do things change or remain the same?</p>	<ul style="list-style-type: none"> • Relate • Sequence • Order 	<ul style="list-style-type: none"> • Time lines • Text • Biographies • Autobiographies • Historical documents
	<p style="text-align: center;">DIFFERENT POINTS OF VIEW</p>	<p>What are the opposing viewpoints?</p> <p>How do different people and characters see this event or situation?</p>	<ul style="list-style-type: none"> • Argue • Determine bias • Classify 	<ul style="list-style-type: none"> • Biographies • Autobiographies • Mythologies, legends vs. non-fiction accounts • Debates
	<p style="text-align: center;">ACROSS DISCIPLINES</p>	<p>What are the common elements in the subjects that come from the different disciplines?</p>	<ul style="list-style-type: none"> • Relate • Compare & Contrast • Differentiate • Synthesize • Evaluate 	<ul style="list-style-type: none"> • Primary & Secondary Resources (magazines, diaries, and interviews) • Internet searches • Text • Encyclopedias

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Language of the Disciplines



- Terms / Words Specific
To Work of Disciplinarian
- Tools of the Disciplinarian

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Instructional Groupings Template

ALL TIER 1, 2 AND 3 should be with SHELTERED INSTRUCTION

SUGGESTED WHOLE GROUP, TIER 1 SUPPORT & PROGRESS MONITORING

TIER 1: Receives DAILY instructional intervention by classroom teacher. Possible additional instruction by support teacher AND can work independently. No progress monitoring every 2-30 days (1-2 Weeks).

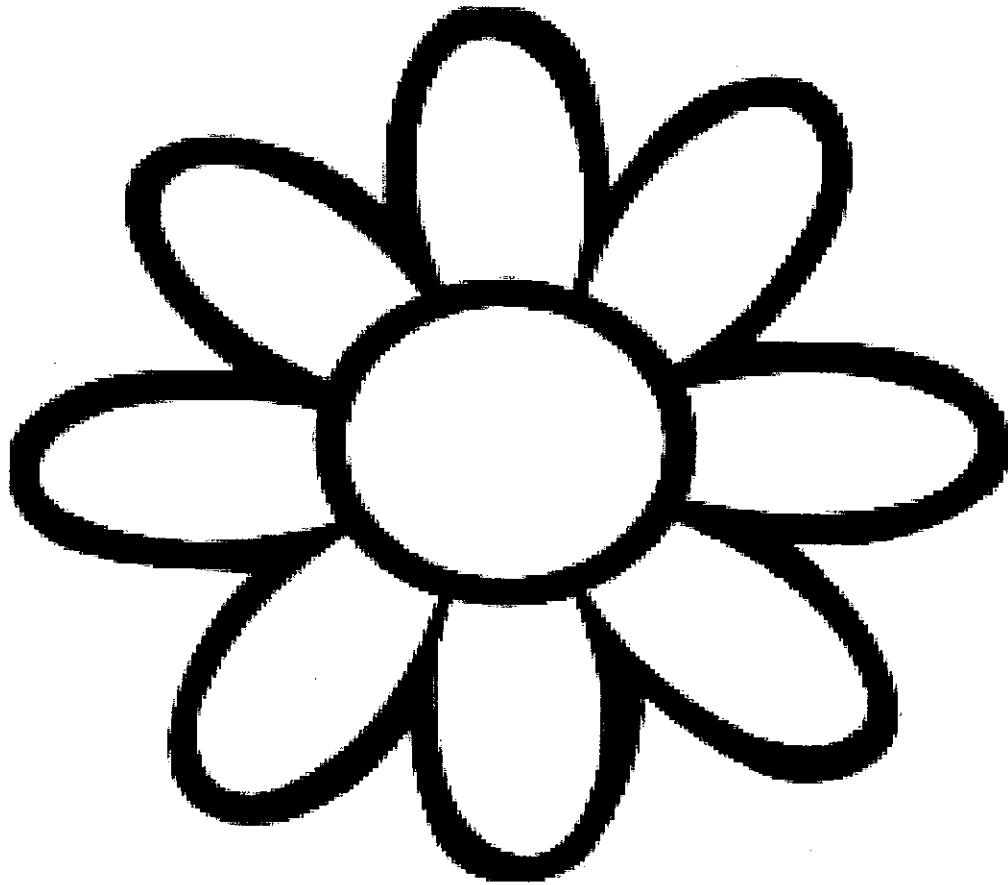
TIER 2: Receives WEEKLY instructional intervention by classroom teacher or support teacher AND can work independently. No progress monitoring every 10-20 days (2-4 weeks).

TIER 3: Can receive WEEKLY small group instruction by classroom teacher or support teacher AND can work independently. No progress monitoring. (less than 60)

RISK LEVEL	GROUP NAME	PROGRESS MONITORING SCHEDULE (ONLY FOR TIER 2 & 3)					ADDITIONAL READING SUPPORT TEACHER (M T W T F P)	ADDITIONAL SUPPORT DATES OF WEEK (M T W T F P)	ADDITIONAL SUPPORT TIME OF DAY	ADDITIONAL SUPPORT PROGRAM MONITORING FOCUS
		MONDAY TIME OF DAY	TUESDAY TIME OF DAY	WEDNESDAY TIME OF DAY	THURSDAY TIME OF DAY	FRIDAY TIME OF DAY				

RISK LEVEL	GROUP NAME	INSTRUCTIONAL FOCUS	INSTRUCTIONAL MATERIALS	STUDENT NAMES	INSTRUCTIONAL STRATEGIES	INSTRUCTIONAL GOALS	INSTRUCTIONAL TEACHER	RISK LEVEL	GROUP NAME	INSTRUCTIONAL FOCUS	INSTRUCTIONAL MATERIALS	STUDENT NAMES	INSTRUCTIONAL STRATEGIES	INSTRUCTIONAL GOALS	INSTRUCTIONAL TEACHER	RISK LEVEL	GROUP NAME	INSTRUCTIONAL FOCUS	INSTRUCTIONAL MATERIALS	STUDENT NAMES	INSTRUCTIONAL STRATEGIES	INSTRUCTIONAL GOALS	INSTRUCTIONAL TEACHER

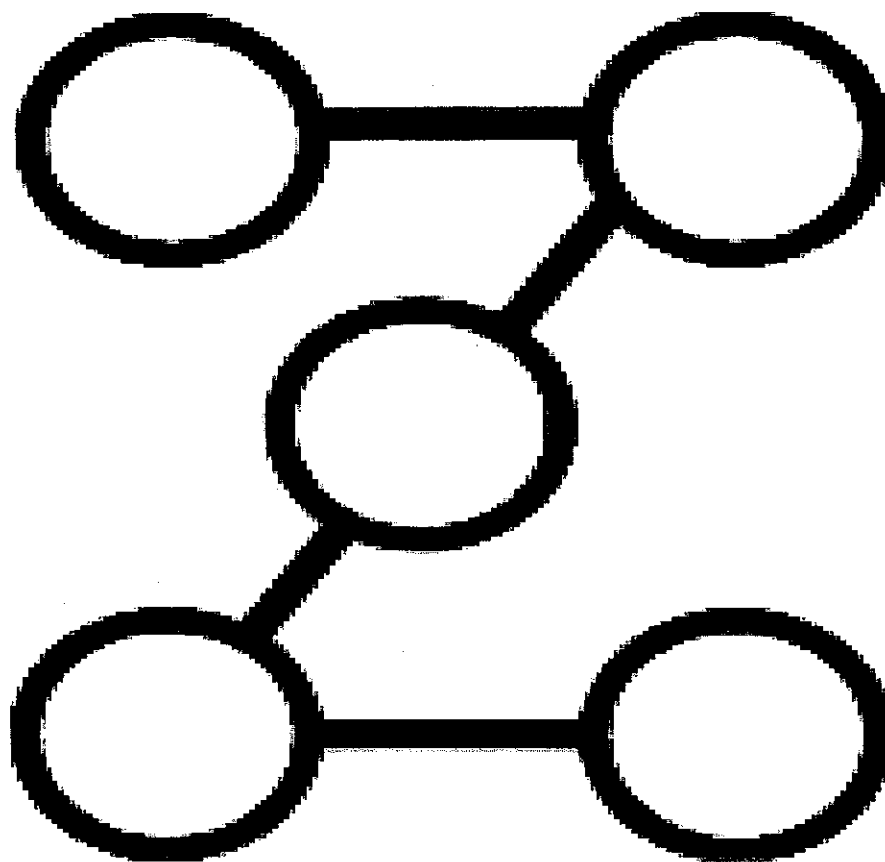
Details



- Specific Facts
- Attributes
- Features

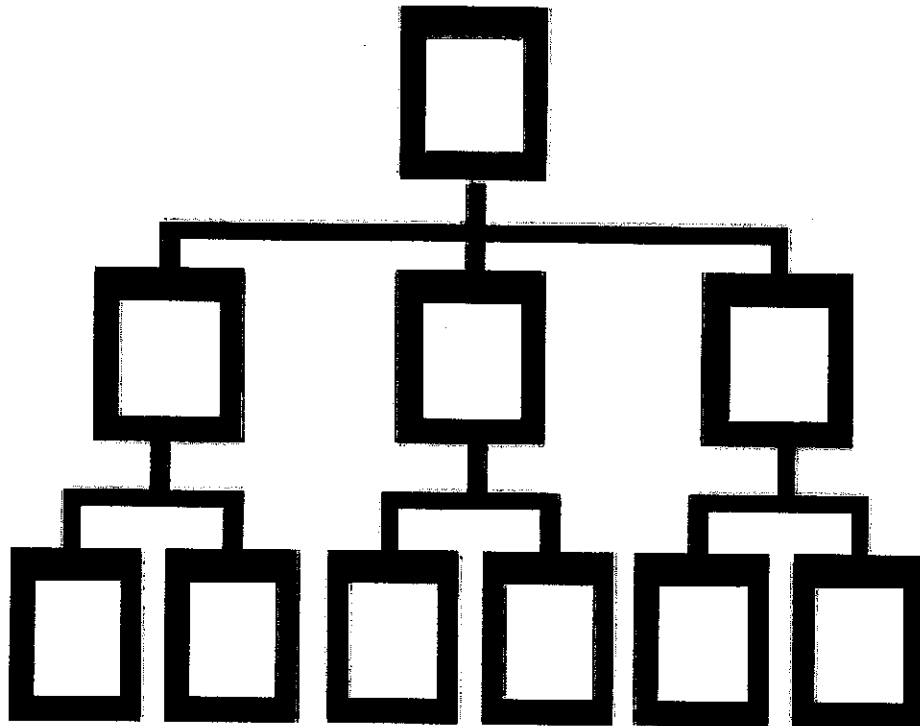
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Patterns



