

The Vertically Articulated Skills of the Patterns of Thinking Method

Pattern of Thinking	Vertically Articulated Skill
Draws distinctions between and among ideas	D.1* Demonstrates the ability to name and define concepts by communicating what something is and is not.
	D.2* Compares and contrasts to find similarities and differences among ideas.
	D.3* Demonstrates the ability to take an existing distinction and change the boundary between what it is and what it is not.
	D.4* Demonstrates the understanding that every thing is a distinction comprised of identity and other.
Organizes systems using part-whole thinking	S.1* Identifies the parts of ideas.
	S.2* Organizes systems into parts and wholes.
	S.3* Thinks of a concept as a part in several different wholes and identifies the other parts in each whole.
	S.4* Demonstrates an explicit understanding that every whole has parts and every part is a whole.
Recognizes relationships between and among ideas	R.1* Relates ideas.
	R.2* Identifies hidden relationships between ideas.
	R.3* Understands cause and effect by differentiating among different types of relations (one-way, two-way, feedback).
Takes multiple perspectives on a topic or issue	P.1* Takes multiple perspectives on a topic or issue.
	P.2* Understands that perspective is comprised of both a point and a view.
	P.3* Recognizes that a perspective exists even when it is unstated.
	P.4* Differentiates among and demonstrates taking various types of perspectives (personal, physical, anthropomorphic, social, and conceptual).
	P.5* Demonstrates the ability to take second- and n th -order perspectives.
Integrates the Patterns of Thinking	I.1* Identifies and distinguishes the parts of a relationship between and among ideas.
	I.2* Sorts, groups, nests, or categorizes ideas from many explicit perspectives.
	I.3* Reformulates a distinction by taking the "other" perspective.
	I.4 [^] Recognizes the part-whole structure of distinctions, systems, relationships, and perspectives.
	I.5 [^] Recognizes and notes the invisible "other" whenever new parts, perspectives, or relations are formed.
Applies the Patterns of Thinking to Content Knowledge	A.1 [^] Differentiates between the content and the structural patterns of ideas.
	A.2 [^] Recognizes like structural patterns in unlike content.
	A.3 [^] Recognizes similar structural patterns across subject areas to facilitate interdisciplinary transfer.
	A.4 [^] Builds analogies, metaphors, and similes and demonstrates how small changes transform meaning.
	A.5 [^] Innovates new solutions to complex problems by seeing alternative constructions, thus avoiding lock-in.
	A.6 [^] Demonstrates flexible thinking skills to adapt to changing needs or variables.
	A.7 [^] Develops models comprised of constructs that are internally consistent.
	A.8 [^] Constructs simple, elegant, universal, fractal, symmetrical models.

* Appropriate from preK to PhD ^ Appropriate 6th grade to PhD

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As each skill is applied to age-appropriate, grade-specific subject matter, students move up the grades from preK to PhD gaining increasingly robust thinking skills.