

Marked Tree Public School
Gifted & Talented
Education



K-12
Scope & Sequence

2019-20

Marked Tree Public School
G.T. Strands
Documentation
 2019-20
Standards

Cognition	Students will increase their ability to generate many, varied, innovative, and elaborate ideas and solutions to problems.
1. Creative Thinker	Students will increase their ability to generate many, varied, innovative, and elaborate ideas and solutions to problems.
2. Critical Thinker	Students will use higher order thinking skills of analysis, synthesis, evaluation, and utilize problem-solving skills and develop strategies that can be applied to real-life.
Product	
3. Research/Independent Learning	Students will acquire research/independent learning skills by selecting a topic, research, and analyze information.
4. Communication	Students will develop effective presentation formats using communication skills and develop effective learning skills.
Affective	
5. Self-Concept	Students will develop an awareness of self through activities/experiences design to foster their ability to enhance self-concepts.
6. Interpersonal Relations	Students will develop their ability to enhance interpersonal relations.
7. Personal Decision Making	Students will develop personal decision making skills.
8. Risk Taking	Students will learn to cope with success and failure by developing risk-taking skills.
9. Leadership	Students will develop effective leadership skills.
10. Survival Skills	Students will develop survival skills necessary to thrive as a gifted learner.



Strand 1: Creative Thinking (C)

If cell is split: *Top Standard (k-2)
Bottom (3-6)

I-Introduce D- Develop M-Master R- Review							
#	Student Learning Expectation	K	1-2	3/4	5/6	7-9 / 10-12	BLOOM'S
Focus: Fluency Students will increase their ability to generate original and varied ideas and solutions to problems through the use of fluency.							
1.1.1	The learner will generate many alternatives in problem finding and solving. Independently generate many alternatives in problem finding and solving.	I	D/M			Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M/R)	Analysis
1.1.2	The learner will utilize brainstorming techniques.	I	D/M	I/D	M/R		Analysis
1.1.3	The learner will generate a list of pros and cons.	I	D/M	I/D	M/R		Evaluation
1.1.4	The learner will generate a list of attributes.	I	D/M	I/D	M/R		Evaluation
Focus: Flexibility Students will increase their ability to generate original and varied ideas and solutions to problems through the use of flexibility.							
1.2.1	The learner will utilize new and different approaches to problems. Utilize a new or different approach to a problem.	I	D/M			Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M/R)	Synthesis
1.2.2	The learner will minify, magnify and/or modify ideas or concepts. Modify and adapt ideas or concepts	I	D/M	I/D	M/R		Synthesis
1.2.3	The learner will adapt a single idea or material to many different uses. Adapt a single idea or material to many different uses	I	D/M	I/D	M/R		Analysis
1.2.4	The learner will explore unexplained or unknown concepts. Explain unexplained or unknown n concepts with minimal guidance.	I	D/M	I/D	M/R		Analysis Analysis
1.2.5	The learner will apply a principle or concept to different areas.	I	D/M	I/D	M/R		Synthesis
Focus: Originality Students will increase their ability to generate original and varied ideas and solutions to problems through the use of originality.							
1.3.1	The learner will create unique products or ideas by combining, organizing, or redesigning concepts or materials.	I	D/M	I/D	M/R	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M/R)	Synthesis
1.3.2	The learner will generate unusual solutions to problems.	I	D/M	I/D	M/R		Synthesis
1.3.3	The learner will generate unusual answers to questions. Generate unusual answers to questions with greater depth and complexity.	I	D/M	I/D	M/R		Synthesis

#	Student Learning Expectation	K	1-2	3/4	5/6	7-9 / 10-12	Bloom's
1.3.4	The learner will develop new ideas or concepts by synthesizing seemingly unconnected information.	I	D/M	I/D	M/R	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M/R)	Synthesis
1.3.5	The learner will reorganize a body of information and make original additions to it (Verbally K-1) The learner will reorganize a body of information and make original additions to it with developing skills evident.	I	D/M	I/D	M/R		Comprehension

Focus: Elaboration

Students will increase their ability to generate original and varied ideas and solutions to problems through the use of elaboration.