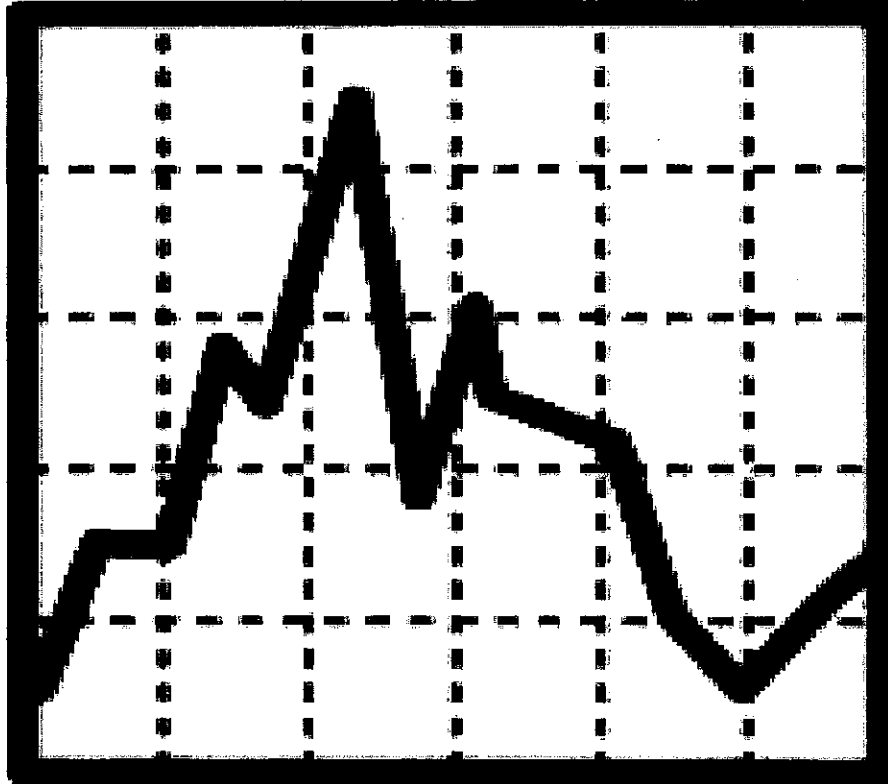
- Reoccurring Ideas
- Predict What Is Next
- Order of Events

Rules



- Order
- Structure
- Explanation

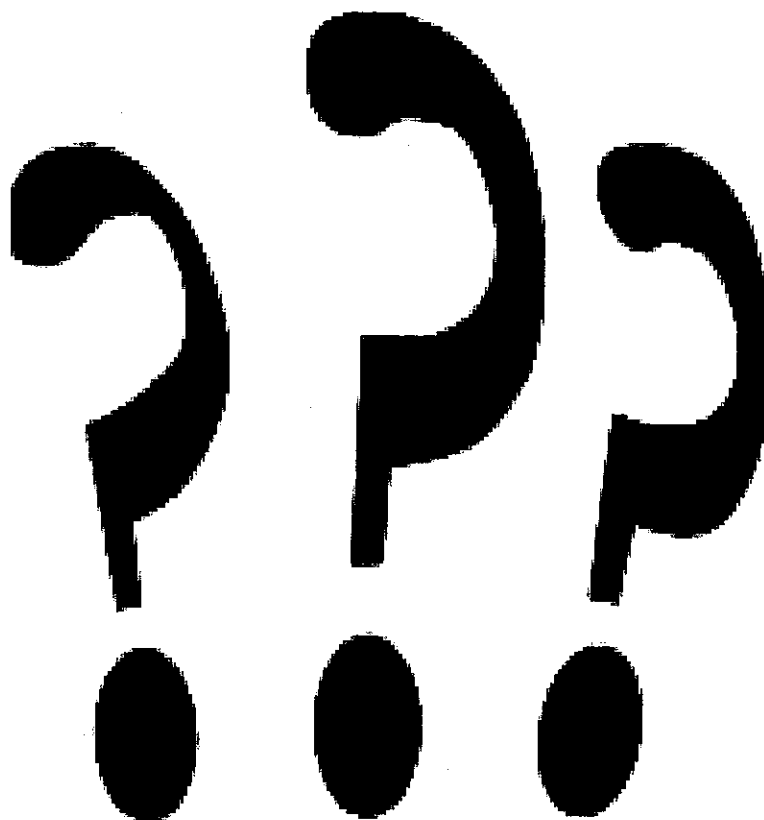
Trends



- Ongoing Factors
- Influencing Factors

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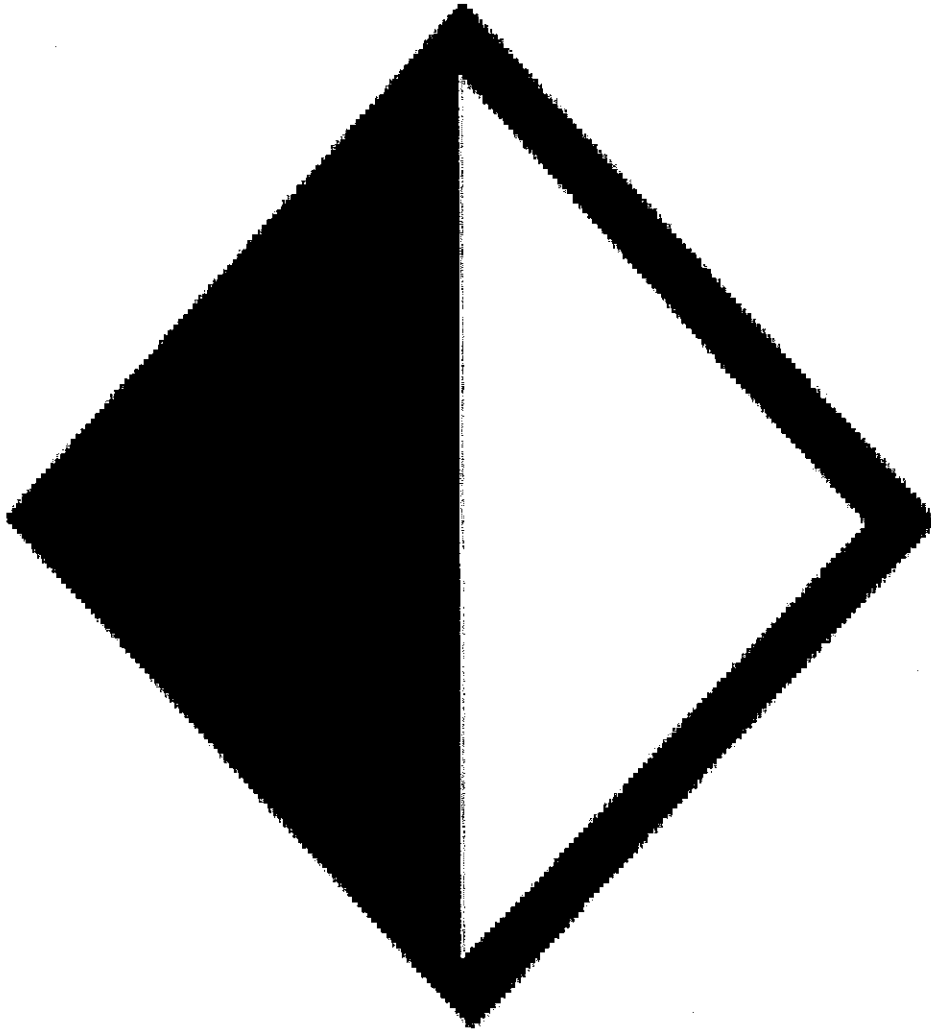
Unanswered Questions



- Missing Data
- Incomplete Information
- Unclear Explanation

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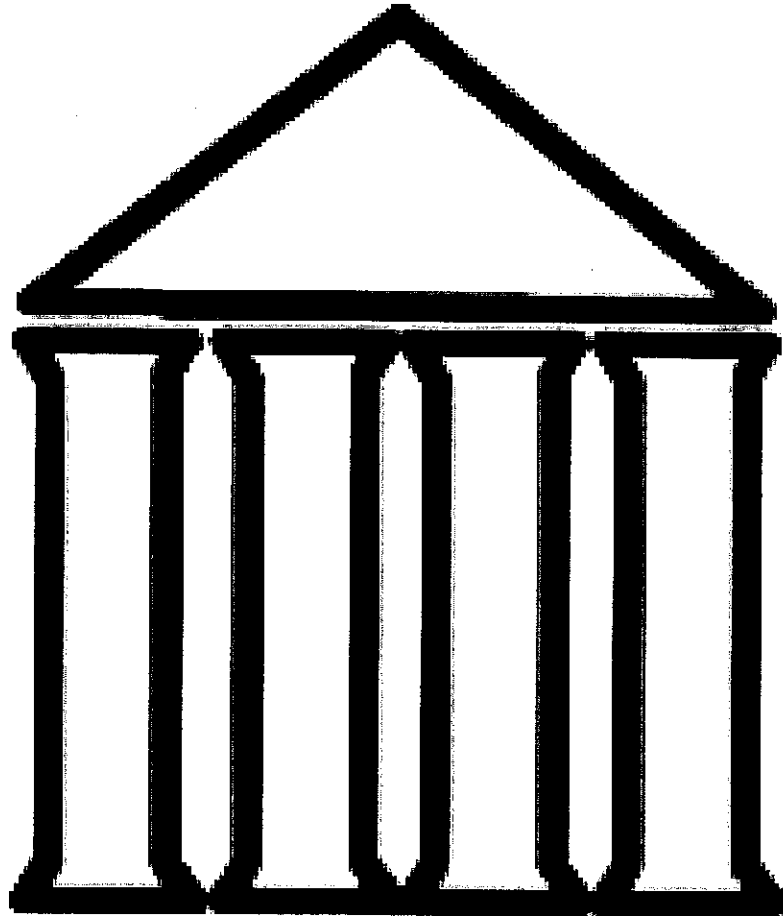
Ethics



