**A Glossary of Critical Thinking Terms and Concepts**

**Southwest Virginia Community College**

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**General Critical Thinking Terminology and Concepts**

**Basic terms**

**critical thinking**—“the internalized and recursive process of decision making using acquisition, analysis, synthesis, and application to solve problems creatively” (SWCC’s QEP definition)

**internalized**—occurring within the mind as opposed to the physical, external world

**recursive**—involving a mental process in which one constantly revisits their thoughts in order to question, change, or reaffirm them

**acquisition**—the process of obtaining the thoughts one will use to form beliefs and/or make decisions

**analysis**—the process of breaking down a complex idea into smaller parts so as to understand it better

**synthesis**—the process of combining small but related ideas in order to form larger concepts

**application**—the ability to use one’s knowledge to form beliefs and/or solve problems

**Terms related to the acquisition and application of knowledge**

**fact**—an idea that is widely accepted as truth by trusted authorities, based on current knowledge

**data**—observable, measurable truths, particularly those that can be quantified (described in numbers or other quantitative terms)

**evidence**—any phenomenon that can be observed and/or measured through the use of the five physical senses and used to form a belief or make a decision

**cognition**—the mental process of acquiring, understanding, and using knowledge

**assumption**—a belief that one embraces as true, but without firsthand investigation

**intuition**—the capacity, or assumed capacity, that one can know something without fully investigating or reflecting upon it

**implication**—an belief that is suggested, but not specifically stated, as the result of considering together a group of related thoughts

**valid**—having been determined to be true, or at least plausible, through logical and impartial investigation

**Terms related to constructing and critiquing arguments**

**logic/reasoning/rationality**—terms that can be used to describe the process of thinking critically to acquire knowledge, form beliefs, and construct knowledge; processes that value objective fact, physical observation and/or data as opposed to emotional reaction, prejudice, bias, and/or intuition

**argument**—the defense of a belief or decision based on logical processes including the acquisition of factual data, the evaluation of that data, and the analysis and synthesis the data to form a plausible, defensible conclusion

**persuasion**—the process of attempting to change an audience’s beliefs and/or actions; involves heavy emphasis on emotional appeals and manipulation; may or may not involve some fact-based reasoning and/or logical appeals

**conclusion**—a belief formed, then held to be plausible or true, based on logical thought processes; a “thesis,” “theory,” or “contention”

**premise**—a reason, when combined with other reasons, that leads to the formation of a logical conclusion

**critique/evaluate**—to judge the relative pertinence, value, or truth of an idea

**deliberate**—to consciously take the necessary time to compile and interpret data before forming a belief, making a decision, or attempting to solve a problem

**plausible**—an idea that may not be true, but that is considered logically to at least be legitimate, valid, or possible

**relevant**—having pertinence, and/or a direct and important relationship, to the issue at hand

**irrelevant**—having no direct or significant relationship to the issue at hand; distracting; misleading; to be disregarded

**fallacy**—a commonly recognized mistake in logic that is to be avoided

**conjecture**—an idea that is presented a logical conclusion, but that lacks the support of adequate evidence or reflection

**The Principle of Charity**—the belief that the adequate debate of an idea cannot be undertaken unless the idea is presented in the fairest, least biased terms possible

**persuasion**—the process of attempting to influence another person’s beliefs or decisions through illogical means such as emotional manipulation, prejudice, and/or deliberate bias

**warranted**—a belief that, whether ultimately true or not, has been shown to have merit through logical evaluation

**unwarranted**—a belief that, whether ultimately true or not, has been shown to have little or no merit through logical evaluation

**Terms related to the tools and processes people use to think critically**

**inductive reasoning**—thinking process that involves reaching a conclusion based on a pattern; begins by making a group of specific observations, then draws a conclusion—one that may or may not be true—based on what that set or pattern of observations suggests. For example, if I have to take four math courses in a sequence and make a D in the first, a C in the second, and a B in the third, if I’m reasoning inductively I’ll predict that I’ll make an A in the fourth. This may not necessarily turn out to be the case, but it’s the best guess that induction would lead me to.

**deductive reasoning**—thinking process that involves reaching a conclusion based on known facts; one starts by selecting a principle, rule, or theory that they assume to be true. Then they observe something happening that seems to apply directly to the state of affairs described in the principle. If the principle is true, and the observed application is true, these two ideas taken together lead to only one possible conclusion which, logically speaking, *must* be true.

 Example:

 *Rule or principle:* By law, any US president must be at least 35 years old.

 *Observed application:* John F. Kennedy was once the president.

 *Only possible conclusion:* JFK was at least 35 years old while he was president.

