

CONTENT IMPERATIVES FOR DIFFERENTIATING CONTENT

Just as keys unlock a door, the content imperatives are terms that unlock meaning of an area or topic of study. Each content imperative provides students with a prompt to initiate inquiry about subject matter. They focus the investigation of a topic of study from a broad, general area to a more structured and specific one. Note the differences in these two examples:

Students will investigate different elements of weather related to farming.

Students will investigate the convergence of different elements of weather on farming.

The content imperatives and their intended meanings as members of this set of prompts and the icons that represent them are shown below.



ORIGIN or how things got started or began.



CONTRIBUTION or the benefit or effect of some action or attribute.



PARALLEL or how areas of study share common characteristics.



PARADOX or how things simultaneously can pose opposing or contradictory ideas.



CONVERGENCE or how ideas meet to form a new or different idea.

The content imperatives can be used as prompts to construct questions to stimulate the investigation of subject matter. What are the CONTRIBUTIONS of weather to farming?

The content imperatives can be used as prompts to design a task statement to stimulate the investigation of subject matter. Define the CONVERGENCE of weather elements as related to farming in the Midwest by constructing a chart.

The relationship of the content imperatives to the dimensions of depth and complexity is significant. Each set of prompts strengthens students' abilities to focus on and investigate knowledge at more advanced and sophisticated levels. When used in tandem with the dimensions of depth and complexity, the content imperatives provide specificity to those dimensions. Note the differences in the following examples:

dimension of depth

Students will investigate weather trends that affect farming in different locations

content imperative & dimension of depth

Students will investigate the convergence of the weather trends that affect farming in different locations.

The first task represents the sole use of a dimension of depth, while the second task requires investigation of a topic that involves a relationship between both a content imperative and an element of depth.

When mixing and matching prompts from the two sets, the two criteria teachers and students should keep in mind as they relate the content imperatives to the dimensions of depth and complexity are: 1) the learning experience should be feasible for students to accomplish, and 2) the learning experience should be worth the time and effort students must expend in order to accomplish the task.

The Role of Content Imperatives in a Differentiated Curriculum

The original intent of developing content imperatives was to differentiate the core curriculum so that it is aligned to the needs and abilities of gifted and high-ability students. The content imperatives represent a set of terms that activate higher levels of knowing. They demand more sophisticated resources of information, more analytical thinking to understand the subject matter and more complicated products to share what has been learned.

The dimensions of depth and complexity predate the content imperatives. The question of how to stimulate greater depth and complexity of understanding for students led to the identification of another set of terms to be used with depth and complexity. These terms became the content imperatives, which, along with the dimensions of depth and complexity, facilitate attainment of the goal: higher levels of knowing.

About the Content Imperative Cards


Individual content imperatives and each content imperative combined with a dimension of depth or complexity are illustrated on the cards of the set. One card shows the various icons as a group. The reverse of each card lists suggested ways to put these icons into practice. Each box lists possibilities for formulating learning tasks and bringing the content imperatives into discussions and projects. Teachers may make their own lists to match the standards of their grade and the needs of their students.





Thinking Skills are ones that link up well with the content imperative or content imperative and depth or complexity pair pictured on the card. There are many other thinking skills that teachers may select, based on the needs of their students.

Sample Tasks are ideas related to the icon or paired icons indicating how they can be used to differentiate core curriculum topics for gifted and high-ability students.

...within the Disciplines are brief lists of content areas and topics of the core curriculum which can be differentiated by applying the content imperative. These are sample lists; each class or grade level can develop lists based on their own core curriculum.

convergence



<p style="text-align: center;">Thinking Skills</p> <ul style="list-style-type: none"> • sequence • recognize relationships • state and test assumptions • identify cause and effect 	<p style="text-align: center;">Related Depth and Complexity Dimensions</p> <p>details </p> <p>patterns </p> <p>big idea </p> <p>relate over time </p>	<p style="text-align: center;">convergence: related terms</p> <p style="text-align: center;">merging</p> <p style="text-align: center;">concurrence</p> <p style="text-align: center;">intersection</p> <p style="text-align: center;">meeting points</p> <p style="text-align: center;">joining</p> <p style="text-align: center;">union</p> <p style="text-align: center;">conjunction</p> <p style="text-align: center;">coming together</p>	
<p style="text-align: center;">Sample Tasks</p> <p>Prove with evidence that a convergence of ideas and events led to the American Revolution.</p> <p>What relationships exist between paleontology and climatology that led to the field of paleoclimatology?</p> <p>Sequence the details that converge in a story to form the climax, solution or conclusion.</p> <p>State and test assumptions about the details and operation(s) which converge in the solution of a math problem.</p>			
<p>Convergence within the Disciplines, a Sample List</p>			
<p style="text-align: center;">Language Arts</p> <ul style="list-style-type: none"> • shared words, word roots • idioms or terms of different languages • hero stories • characters with similar roles in different stories • comprehension skills: drawing conclusions, predicting, inferring • grammar 	<p style="text-align: center;">Math</p> <ul style="list-style-type: none"> • problem solving • measurement • perspective • number line, positive and negative integers • algebraic and other equations 	<p style="text-align: center;">Social Studies</p> <ul style="list-style-type: none"> • historical events • elements of disasters, wars • theories of government, economics • groups, tribes, communities, nations 	<p style="text-align: center;">Science</p> <ul style="list-style-type: none"> • emerging knowledge, e.g., DNA, genes, the universe • conciliation, e.g., biochemistry, geobiology • "new" knowledge, new technology • solar system