- Controversies
- Bias
- Prejudice
- Discrimination

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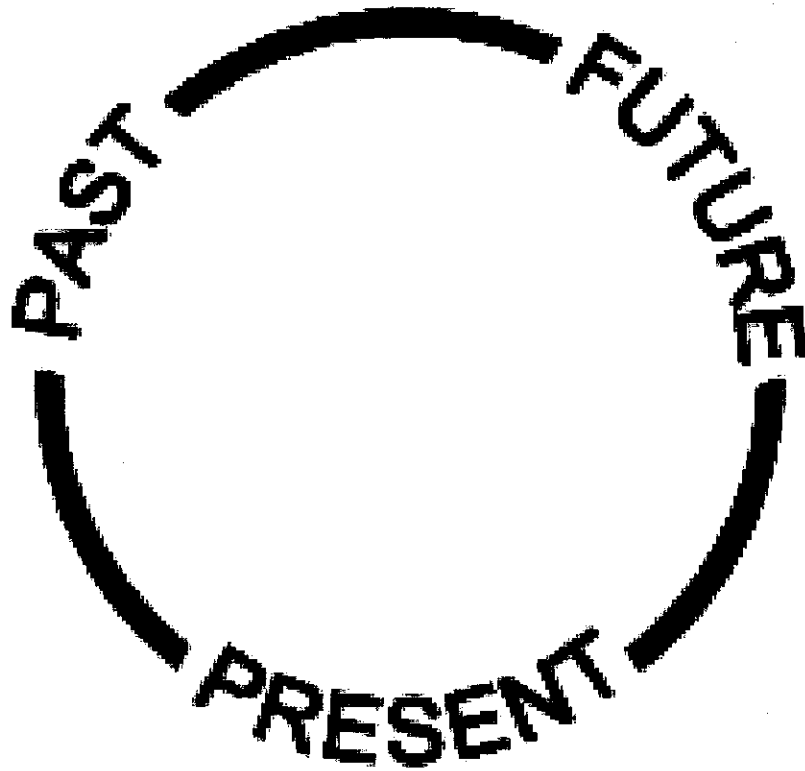
Big Ideas



- Generalizations
- Principles
- Theories

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Overtime



- Past, Present, Future
- Reflections
- Evaluation of Ideas

Different Points Of View



- Multiple Perspectives
- Different Rules / Different Disciplines
- Kinds of Knowledge

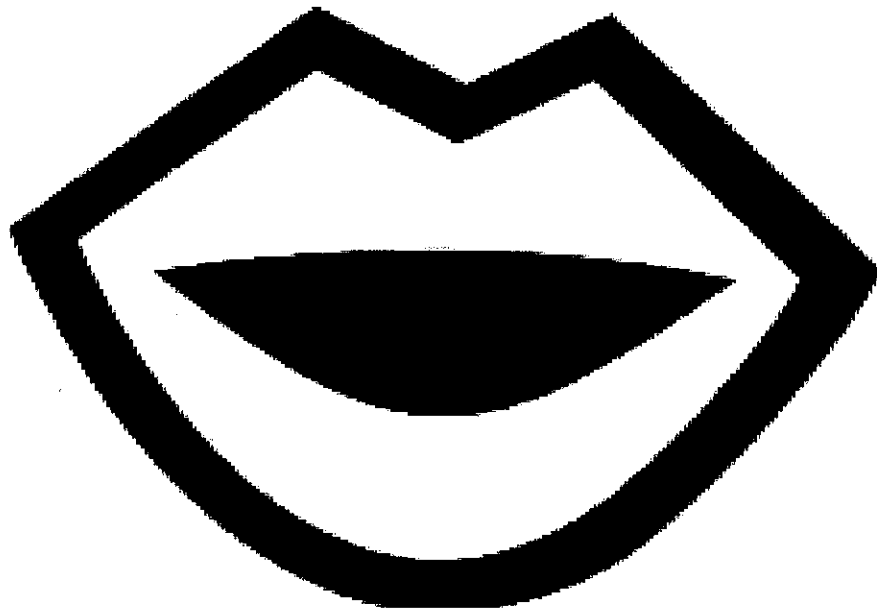
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Across Disciplines



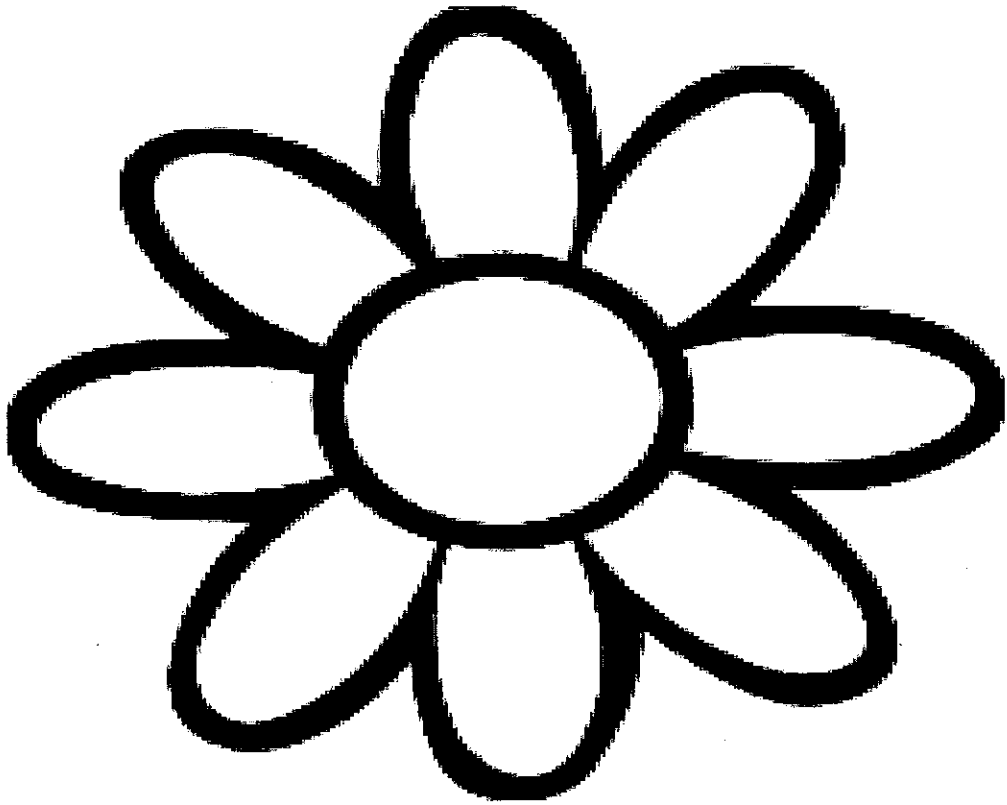
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Lenguaje De las disciplinas



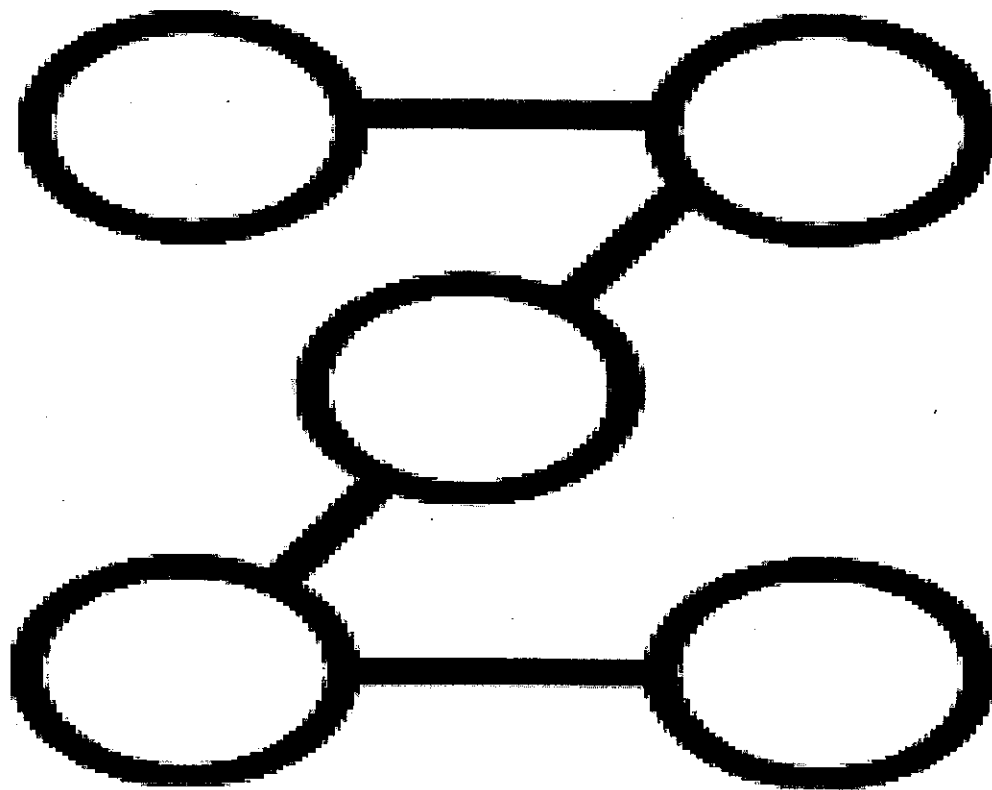
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Detailles