**slow thinking (or “System 2” thinking)**—According to Daniel Kahneman, this process involves “a conscious reasoning self that has beliefs, makes choices, and decides what to think about and what to do…, [a process which] prevents many foolish thoughts and inappropriate impulses from overt expression.” In other words, slow thinking involves a conscious attempt to invest adequate time and effort into acquiring and evaluating the evidence necessary to make the most sound logical decision possible, one free of inappropriate prejudice or bias.

**fast thinking (or “System 1” thinking)**—According to Kahneman, this process involves making decisions as the result of a rapid, but carefully informed, form of intuition. Although traditional logicians see intuition as the enemy of sound rational thought, Kahneman contends that one who is well-informed and highly reflective can reach a point at which their intuitions, provided they are informed accurately by memory and recognition, can lead to highly sound beliefs and actions almost by reflex.

**heuristics**—practical shortcut techniques a person uses to arrive at decisions without going through a traditional, deliberative logical process; may or may not produce good decisions or outcomes. Some examples include:

1. “Satisficing”—picking an option that is merely “good enough” and settling for it because of convenience, even though better options might be obtainable
2. “Affect”—making a quick decision to favor or avoid an option because of one’s immediate reaction to it; i.e. favoring what we find immediately pleasurable, avoiding what we anticipate to be painful or unpleasant, etc.
3. “Simulation”—imagining a particular outcome and favoring that option because one assumes that it is easy to obtain because it is easy to conceive of or visualize
4. “Analogical Representativeness”—assuming that because two things are related in some way that they must be related in relevant ways
5. “Generalizing from One to All”—drawing a conclusion about an entire group based on one salient experience related to it (profiling, stereotyping, etc.)
6. “Illusion of Control”—estimating the amount of control one has over an outcome based on the level of commitment or effort they put into achieving it.

**Terms related to audience**

**credibility**—a person or idea’s capacity for being trustworthy and/or believable

**value**—a deeply held personal belief that guides one’s decisions in highly influential ways

**bias/prejudice**—one’s inappropriate predisposition toward a particular position on an issue before adequate logical investigation

**objectivity**—one’s capacity to avoid bias or prejudice when forming beliefs, constructing arguments, making decisions, or attempting to solve problems

**subjectivity**—the biased, inappropriate influence of prejudice and/or emotion when attempting to form a belief, construct an argument, make a decision, or solve a problem

**The three criteria required for an effective argument**

1. **Acceptable evidence:** The evidence (or “reasons” or “premises”) supplied in support of the argument must be acceptable and not readily questioned or doubted by its audience. Such evidence is—among other things—valid, plausible, verifiable, and free of prejudicial bias.
2. **Relevant evidence:** In an effective argument, all of the support evidence supplied must have direct bearing on the issue at question. One can easily see the evidence’s clear relationship to the issue, and that it has not been inserted into the debate merely to distract, mislead, or prejudice the audience.
3. **Adequate evidence:** For an argument to be logically sound and convincing, the amount of evidence provided must be extensive enough to make the conclusion at least plausible. Avoid arguments that seem so unfounded that they “seem like a stretch” or “grasp at straws” by providing too little evidence—no matter how valid that evidence may be—to be taken seriously.

**Common Logical Fallacies**

**Fallacies involving deliberate manipulation:**

**“straw man”**—deliberately misrepresenting an opponent’s position in order to make it easier to attack and to make yours look more attractive (Ex: “I can’t believe certain legislators are proposing tighter border security and immigration laws. Theirs is just a feeble attempt by white America to protect its dying culture.”)

**abusive *ad hominem***—to dismiss an opponent’s position not by addressing it, but by making irrelevant attacks on their character (Ex: “I’ll never support the legalization of same-sex marriage like those sissy, hippy flakes did out in California.”)

**question begging, “leading” or “loaded” questioning**—posing a question, or making an assertion, phrased in such a way as to bias one’s audience toward a particular position on the issue at hand (Ex: “You do agree that drunk driving laws absolutely need to get tougher, don’t you?)

**the red herring fallacy**—deliberately concealing the weakness of your position by drawing attention away to a side issue that is not significantly related (Ex: One arguer says “We should support gun control because fewer guns on the streets will likely result in fewer gun deaths,” while their opponent “red herrings” them with the reply “I don’t know why you’re so concerned about gun legislation when the national debt is so large that soon no one will be able to afford guns anyway.”)

**fake precision**—offering a numerical measure as “fact” when that figure could not possibly measure what is claimed at such a specific level of precision (Ex: “Those using our new moisturizer reported looking 23% more attractive than those who did not use it.”)

**special pleading**—arguing that you should be granted an exception to a rule, policy, or law because of personal circumstances that in reality are irrelevant to the rule (Ex: “Professor, I know I didn’t turn my assignment in on time, but it’s because my printer at home is out of ink.”)