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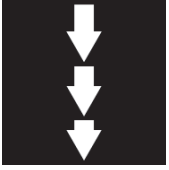
Related Depth and Complexity Dimensions are a selection of icons that might best combine with the content imperative. Many dimensions can be used with the content imperative; the given list is to suggest some interesting choices. Some depth and complexity dimensions such as details, patterns and over time go well with all of the content imperatives.

Related terms are synonyms for and terms that are closely related to the content imperative. Many teachers will use these terms interchangeably during regular lessons and learning activities. Once students become familiar with the terminology, they may move on to one of the sample tasks or may create their own differentiated task by combining the content imperative with class topics.

PUTTING THE CONTENT IMPERATIVE CARDS INTO ACTION

The Content Imperative Cards are visual aids for both teachers and students. Like all visual aids, these cards can be used for many different purposes. It is important to recognize that these Content Imperative Cards are intended to facilitate teaching and learning; they are not mere classroom decorations.

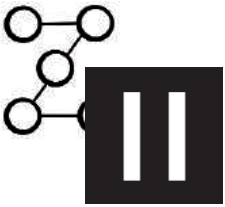
Content Imperatives as Part of a Lesson



Motivation

A content imperative card can be used as a preface to a lesson. The selected content imperative card can stimulate discussion as a form of readiness for a lesson or to activate prior knowledge as a bridge to a lesson.

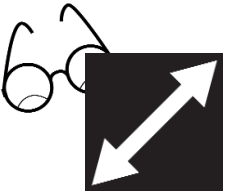
The teacher stimulated discussion about the contributions of people to our contemporary way of life. This is an example of a warm-up or motivational discussion to begin a lesson on “Inventors and Inventions” from the core or standards-based curriculum.



Discussion during a lesson

A selected content imperative can be used on its own or combined with a dimension of depth and complexity to promote a discussion within the context of the lesson being taught.

The teacher showed the content imperative card and the pattern icon to the class as students were learning about the variances in plot development identified in different genre. The teacher asked students to describe parallel plots that share common patterns within various genre.



Follow-up assignment

A selected content imperative card can be used on its own or combined with a dimension of depth and complexity to guide practice or study as a culmination to a lesson.

The teacher showed the content imperative card, paradox, to the class as well as the icon for multiple perspectives and discussed the meaning of the term: contradictory points of view that may both be true. At the conclusion of a study of conservation, students were instructed to read newspaper articles, journals and brochures to identify paradoxical situations related to conservation.

Content Imperative and Depth and Complexity Cards in a Learning Center

The Content Imperative Cards and the icons or cards representing the dimensions of depth and complexity can be used to organize a learning center that is directed toward the study of a topic. A learning center can include materials relevant to the topic along with various icons of the content imperatives and depth and complexity for students to choose from in order to promote learning the teacher-selected topic in a student-directed manner.

Example: The teacher designated a site in the classroom to establish a “Communities” learning center. The teacher posted several questions for students to use as study guides: What does “Community” mean? and, How do communities provide goods and services. Students mixed and matched a content imperative card with a depth and complexity card or icon to define how they would respond to the study questions. Books, maps and other materials were placed at the center to facilitate students’ study of the learning center’s topic.

Content Imperative Cards and Depth and Complexity to Define Independent Study

The Content Imperative Cards used in conjunction with the depth and complexity cards or icons can help students outline or define the areas within a study that best correlate to their own needs, interests and abilities.

The student's interest in pursuing the findings of the investigation of Mars by Spirit and Opportunity determines how to match content imperatives and dimensions of depth and complexity to form sets of prompts that will guide the study of space exploration. The teacher provides each student with a Learning Log to be used to record the student's study plan and to keep track of progress being made.

To study: <input type="text"/>
I will: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
I will need these books: <input type="text"/>
And pictures: <input type="text"/>
My Learning Log

Date: <input type="text"/>
My Accomplishments today: <input type="text"/>
Next time I will: <input type="text"/>
My Learning Log