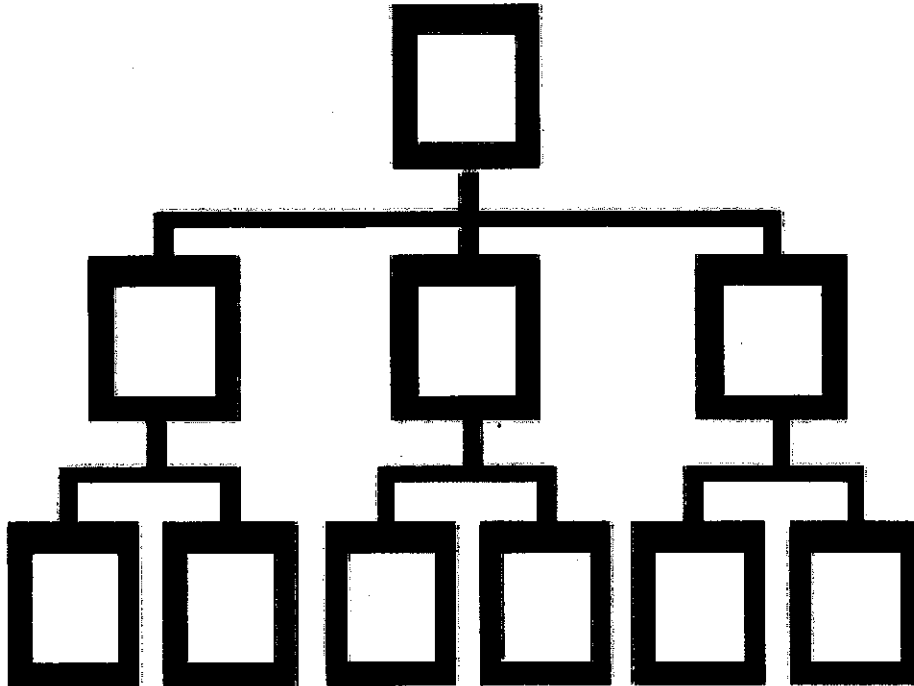
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Patrones



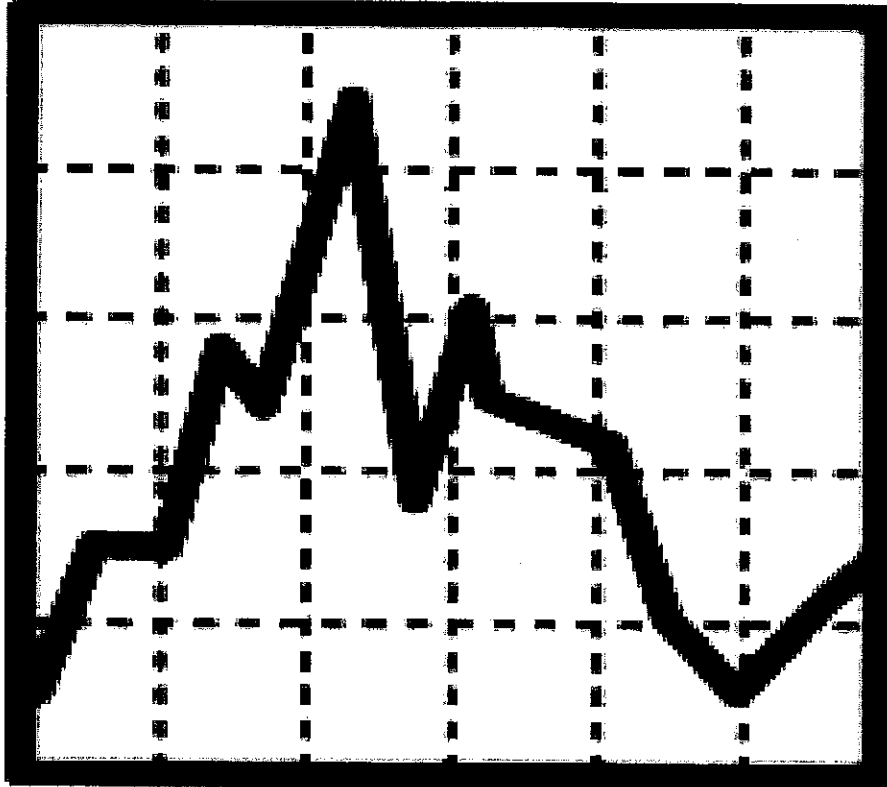
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Reglamentos



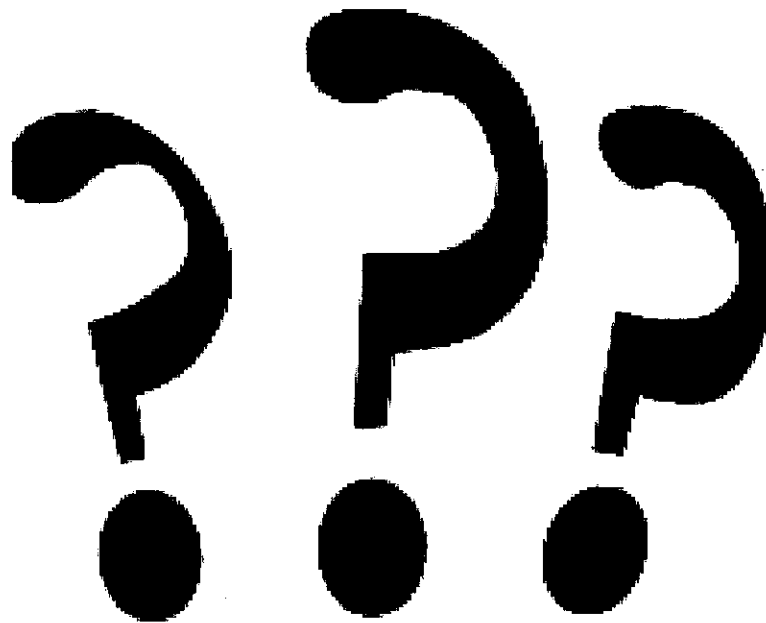
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Tendencias



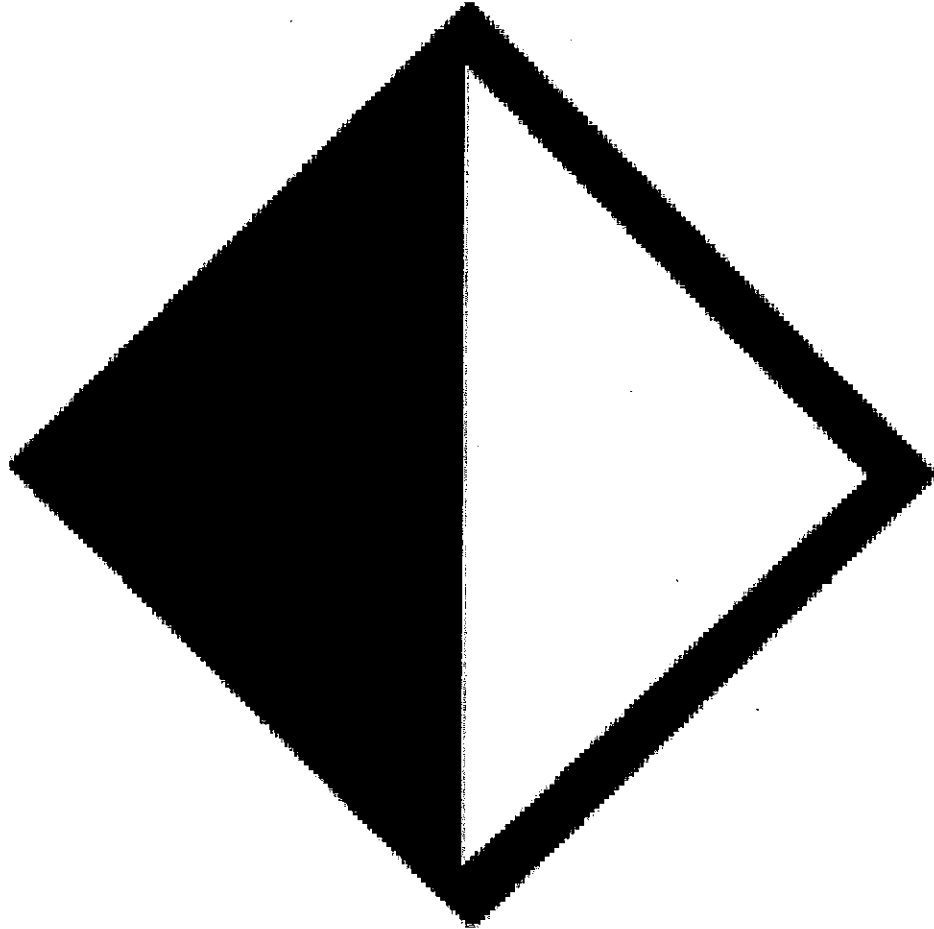
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Preguntas No resueltas