1.4.1	The learner will recognize the need for details.	I	D/M	I/D	M/R	M/R	M/R	Analysis
1.4.2	The learner will use detail to embellish or enhance objects, concepts or questions.	I	D/M	I/D	M/R	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M/R)		Synthesis
1.4.3	The learner will use familiar objects in ways different from their intended purpose.	I	D/M	I/D	M/R			Synthesis
1.4.4	The learner will distinguish between detail and the necessary components of concepts or products.	I	D/M	I/D	M/R			Evaluation

Focus: Curiosity

Students will increase their ability to generate original and varied ideas and solutions to problems through the use of curiosity.

1.5.1	The learner will pose questions with guidance. The learner will pose questions in depth and with creative insight..	I	D/M	I/D	M/R	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M/R)		Analysis
1.5.2	The learner will recognize the relationship between problem-finding and problem-solving. "with assistance" K-1 The learner will recognize the relationship between problem-finding and problem-solving without prompting	I	D/M	I/D	M/R			Analysis
1.5.3	The learner will question relationships and interpretation "with assistance" K-1	I	D/M	I/D	M/R			Analysis

Focus: Imagination

Students will increase their ability to generate original and varied ideas and solutions to problems through the use of imagination.

1.6.1	The learner will create alternate outcomes for reality through imagination.	I	D/M	I/D	M/R	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M/R)		Synthesis
1.6.2	The learner will give human traits to inanimate objects. Develop metaphors and symbols.	I	D/M	I/D	M/R			Synthesis
1.6.3	The learner will demonstrate an ability to overcome the constraints of time, environment, logic, and responsibility.	I	D/M	I/D	M/R			Synthesis

Strand 2: Critical Thinking (CT)

Focus: Analysis Students will develop the higher order thinking skill of analysis to reason and show evidence of their thought processes.							
#	Student Learning Expectation	K	1-2	3/4	5/6	7-9/ 10-12	
2.1.1	The learner will identify a main idea. The learner will identify a main idea in oral, written, or non-verbal form.	I	D/M			Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M/R)	Analysis
2.1.2	The learner will recognize relationships among ideas and data directed by educator.	I	D/M	I/D	M/R		Analysis
2.1.3	The learner will provide supportive evidence for a particular idea/principle by answering why questions. The learner will provide supportive evidence for a particular idea/principle.	I	D/M				Analysis
2.1.4	The learner will classify information into logical categories.	I	D/M	I/D	M/R		Analysis
2.1.5	The learner will deduce information and draw conclusions.	I	D/M	I/D	M/R		Analysis
2.1.6	The learner will compare attributes of varying ideas.	I	D/M	I/D	M/R		Analysis
2.1.7	The learner will sequence information to make a point or verify a solution.	I	D/M	I/D	M/R		Analysis
Focus: Synthesis Students will develop the higher order thinking skill of synthesis to reason and show evidence of their thought processes.							
2.2.1	The learner will combine concepts, principles, and generalizations to generate a new relationship/understanding.	NA	NA	I/D	M/R	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M/R)	Synthesis
2.2.2	The learner will modify and adapt information, materials and ideas to be used in a different manner.	NA	NA	I/D	M/R		Synthesis
2.2.3	The learner will make valid predictions based on available information or as a result of an action.	NA	NA	I/D	M/R		Synthesis
2.2.4	The learner will formulate alternatives to a problem or issue.	NA	NA	I/D	M/R		Synthesis
Focus: Evaluation Students will develop the higher order thinking skill of evaluation to reason and show evidence of their thought processes.							
2.3.1	The learner will develop evaluation/assessment criteria as a group.	NA	NA	I/D	M/R	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct	Evaluation
2.3.2	The learner will utilize criteria to assess the organization, content, value and effectiveness of a product or process while working in a group.	NA	NA	I/D	M/R		Evaluation
2.3.3	The learner will assess the accuracy and relevance of points used to support an argument.	NA	NA	I/D	D/M		Evaluation

						appropriate lessons for the gifted. (M//R)	
#	Student Learning Expectation	K	1-2	3-4	5/6	7-9 /10-12	Bloom's
2.3.4	The learner will prove or disprove ideas by presenting evidence.	NA	NA	I/D	D/M	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M//R)	Evaluation
2.3.5	The learner will differentiate between constructive and destructive criticism	NA	NA	I/D	D/M		Evaluation

