

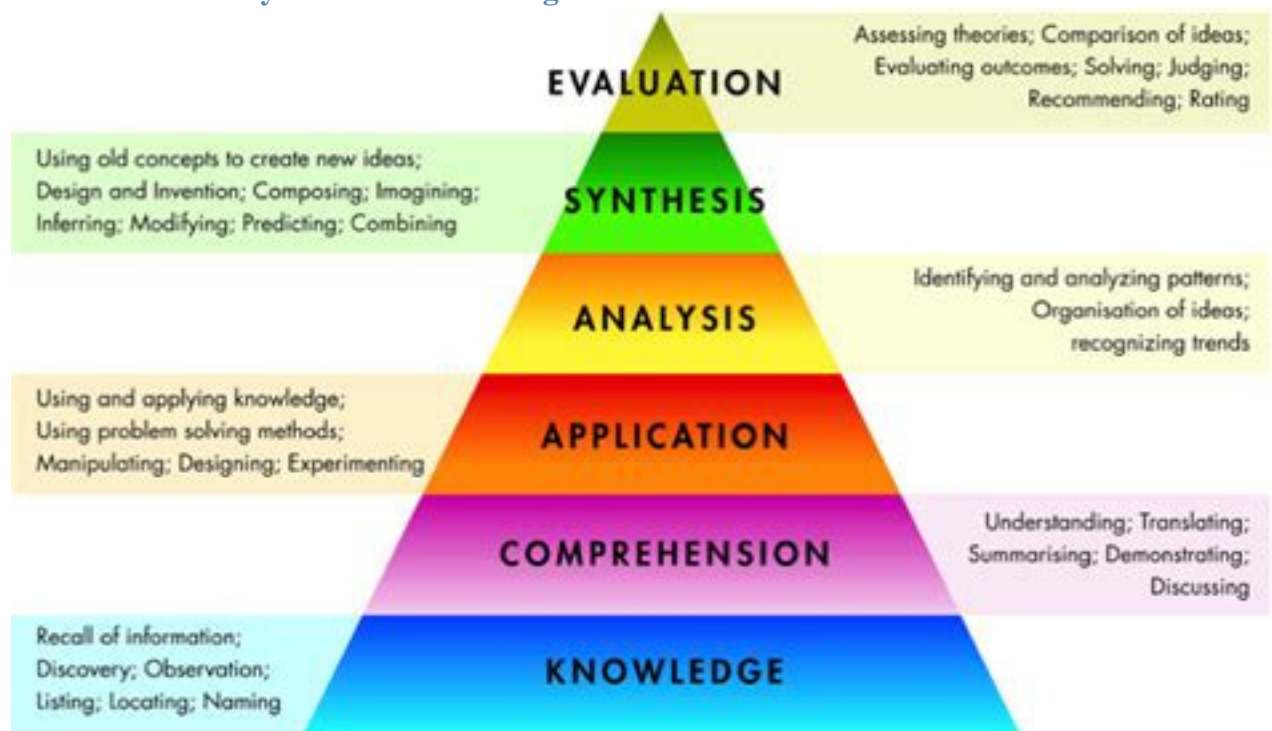
Academic writing

UNIT II- Critical Thinking: SYNTHESIS, ANALYSIS AND EVALUATION

Definition:

Critical thinking is the intellectually disciplined process of actively and skilfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. (Michael Scriven & Richard Paul, presented this definition at the 8th Annual International Conference on Critical Thinking and Education Reform, Summer 1987)

Bloom's Taxonomy of Critical Thinking



1. Knowledge of terminology; specific facts;
 - To define, describe, duplicate, enumerates, recognize....
2. Comprehension understanding the meaning of informational materials:
 - To classify, compare, comprehend, distinguish, estimate, explain, generalize, outline, summarizes, translate.
3. Application The use of previously learned information in new and concrete situations to solve problems
 - To apply, change, choose, classify, complete, construct, demonstrate, solve.
4. Analysis: The breaking down of informational materials into their component parts, examining such information to develop divergent conclusions
 - To analyze, appraise, break down, calculate, categorize, compare, contrast, differentiate.