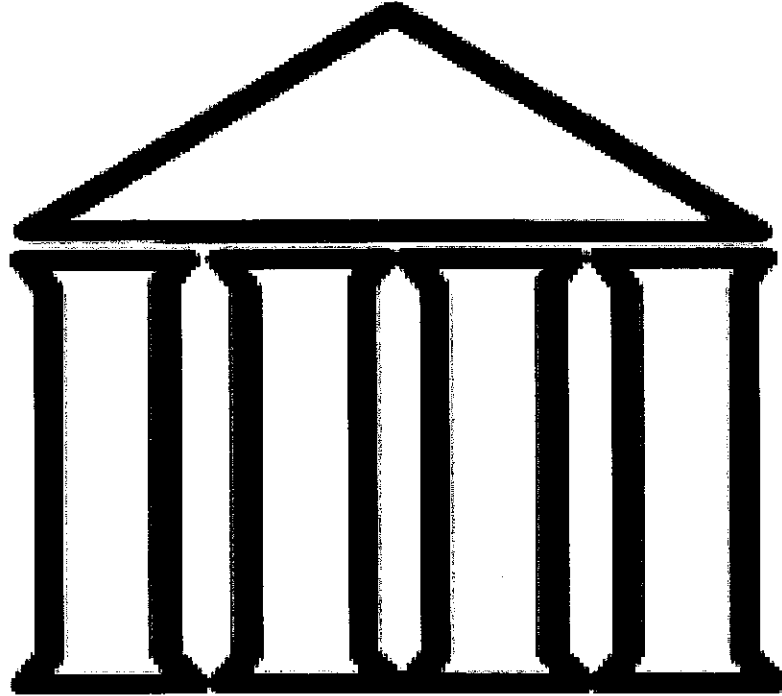
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Ética



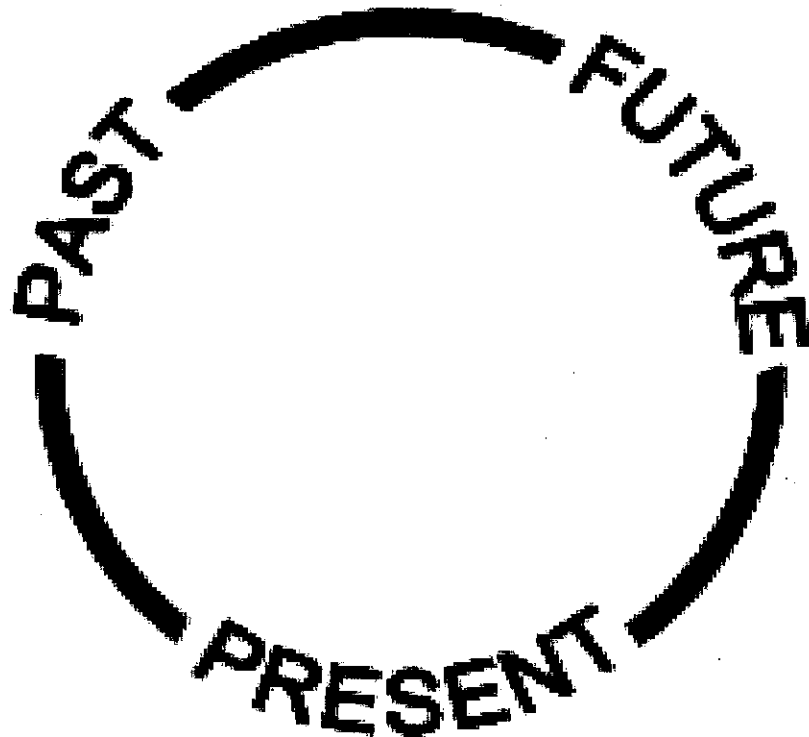
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Ideas Importantes Generalización



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A Través Del Tiempo



- Pasado
- Presente
- Futuro

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Distintos Puntos de Vista



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A Través De las Disciplinas



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Scholars & Knowledge G/T Documentation


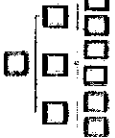




Date: _____ Teacher: _____ Grade: _____

CLEAR Curriculum Content Area Objectives:	Thinking Skills: Distinguish fact from fiction Distinguish relevant from irrelevant Judge with criteria Prioritize Gather evidence to support Note ambiguity State/test assumptions Judge authenticity Redesign Combine Substitute Add to	Depth/Complexity: Language of the Discipline Details Patterns Trends Unanswered ????? Rules Ethics Big Idea Over Time Different Points of View Across Disciplines Content Imperatives: Origin Contribution Parallel Paradox Convergence Scholarly Behavior Emphasis:	Resources/Research	Products	Independent Study Options
<p>(Planning Formula may be used for Individual Student Assignments, Designing Pathways to Research, Lesson Plans, Unit Plans, Semester Plans)</p> <p>Thinking Skill / Depth & Complexity &/or Content Imperative + Content + Resources/Research + Product</p>					
Reading/L. Arts					
Mathematics					
Science					
Social Studies					

Making Interdisciplinary Connections with your Universal Concept:
Generalizations:

Developed as an optional form for teachers to use when planning for &/or documenting G/T Differentiation in the classroom.
Revised, October, 2003, HISD Advanced Academics Department





Facilitating the Understanding of DEPTH and COMPLEXITY (continued)

ICONS	PROMPT	KEY QUESTIONS	THINKING SKILLS	RESOURCES
	<p>UNANSWERED QUESTIONS</p>	<p>What is still not understood about this area, topic, study, or discipline? What is yet unknown about this area, topic, study, or discipline? In what ways is the information incomplete or lacking in explanation?</p>	<ul style="list-style-type: none"> recognize fallacies note ambiguity distinguish fact vs. fiction and opinion formulate questions problem solve identify missing information test assumptions 	<ul style="list-style-type: none"> multiple and varied resources comparative analyses of autobiographical and current nonfiction articles, etc.
	<p>RULES</p>	<p>How is this structured? What are the stated and unstated causes related to the description or explanation of what we are studying?</p>	<ul style="list-style-type: none"> generalize hypothesize judge credibility 	<ul style="list-style-type: none"> editorials essay laws theories
	<p>ETHICS</p>	<p>What dilemmas or controversies are involved in this area, topic, study, or discipline? What elements can be identified that reflect bias, prejudice, and discrimination?</p>	<ul style="list-style-type: none"> judge with criteria determine bias 	<ul style="list-style-type: none"> editorials essays autobiographies journals
	<p>BIG IDEAS, GENERALIZATIONS, PRINCIPLES, AND THEORIES</p>	<p>What overarching statement best describes what is being studied? What general statement includes what is being studied?</p>	<ul style="list-style-type: none"> prove with evidence generalize identify the main idea 	<ul style="list-style-type: none"> quotations discipline-related essays
	<p>OVER TIME</p>	<p>How are ideas related between the past, present, and future? How are these ideas related within or during a particular time period? How has time affected the information? How and why do things change or remain the same?</p>	<ul style="list-style-type: none"> relate sequence order 	<ul style="list-style-type: none"> time lines text biographies autobiographies historical documents
	<p>DIFFERENT POINTS OF VIEW</p>	<p>What are the opposing viewpoints? How do different people and characters see this event or situation?</p>	<ul style="list-style-type: none"> argue determine bias classify 	<ul style="list-style-type: none"> biographies autobiographies mythologies and legends vs. non-fiction accounts debates

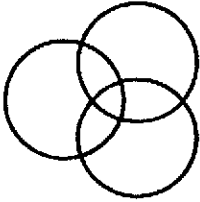
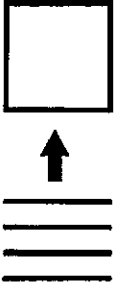

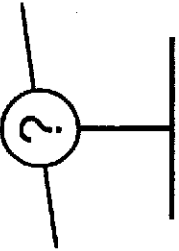
Depth

Complexity

Facilitating the NEW Prompts of Depth and Complexity














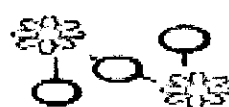





Icons -- Depth	Prompt	Key Questions	Thinking Skills	Resources
	Impact	How does _____ influence _____? What are the effects of _____ on _____?	affect identify force	quotes editorials persuasive essays
	Process	What steps are used to create this? What type of procedure is involved?	sequence connect link order arrange	continuum storyboard flow chart timeline
	Motive	What is causing this to happen? How is the idea or work stimulated?	reason excite inquire explain	biographies autobiographies interviews
	Proof	What information verifies this? How can this be validated?	determine fact vs. opinion support with evidence authenticate prove document	statistics maps encyclopedia

Facilitating the NEW Prompts of Depth and Complexity

Icons -- Complexity	Prompt	Key Questions	Thinking Skills	Resources
	Context	<p>What determines the outcome of an event?</p> <p>What features, conditions, or circumstances describe the situation?</p> <p>How does the environment shape or affect what is happening?</p>	<p>define</p> <p>describe</p> <p>illustrate</p> <p>influence</p>	<p>pictures</p> <p>descriptive essay</p> <p>narratives</p> <p>virtual field trips</p> <p>almanacs</p> <p>video tapes</p>
	Translate	<p>What are the multiple and varied meanings of the language?</p> <p>How is the same idea interpreted in different situations and by different people?</p>	<p>restate</p> <p>interpret</p> <p>recite</p> <p>express</p> <p>explain</p> <p>convert</p> <p>transfer</p>	<p>thesaurus</p> <p>dictionary of professional terms</p> <p>dictionary</p>
	Original	<p>Why is it new?</p> <p>What makes it new?</p> <p>How does time and place make it new?</p>	<p>create</p> <p>design</p> <p>innovate</p> <p>modify</p> <p>redesign</p>	<p>copyright</p> <p>laws</p> <p>encyclopedia</p> <p>artifacts</p> <p>museums</p>
	Judgment	<p>What factors will influence what is happening?</p> <p>How is the decision to be made?</p>	<p>decide</p> <p>determine</p> <p>agree</p> <p>disagree</p> <p>verify</p> <p>investigate</p> <p>identify options to argue</p>	<p>laws</p> <p>newspapers</p> <p>philosophy books</p>