Focus: Problem Solving

Students will utilize problem-solving skills and develop strategies that can be applied to real-life

2.4.1	The learner will recognize a problem (understand a given situation.) with assistance.	I	D	D/D	M	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M//R)	Problem Solving
2.4.2	The learner will define the problem.	I	D	D/D	M		Problem Solving
2.4.3	The learner will gather ideas and data related to the problem.	I	D	D/D	M		Problem Solving
2.4.4	The learner will brainstorm varying aspects of the problem.	I	D	D/D	M		Problem Solving
2.4.5	The learner will identify underlying problems and sub-problems.	I	D	D/D	M		Problem Solving

Strand 3: Research/Independent Learning (R)

Focus: Select/Develop Topic

Students will acquire research/independent learning skills by selecting and develop a topic.

3.1.1.	The learner will brainstorm for a topic.	I	D/M	R	R	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M//R)	Analysis
3.1.2	The learner will formulate questions to guide research with assistance.	I	D/M	R	R		Analysis
3.1.3	The learner will develop a hypothesis.	I	D/D	D	M		Analysis
3.1.4	The learner will determine materials and technical resources needed.	I	D/D	D	M/R		Comprehension
3.1.5	The learner will develop a plan and time line for gathering information.	I	D/D	D	M/R		Synthesis
3.1.6	The learner will develop criteria to evaluate a product.	I	D/D	D	M/R		Evaluation

Focus: Data Collection							
Students will utilize data collection to acquire research/independent learning skills.							
3.2.1	The learner will develop a research outline.	NA	NA	D/D	M/R	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M/R)	Synthesis
3.2.2	The learner will acquire information from various resources.	NA	NA	I/D	M/R		Synthesis
3.2.3	The learner will use various media sources (such as computers, videos, and other electronic devices, etc.)	NA	NA	I/D	M/R		Application
3.2.4	The learner will utilize individuals and community resources.	NA	NA	I/D	M/R		Application
3.2.5	The learner will use appropriate research methods(such as case studies, interviews)	NA	NA	I/D	M/R		Application
3.2.6	The learner will use various skills (such as note taking, outlining, photography, graphs, tables, etc.) to collect data.	NA	NA	I/D	M/R		Application
3.2.7	The learner will read/interpret and validate data.	NA	NA	I/D	M/R		Analysis

Focus: Organizing/Analyzing Data							
Students will acquire research/independent-learning skills by organizing and analyzing data.							
I-Introduce D-Develop M-Master		K	1-2	3-4	5-6	7-9/ 10-12	
3.3.1	The learner will organize and interpret data.	NA	NA	I/D	M/R	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M/R)	Synthesis
3.3.2	The learner will modify hypothesis if needed.	NA	NA	I/D	M/R		Synthesis
3.3.3	The learner will document authenticity of sources.	NA	NA	I/D	M/R		Knowledge
3.3.4	The learner will develop data into an illustrative form for appropriate media.	NA	NA	I/D	M/R		Comprehension

Focus: Presentation and Evaluation of Product							
Students will develop research/independent-learning skills by the presentation and evaluation of a research product.							
3.4.1	The learner will synthesize the data.	NA	NA	I/D	M/R	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M/R)	Synthesis
3.4.2	The learner will establish procedures for developing and improving a final presentation.	NA	NA	I/D	M/R		Synthesis
3.4.3	The learner will develop an original product to accompany the presentation of the selected topic.	NA	NA	I/D	M/R		Application
3.4.4	The learner will apply evaluative criteria to the product.	NA	NA	I/D	M/R		Application
3.4.5	The learner will present information of the selected topic to an appropriate audience.	NA	NA	I/D	M/R		Synthesis

Strand 4: Communication (CM)

Focus: Verbal

Students will develop their verbal communication skills.