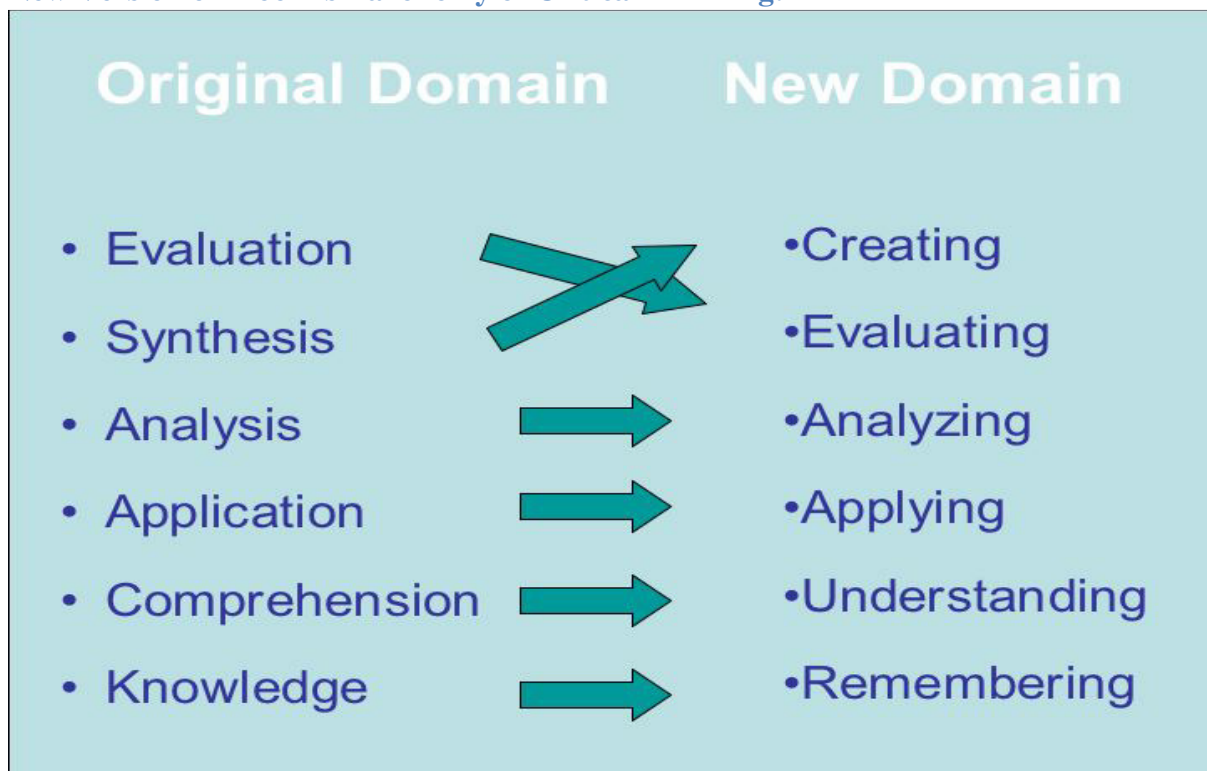
5. Synthesis: Creatively or divergently applying prior knowledge and skills to produce a new or original whole:

– To arrange, assemble, categorize, combine, compile, compose, construct.

6. Evaluation: Judging the value of material based on personal values/opinions

– To appraise, argue, assemble, assess, attach, choose, compare, conclude, construct, design, determine, develop

New Version of Bloom's Taxonomy of Critical Thinking:



3 Higher orders of Thinking

ANALYSIS

In Bloom's Taxonomy, the analysis level is where students use their own judgment to begin analyzing the knowledge they have learned. At this point, they begin understanding the underlying structure to knowledge and also are able to distinguish between fact and opinion. Analysis is the fourth level of the Bloom's taxonomy pyramid. It is a process of breaking down the text or problem that is being examined in order to understand each individual part. The Rhetorical Essay in English is an example of an analysis paper. In this essay, students take an article and break it down into parts to evaluate the different forms of Rhetoric (logos, ethos, pathos) that they find in the essay they are given.

SYNTHESIS

Synthesizing means consideration of individual elements together for the purpose of drawing conclusions, identifying themes, or determining common elements. Here you want to shift from "parts" to "whole."

Synthesis is combining multiple sources or ideas into a whole, in order to understand shared qualities between each individual part. Synthesis is extremely important in research driven essays, such as the Sourced Essay. In this essay, students are given sources by their professors and asked to put these sources together to support their argument. Students put each source in conversation with the others and their own argument, pointing out where they build on, support, or disagree with one another. Synthesis is the opposite of analysis: it is like taking individual puzzle pieces and putting them together to make an entire puzzle or combining chemicals to create a new compound.

Example: Create a new character and explain how that character would fit into the story-line.

EVALUATION

Evaluating means making judgments about something based on criteria and standards. This requires checking and critiquing an argument or concept to form an opinion about its value. Often there is not a clear or correct answer to this type of question. Rather, it's about making a judgment and supporting it with reasons and evidence.

In this level learners are able to present and defend opinions by making judgements about information or validity of ideas based on a set of criteria.

Example: Determine if a person acted in a reasonable manner and defend that opinion, or determine if the route taken by an explorer is the best route to take at the time.

Personal characteristics of the effective critical thinker (Facione, 1990)

- (1) inquisitiveness
- (2) desire to be well informed
- (3) eagerness to use critical thinking
- (4) trust in reasoned inquiry
- (5) self confidence
- (6) open mindedness
- (7) flexible in considering alternatives
- (8) understanding of opinions
- (9) fair-mindedness
- (10) honesty in self appraisal
- (11) prudence in suspending
- (12) making or altering judgments, and
- (13) willingness to consider and revise views.

People who think critically—

- attempt to live rationally, reasonably, empathically.

- keenly aware of the inherently flawed nature of human thinking when left unchecked.
- are strive to diminish the power of their egocentric and sociocentric tendencies.
- use the intellectual tools that critical thinking offers – concepts and principles that enable them to analyze, assess, and improve thinking.
- work diligently to develop the intellectual virtues of intellectual integrity, intellectual humility, intellectual civility, intellectual empathy, intellectual sense of justice and confidence in reason.

A well-cultivated critical thinker would—

- (1) raise vital questions and problems, formulating them clearly and precisely
- (2) gather and assesses relevant information, using abstract ideas to interpret it effectively
- (3) come to well-reasoned conclusions and solutions, testing them against relevant criteria and standards
- (4) think open-mindedly within alternative systems of thought, recognizing and assessing, as needs be, their assumptions, implications, and practical consequences
- (5) communicate effectively with others in figuring out solutions to complex problems