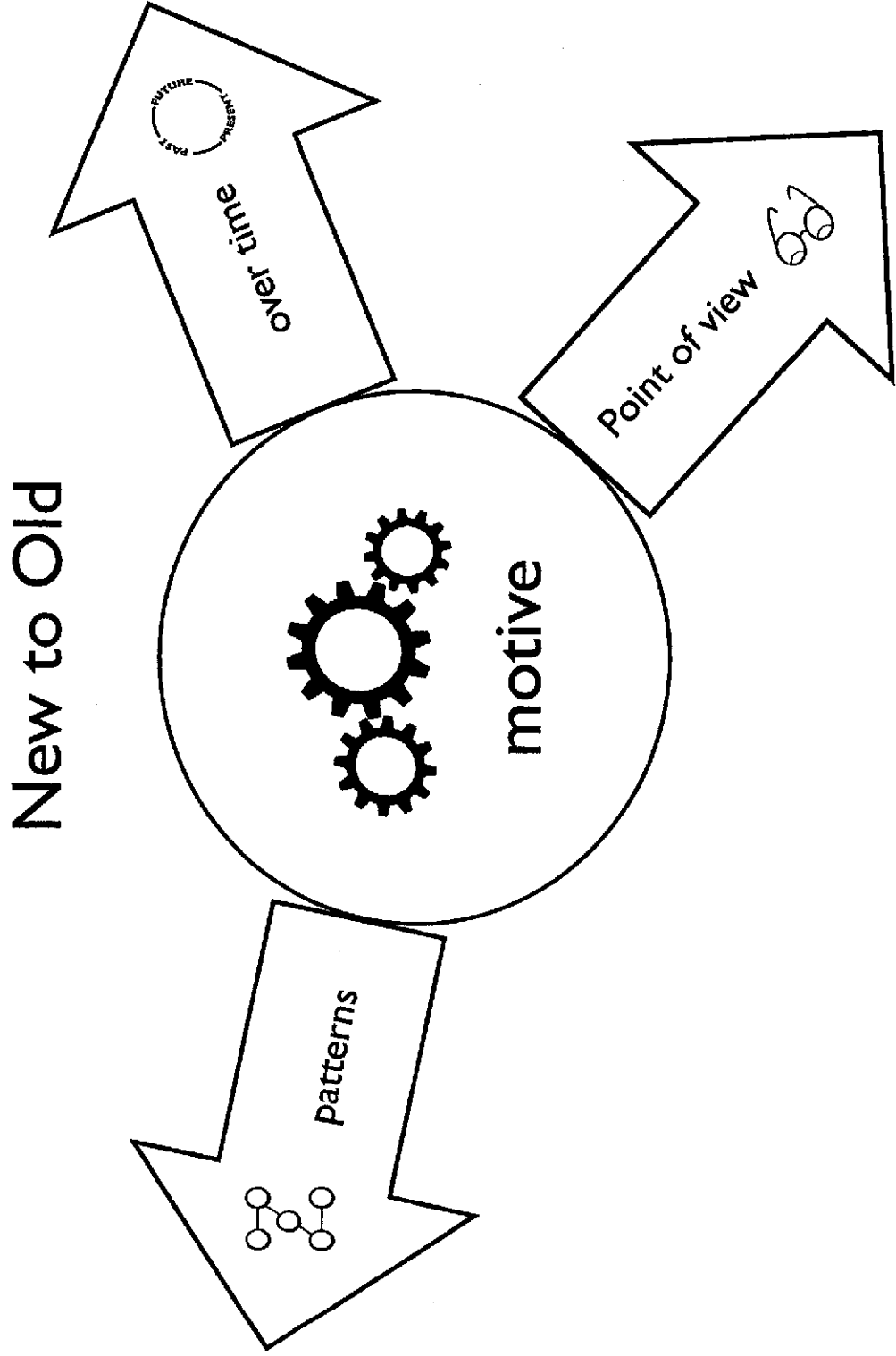
SCOPE AND SEQUENCE: DEPTH/COMPLEXITY



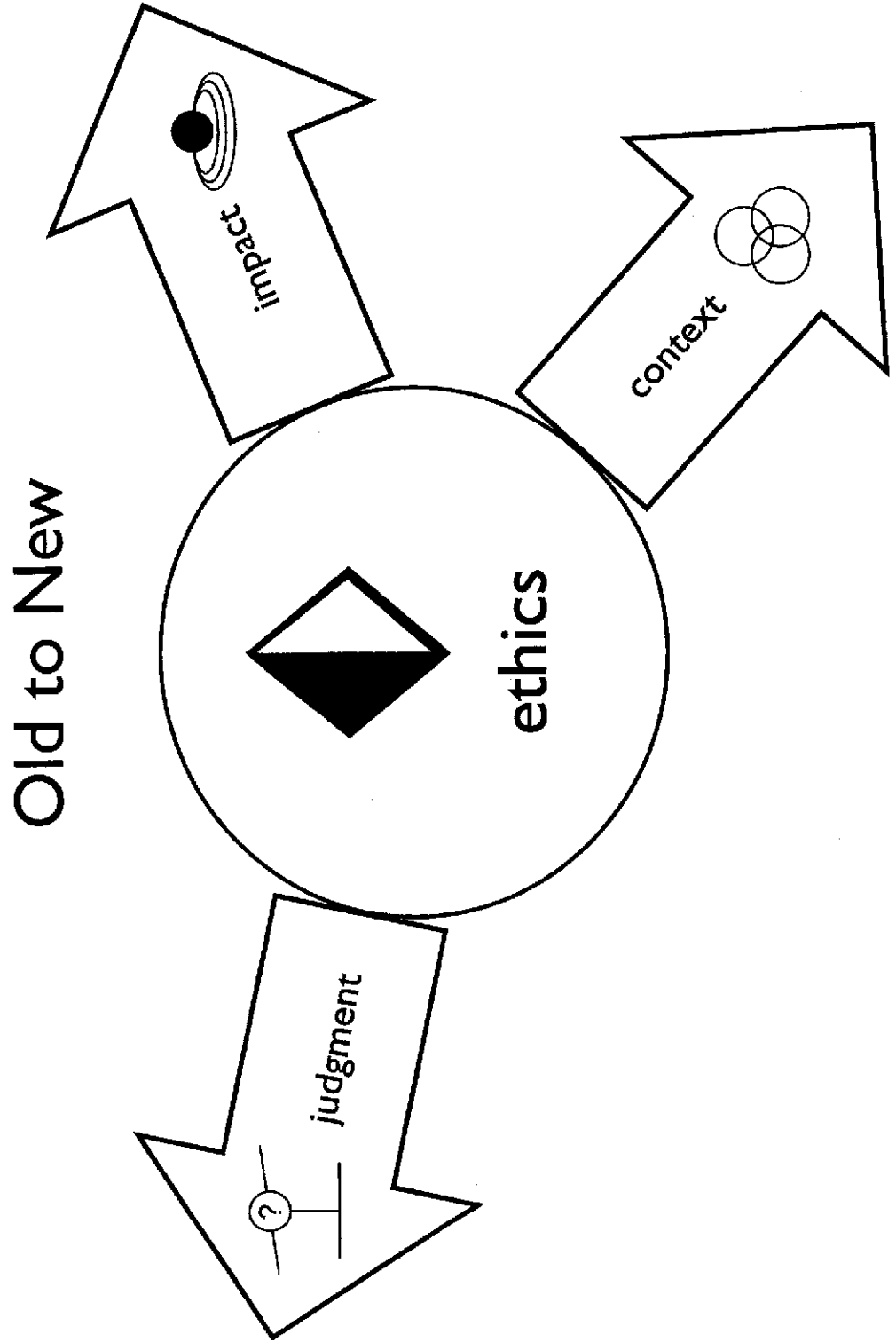
ONE: Single	TWO: Couple (Set)	THREE: Intersection	FOUR: Pathway
<p>introduce each of the single dimensions of Depth/Complexity in context.</p> <p>Fairy Tales  for the </p> <p>.....</p> <p>Apply the prompts of Depth/Complexity as question and/or skill stems.</p> <ul style="list-style-type: none"> - What is the  of the animals' behavior? - Describe  of animals - Define  - Compare  	<p>Relate the set or couple of the Depth/Complexity to the same task.</p> <p>Identify the ( and ) included in the genre of fairy tales.</p> <p>.....</p> <p>Identify  key words that specify the prompts-set of Depth/Complexity.</p> <ul style="list-style-type: none"> - Define the  pattern and  trends. - What are the  trends and  points of view about trade among nations? 	<p>Intersect the dimensions of Depth/Complexity to show how they reinforce one another or work collaboratively.</p> <div data-bbox="568 638 860 1042">  <p>Describe the details that form the pattern in a cactus.</p> </div> <p>Examine the implications, causes, and effects using ICONIC STATEMENTS formed by intersecting the prompts</p> <div data-bbox="1039 638 1412 1042">    </div>	<p>Create pathways of inquiry or problem solving using the dimensions of Depth/Complexity</p> <div data-bbox="535 170 763 585"> <p>Solve the problem by...</p>  <p>Determine why...</p>  </div> <p>.....</p>