4.1.1	The learner will verbally express ideas, opinions and feelings.	I	D	D/R	M/R	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M/R)	Knowledge
4.1.2	The learner will organize material for an oral presentation.	NA	NA	D/R	M/R		Synthesis
4.1.3	The learner will vary content and style according to purpose and audience.	NA	NA	D/R	M/R		Synthesis
4.1.4	The learner will present material to an appropriate audience.	NA	NA	D/R	M/R		Synthesis

(Cont.) Strand 4: Communication (CM)

Focus: Non-Verbal

Students will develop their non-verbal communication skills.

#	Student Learning Expectation	K	1-2	3-4	5-6	7-9/ 10-12	Bloom's
4.2.1	The learner will nonverbally express ideas, opinions, and feelings through body language or drawings. (K-2) The learner will nonverbally express ideas, opinions and feelings.	I	D/M			Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M/R)	Comprehension
4.2.2	The learner will translate verbal communication into another medium. Translate verbal communication into another medium (sign language/body language.)	I	D/D				Synthesis
4.2.3	The learner will recognize non-verbal methods that influence thinking.	I	D	D/R	M/R		Application
4.2.4	The learner will vary content and style according to purpose and audience.	I	D	D/R	M/R		Analysis
4.2.5	The learner will enhance a presentation by using non-verbal forms of expression.	I	D	D/R	M/R		Synthesis

Focus: Written Communication

Students will develop their written communication skills.

4.3.1	The learner will recognize and use various types of written communication.	NA	I/D	D/R	M/R	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate	Application
4.3.2	The learner will develop appropriate techniques related to a specific writing project.	NA	I/D	D/R	M/R		Application
4.3.3	The learner will plan a written document.	NA	I/D	D/R	M/R		Application
4.3.4	The learner will vary content and style according to purpose and audience.	NA	NA	I/D	M/R		Analysis
4.3.5	The learner will present material to an appropriate audience.	NA	NA	I/D	M/R		Synthesis

						lessons for the gifted. (M//R)	
Focus: Listening							
Students will develop their listening skills.							
4.4.1	The learner will identify and demonstrate various skills of listening (such as eye-contact, observation, attentiveness, etc.).	I	D	D/R	M/R	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M//R)	Comprehension
4.4.2	The learner will demonstrate effective body language while listening.	I	D	D/R	M/R		Comprehension
4.4.3	The learner will evaluate benefits of listening skills.	I	D	D/R	M/R		Evaluation
Strand 5: Affective Development (A)							
Focus: Self Concept							
Students will develop an awareness of self through activities/experiences designed to foster their ability to enhance self-concepts.							
#	Student Learning Expectation	K	1-2	3-4	5-6	7-9/ 10-12	BLOOM'S
5.1.1	The learner will recognize and understand one's own special abilities and limitations.	I	D	D/D	M/R	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M//R)	Comprehension
5.1.2	The learner will set standards and goals appropriate to ability level.	I	D	D/D	M/R		Evaluation
5.1.3	The learner will develop a belief in the ability to succeed.	I	D	D/D	M/R		Analysis
5.1.4	The learner will identify and demonstrate an awareness of various emotions and values.	I	D	D/D	M/R		Knowledge & Comprehension
5.1.5	The learner put positive and negative feedback into perspective.	I	D	D/D	M/R		Evaluation
Focus: Interpersonal Relations							
Students will develop the ability to enhance interpersonal relations.							
5.2.1	The learner will discover and respect the uniqueness of others work cooperatively and responsibly.	I	D	D/D	M/R	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate	Analysis
5.2.2	The learner will recognize one's own role in various groups.	I	D	D/D	M/R		Comprehension
5.2.3	The learner will offer and accept constructive feedback.	I	D	D/D	M/R		Evaluation
5.2.4	The learner will anticipate interpersonal conflicts and accept responsibility for consequences of actions.	I	D	D/D	M/R		Analysis

						lessons for the gifted. (M//R)	
5.2.5	The learner will develop awareness that cooperation and competition are aspects of interpersonal relations.	I	D	D/D	M/R	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M//R)	Comprehension
5.2.6	The learner will recognize and evaluate the expectations of adults and peers.	I	D	D/D	M/R		Knowledge & Evaluation

Focus: Personal Decision-Making
Students will develop personal decision-making skills.

