Imaginative Ways of Thinking: Emergent Terms from Literature on Imagination in STEM

High level categories are listed alphabetically (left), and clusters of nuanced terms (right) are sized to roughly relate to their relative incidence across literature reviewed. This representation is for illustrative purposes to highlight the range of terms emergent in this work.

materialartifacts optimism corporality deep peoples Collective newperceptions observation others dialetics conflictresolution empathy concrete nonobservable structuralvisualization senses visualizeideas envision perspective experiences scientificpresent clarity mental VIVI Justify artifacts knowledge observations internal actions crystalization noticingdeeply neaning conceptualization wonder feeling unknown scenario imaginary openness elaboration detail speculative new emotion mentalimages speculative ine alternatives formation Ideas cognition mentalimage vividimages intuition conceiving initiation mind contemp concentration individuality understanding interestSolitary questioning reshape personal thoughtexperiments uncertainty variation hypothesize exploreconsequences foresight counterfactual selfefficacyselves forecast testing validation paradox experimentation patterns combine tures selfintervention inconsistency inking metaphor predictions futuring unpredictability anticipatory association future prediction lookbeyond possibilities diversity dissonance mismatch analogy link met creativethinking originality mismatching connections regularity leap creating new innovation in the leap creating new innovation new innovation in the leap creating new innovation new innovation in the leap creating new innovation in the leap creating new innovation new innovation new innovation new innovatio integration composition vocabulary breaking creative inventions challenge narratives innovations nove innovation classification narrative organization thought creation create newlight creativity beyond risktaking analysis sortingintellectualplay fantasy retelling newideas recreate flickering pretend language visualmodeling mentalmodeling foresightnarrative representation simulation literal imitation transformationconcepts radicalchange argumentation modeling dramatization retelling brainstorming bodythinking combining transformingimagery nprov roleplay changecontext changemeaning interactive interaction manipulatingheads change relocateing action problemsolving design embodiment prototype planning strategic projective suggesting ampliative reconsider responsive draw gesture transformingconcepts mentalsimulations perceptuomotor reassemble manipulation relocation republicing transformation nsformingimages relocatingonesel



Associating

Creating

Feeling

Creativity

Empathizing

Embodiment

Futures thinking

Mental practice

Perspective taking

Problem solving

Prototyping

Representing

Reproducing

Speculating

Storytelling

Visualizing

Wonder

Transforming

Understanding

Self-identification

Reflecting

Possibilities thinking

Navigating inconsistency

Moral thought

Hypothesizing

Innovating

Noticing

Playing

Organizing

Concept formation

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