Relationship between the Prompts of Depth and Complexity

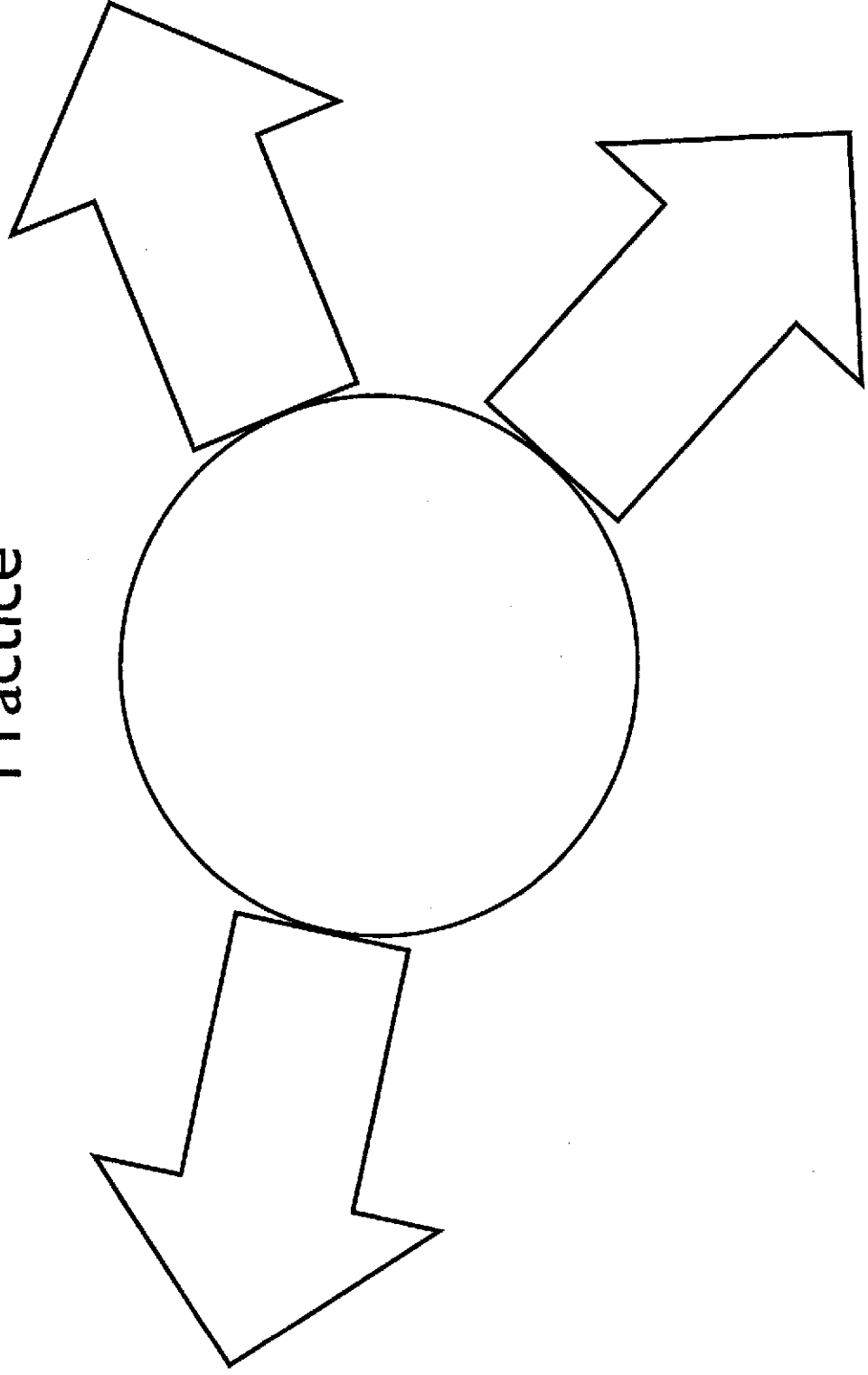


Relationship between the Prompts of Depth and Complexity














Relationship between the Prompts of Depth and Complexity

Practice
















What happens when and meet?

The Meeting	An Example	The Effect(s)
 patterns meet  point of view		
details meet  a pattern		
 ethics meet  rules		
 unanswered questions meets  over time		
 language of the discipline meets  a trend		
 big idea meets  interdisciplinary		

Depth & Complexity AND Critical Thinking Skills

prove with evidence
determine the relevance
differentiate fact vs. fiction
note ambiguity
judge with criteria
state and test assumptions

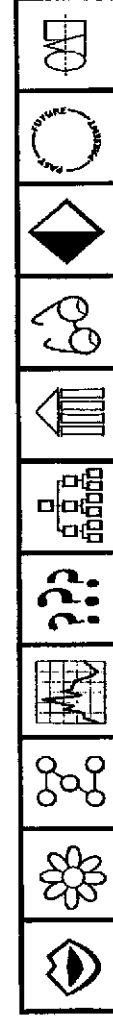
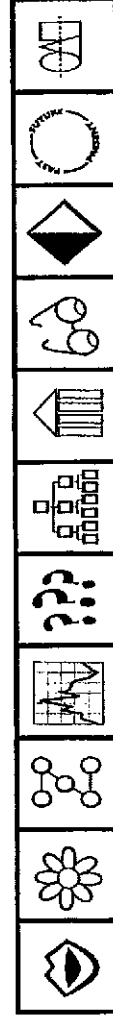
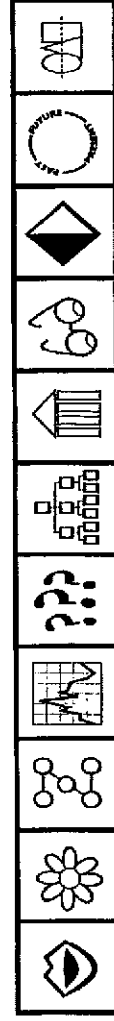
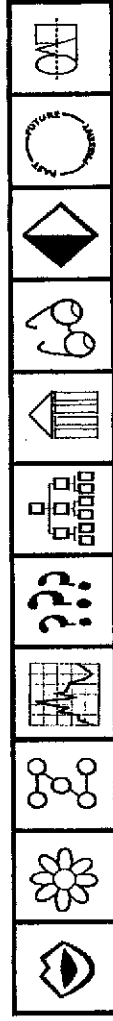
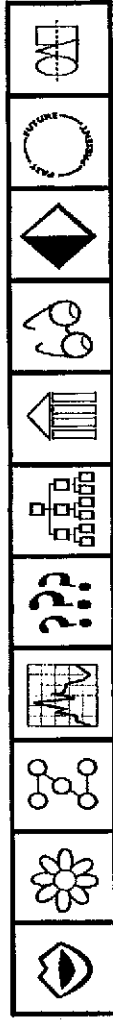
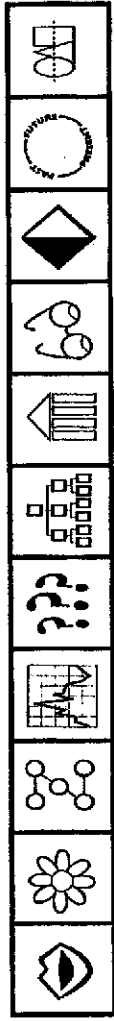
add-to, combine, substitute, mini/maximize

 context	 impact
 language of the discipline	 details
	 patterns
	 trends
	 unanswered questions
	 rules
	 process
	 multiple perspectives
	 ethics
	 over time
	 judgment

Depth & Complexity AND Creative Problem Solving (Treffinger)

Problem: _____

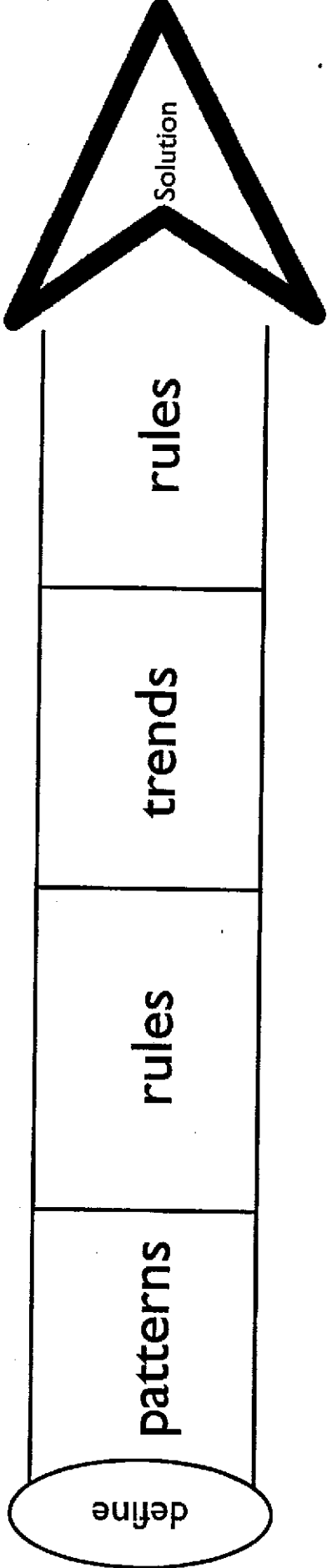
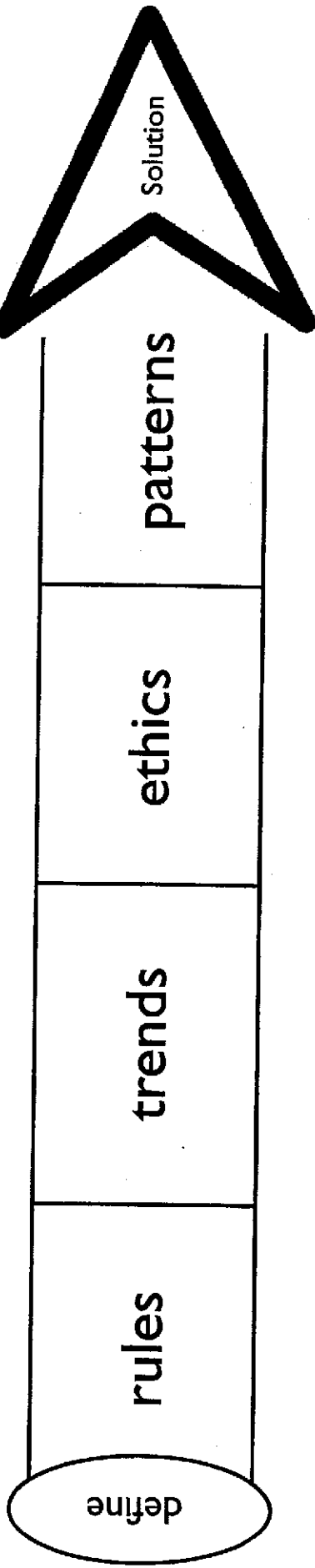
Define the mess
State the problem
Identify possible solutions
Gather needed information
Select a solution
“Sell” the solution