#	Student Learning Expectation	K	1-2	3-4	5-6	7-9/ 10-12	BLOOM'S
5.3.1	The learner will establish priorities and set realistic goals.	I	D	D/D	M/R	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M//R)	Evaluation
5.3.2	The learner will review all positive alternatives.	I	D	D/D	M/R		Analysis
5.3.3	The learner will weigh/review pros and cons of each alternative, as a group or class (K-2). The learner will review all positive alternatives. (3-6)	I	D/M				Evaluation
5.3.4	The learner will choose the best alternative.	I	D	D/D	M/R		Analysis
5.3.5	The learner will weigh/evaluate the pros and cons of each alternative and support the decisions. The learner will develop skills in weighing pros and cons of alternatives in personal decision making skills.	I	D/M				Evaluation
5.3.6	The learner will develop skills necessary for self-learning while being guided by educator in decision making. (K-2) Develop skills necessary for self-learning in decision making skills.	I	D/M				Evaluation
5.3.7	The learner will investigate varied career options while studying community helpers. Investigate varied career options while studying famous people.	I	D/M				Knowledge

Focus: Risk Taking							
Students will learn to cope with success and failure by developing risk-taking skills.							
5.4.1	The learner will risk a mistake or failure.	I	D	D	D/M	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M//R)	Evaluation
5.4.2	The learner will explore new experiences and attempt difficult tasks.	I	D	D	D/M		Analysis
5.4.3	The learner will analyze discrepancies in thought or information and develop alternative perspectives.	I	D	D	D/M		Analysis
5.4.4	The learner will risk criticism in support of own beliefs and ideas.	I	D	D	D/M		Evaluation
5.4.5	The learner will predict consequences of risk taking and assume responsibility for a course of action.	I	D	D	D/M		Comprehension
Focus: Leadership							
Student will develop effective leadership skills.							
#	Student Learning Expectation	K	1-2	3-4	5-6	7-9/ 10-12	Bloom's
5.5.1	The learner will define and assess characteristics of leadership.	N/A	I/ D	D/ D	M/R	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M//R)	Evaluation
5.5.2	The learner will discriminate between positive and negative attributes of a leader.	N/A	I/ D	D/ D	M/R		Analysis
5.5.3	The learner will assess the motivational aspects of effective leadership.	N/A	I/ D	D/ D	M/R		Evaluation
5.5.4	The learner will participate in activities that develop effective leadership roles.	N/A	I/ D	D/ D	M/R		Knowledge
Focus: Survival Skills							
Students will develop survival skills necessary to thrive as a gifted learner.							
5.6.1	The learner will explore coping strategies in such areas as perfectionism, gifted characteristics, gifted females, gifted males, gifted underachievement, and twice exceptional students.	N/A	N/A	I/D	D/M	Students are served thru Honor's Classes (Secondary Content, Pre-AP, AP, or College Courses). Educators use guidelines to direct appropriate lessons for the gifted. (M//R)	Knowledge
5.6.2	The learner will accept opportunities to attempt new challenges leading to task commitment or possible lifelong passions in learning.	N/A	N/A	I/D	D/M		Comprehension
5.6.3	The learner will demonstrate effective use of time.	N/A	N/A	I/D	D/M		Comprehension
5.6.4	The learner will assess/reassess obligations in individual and group endeavors to fulfill guidelines established by learner and/or the teacher/facilitator.	N/A	N/A	I/D	D/M		Evaluate Evaluate
5.6.5	The learner will accept responsibility for own action and ideas.	N/A	N/A	I/D	D/M		Comprehension

GT Scope & Sequence Appendix

ASCD Thinking Skills from Dimensions of Learning:

Focusing—directing one’s attention to selected information

Defining problems—clarifying problem situations

Setting goals—establishing direction and purpose

Information gathering—acquiring relevant data

Observing—obtaining information through one or more senses

Questioning—seeking new information by formulating questions

Remembering—storing and retrieving information

Encoding—storing information in long-term memory

Recalling—retrieving information from long-term memory

Organizing—arranging information so that it can be used more effectively

Comparing—noting similarities and differences between two or more entities

Classifying—placing entities in groups by common attributes

Ordering—sequencing entities according to a given criterion

Analyzing—clarifying existing information by identifying and distinguishing among components, attributes, and so on.

Identifying attributes and components—determining characteristics or parts of something

Identifying relationships and patterns—recognizing ways elements are related

Generating—using prior knowledge to add new information

Inferring—reasoning beyond available information to fill in gaps

Predicting—anticipating or forecasting future events

Elaborating—using prior knowledge to add meaning to new information and to link it to existing structures.

Representing—adding new meaning by changing the form of information

Integrating—connecting and combining information

Summarizing—abstracting information efficiently and parsimoniously

Restructuring—changing existing knowledge structures to incorporate new information

Evaluating—assessing the reasonableness and quality of ideas

Establishing criteria—setting standards for making judgments

Verifying—confirming the accuracy of claims

Identifying errors—recognizing logical fallacies

Marzano's Taxonomy:

Level 1—Comprehension

Recall—Identify or recognize features of information but does not necessarily understand the structure of knowledge or cannot differentiate critical from non-critical elements

Execution—Perform a procedure without significant error but does not necessarily understand how and why the procedures work

Level 2—Comprehension

Synthesis—Identify the basic structure of the knowledge and the critical as opposed to non-critical characteristics

Representation—Construct an accurate symbolic representation of the knowledge differentiating critical from non-critical elements

Level 3—Analysis

Matching—Identify important similarities and differences between knowledge

Classifying—Identify superordinate and subordinate categories related to the knowledge

Error analysis—Identify errors in the presentation or use of the knowledge

Generalizing—Construct new generalizations or principles based on the knowledge

Specifying—Identify specific applications or logical consequences of the knowledge

Level 4—Utilization

Decision-making—Use the knowledge to make decisions or can make decisions about the use of the knowledge

Problem solving—Use the knowledge to solve problems or can solve problems about the knowledge

Experimental inquiry—Use the knowledge to generate and test hypotheses or can generate and test hypotheses about the knowledge

Investigation—Use the knowledge to construct investigations or can conduct investigations about the knowledge

Level 5—Metacognition

Goal specification—Set and plan goals relative to the knowledge

Process monitoring—Monitor the execution of the knowledge

Monitoring clarity—Determine the extent to which he or she has clarity about the knowledge

Monitoring accuracy—Determine the extent to which he or she is accurate about the knowledge

Level 6—Self

Examining importance—Identify how important the knowledge is to him or her and the reasoning underlying this perception

Examining efficacy—Identify beliefs about his or her ability to improve competence or understanding relative to the knowledge and the reasons for these responses

Examining emotional response—Identify emotional responses to the knowledge and the reasons for these responses

Examining motivation—Identify his or her level of motivation to improve competence or understanding relative to the knowledge and the reasons for this level of motivation

Treffinger's Creative Problem Solving:

Understanding the challenge

Constructing opportunities

- Generate possible opportunities and challenges to consider
- Focus by identifying the most promising opportunities to pursue

Exploring data

- Examine many sources of data from different points of view
- Identify the key or most important data

Framing problems

- Generate many, varied, and unusual ways to state the problem
- Select or form a specific problem statement

Generating ideas

- Produce many, varied, and unusual ideas
- Identify ideas with interesting potential to develop or use

Preparing for action

Developing solutions

- Organize, analyze, refine, or strengthen promising possibilities
- Combine, evaluate, prioritize, or select promising solutions

Building acceptance

- Consider various sources of assistance and resistance and possible actions for implementation
- Formulate specific plans to gain support for, carry out, and evaluate actions

SCAMPER

- S Substitute or subtract (material, color, function, quality ...)
- C Combine (unite, join, embody, assimilate, blend ...)
- A Adapt, add, or alter (conform, regulate, adjust, fit ...)
- M Modify, magnify, minimize, or multiply (transform, vary, moderate, strengthen ...)
- P Put to other uses or pull apart
- E Eliminate
- R Reverse or rearrange (place contrary or opposite to, transpose, invert, change order ...)