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Problem Solving Pathways

Problem: global warming

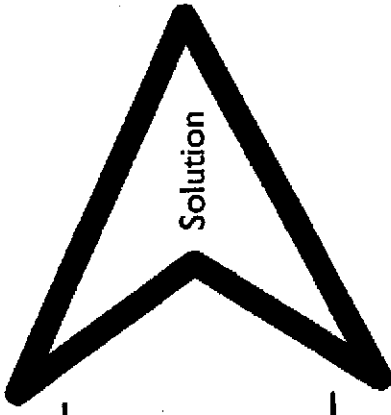


Problem Solving Pathways

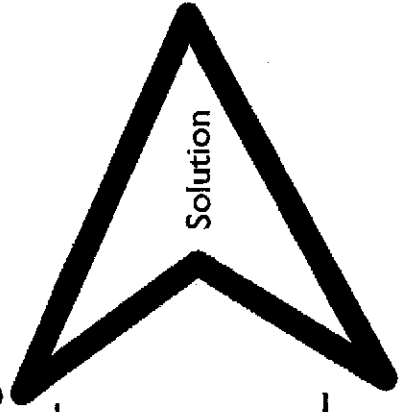
Problem:

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define



define



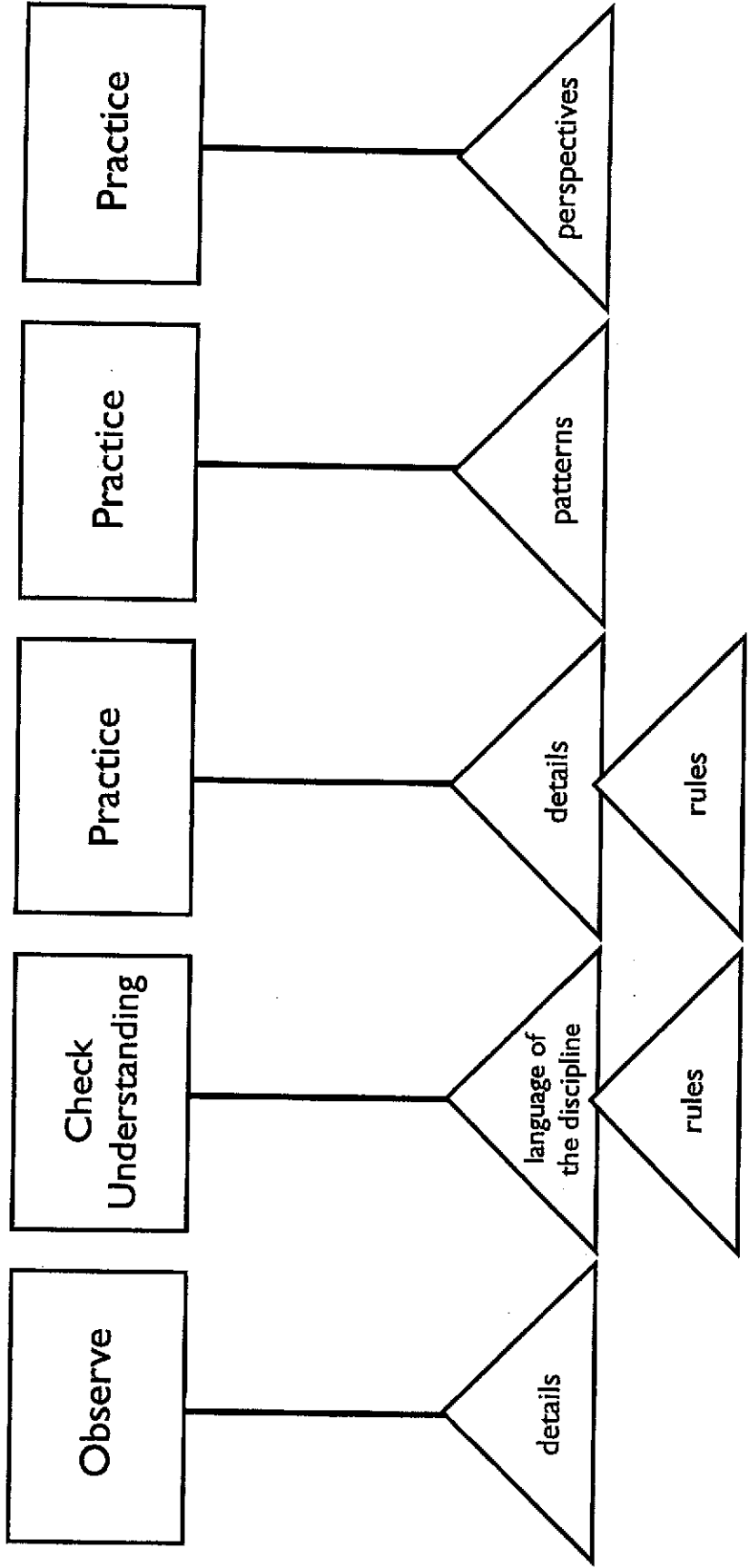
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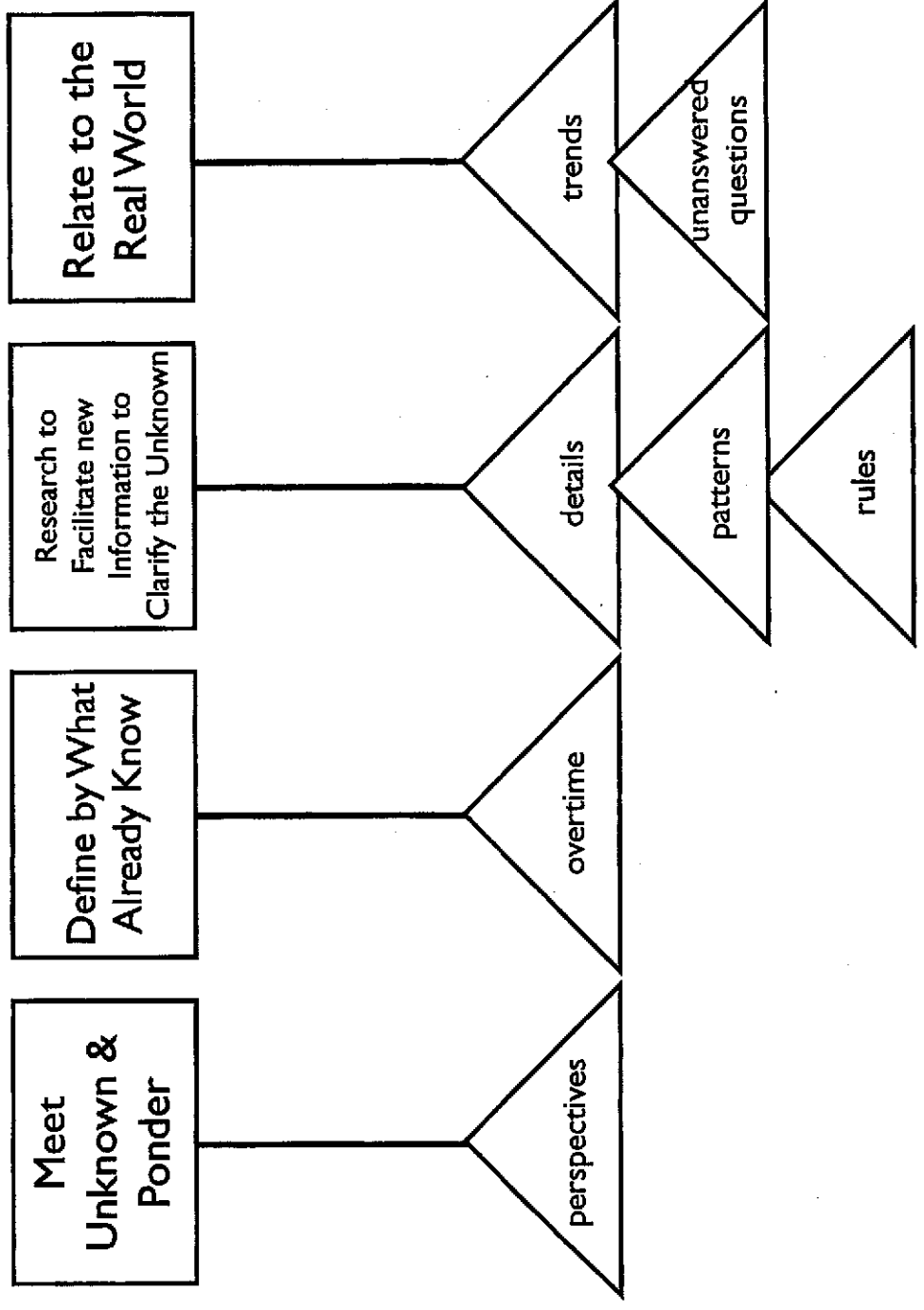
Depth/Complexity AND Learning-to-Learn

Direct Instruction



Depth & Complexity AND Learning-to-Learn

Inquiry












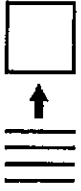











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Depth/Complexity AND Instructional Strategies

Studying:
Author's relationship to characters

	observe			impact
	question			proof
	investigate			original
	inquire			translation
	probe			motive
	practice			context
	connect			process