Renzulli's Operation Houndstooth

- Optimism (hope, positive feelings from hard work)
- Courage (psychological/intellectual independence, moral conviction)
- Romance with a topic or discipline (absorption, passion)
- Sensitivity to human concerns (insight, empathy)
- Physical/mental energy (charisma, curiosity)
- Vision/sense of destiny (sense of power to change things, sense of direction, pursuit of goals)

13 Thinking Tools of the World's Most Creative People

Robert and Michele Root-Bernstein

1. Observing
2. Imaging
3. Abstracting
4. Recognizing patterns
5. Forming patterns
6. Analogizing
7. Body thinking
8. Empathizing
9. Dimensional thinking
10. Modeling
11. Playing
12. Transforming
13. Synthesizing

Kaplan's Elements of Depth and Complexity

Language of the disciplines

Details
Patterns
Trends
Unanswered questions
Rules
Ethics
Big ideas
Change over time
Different perspectives
Interdisciplinary relationships

Flow—Mihaly Csikszentmihalyi

Flow is a sustained period of intense and concentrated thought and effort in which the person may be unaware of other surrounding events and actions. The result is heightened sensitivity and increased complexity of self in both differentiation (uniqueness) and integration (union with others or joining of parts).

Paul's Critical Thinking Model (interconnected)

Purpose/goal
Point of view
Concepts/ideas
Information/Evidence/data
Assumptions
matter?
Inferences
Implications/consequences
Issue/problem/question

CPESS Habits of Mind

Evidence: How do we know?
Viewpoint: Who's speaking?
Connections: What causes what?
Supposition: How might things be different?
Meaningfulness: What the point, why does it

Project 2061 Habits of Mind

Integrity
Diligence
Fairness
Curiosity
Openness to new ideas
Skepticism
Imagination

Faciones and Sanchez Dispositions of a Critical Thinker

Inquisitiveness
Open-mindedness
Systematicity
Analyticity
Truth seeking
Critical-thinking self-confidence
Maturity

Ennis' Dispositions of a Critical Thinker

To be clear about intended meanings
To determine and maintain focus
To take the total situation into account
To seek and offer reasons
To try to be well informed
To look for alternatives
To seek precision as required
To be aware of one's own beliefs
To be open-minded
To withhold judgment when evidence is insufficient
To take a position
To use one's critical-thinking abilities

Paul's Virtues and Passions

Passion for clarity, accuracy, fair-mindedness
Fervor for getting to the bottom of things
Sympathetic listening to opposing views
Drive to seek out evidence
Aversion to contradictions, sloppy thing
inconsistent use of standards
Devotion to truth
Intellectual courage
Intellectual humility
Intellectual empathy
Intellectual integrity
Intellectual perseverance
Faith in reason
Intellectual sense of justice

Marzano: Habits of Creative and Critical Learning and Thinking

Engaging intensely in tasks even when answers or solutions aren't immediately apparent
Pushing the limits of your knowledge and abilities
Generating, trusting, and maintaining your own standards of evaluation
Generating new ways of viewing a situation outside the boundaries to the standard convention
Being aware of necessary resources
Being sensitive to feedback
Evaluating the effectiveness of your actions
Being accurate and seeking accuracy
Being clear and seeking clarity
Being open-minded
Restraining impulsivity
Taking a position when the situation warrants it
Being sensitive to others' feelings and level of knowledge

Costa and Kalick Habits of Mind

Persisting
Managing impulsivity
Listening with understanding and empathy
Thinking flexibly
Thinking about thinking (metacognition)
Striving for accuracy
Questioning and posing problems
Applying past knowledge to new situations
Gathering data through all senses
Creating, imagining, innovating
Responding with wonderment and awe
Taking responsible risks
Finding humor