**pandering**—flattering someone in authority in the hope that they will grant you an unfair exception or favor (Ex: “Hey, professor, I can see you’ve been working out. You look really good. By the way, could I have an extra week to finish my essay.”)

**rationalization**—justifying a questionable practice by offering reasons that will most likely be acceptable to one’s audience—or to oneself—in place of the real reasons, which are problematic (Ex: “I don’t drink so heavily these days because I’m an alcoholic; I’ve just been having a great deal of stress, and alcohol just helps me deal with it.”)

**Fallacies involving unwarranted or mistaken assumptions:**

**the *tu quoque* fallacy**—mistakenly assuming that if someone doesn’t really “practice what they preach,” then what they advocate must be wrong (Ex: “Dad, how can you ground me for drinking when you’re standing there with a beer in your hand.”

**the bandwagon fallacy**—mistakenly assuming that a belief or practice is right or true just because many people belief it (Ex: “I just know I’ll look great in orange. Everybody seems to be wearing it now.”)

**linguistic ambiguity**—making a statement that, because of its particular wording, may be taken in ways other than one intended (Ex: Interpreting the headline “Holocaust Survivor Recounts Experiences of Torture at ETSU” to mean that the lecturer was tortured while on campus.)

**the gambler’s fallacy**—the mistaken assumption that past chance events can somehow influence the outcome of similar future chance events (Ex: “I just know that if I quit playing the lottery now it’ll be just my luck that they’ll pull my number next week.”)

**fallacy of the continuum**—the mistaken assumption that small differences or distinctions are arbitrary when in fact in this particular instance they matter a great deal (Ex: “Professor, I don’t think it’s fair for you to give me an F when I only missed passing the test by one point.”)

**hasty generalization/insufficient sample**—forming a judgment using evidence that, although perhaps true, is insufficient for drawing this particular conclusion (Ex: “I feel certain Tom is cheating on his wife. Yesterday I saw him driving through town with another woman in his car.”)

**fallacy of composition**—mistakenly assuming that what is true of something’s individual parts must also be true of it as a whole (Ex: Greg Horn is a terrible teacher, so SWCC must be a terrible school.”)

**fallacy of division**—mistakenly assuming that what is true of something on the whole must also be true of each of its parts (Ex: “SWCC is a great school so Greg Horn must be a great teacher.”)

**fallacy of novelty**—mistakenly, assuming that something must be better because it is newer (Ex: “We have to update our software because the newest version is out; surely it will meet our needs better than what we’re using now.”)

**black or white thinking**—mistakenly assuming that because one extreme is not true its opposite must be true, or refusing to consider that some middle ground between two extremes is possible; leads to oversimplification of a complex issue (Ex: “Chad says he hates Richlands football. Since Tazewell is Richlands’ arch rival, I assume he’s a big Tazewell fan.”)

**poisoning the well**—mistakenly assuming that an argument has no merit merely because its arguer may have suspicious or ulterior motives for making the claim. Just because someone may benefit from the truth of a claim in surreptitious ways does not in and of itself make the claim untrue. (Ex: “Of course you’re going to tell me the next car I buy should be a Cadillac—you’re a Cadillac dealer!”)

**appeal to tradition**—mistakenly assuming that a practice must be right merely because it is traditional; many traditions are of value, but refusing to admit that times, values, and circumstances sometimes change may lead to carrying on outmoded practices for far too long (Ex: “People of the same sex have never been allowed to marry each other, and that’s just the way it is. There’s no reason we should start allowing it now.”)

**genetic fallacy**—mistakenly judging something solely in terms of its past context, then inappropriately carrying that past context into the present (Ex: “I can’t believe you’d consider joining the Masons. I read somewhere that centuries ago they started out as an all-male secret organization with occult leanings.”)

**Additional Critical Thinking Terminology and Concepts—Psychology**

**circular reasoning (or the “nominal fallacy”)**—Using an idea as a reason for something, but then also using it as one’s conclusion; mistakenly confusing the definition of a something with the explanation of why it happens (Ex: Speculating with someone about why a mutual friend drinks excessively, but offering as one’s explanation “It’s because Dave is an alcoholic.” Drinking excessively has to do with the definition of alcoholism; it does not explain why it happens.)

**evaluative conditioning**—changes in one’s desire of a certain stimulus as a result of its pairing with other positive or negative stimuli

**hindsight bias**—the mistaken tendency to want to reinterpret past events based on what happens after they occur (Ex: Having a negative opinion of a child who bullied you when you were small, then changing that opinion of your childhood all together because you become close friends as adults. They may be a saint now, but it doesn’t change the fact that they were mean to you as kids.)

**appeal to/argument from ignorance**—the mistaken belief that just because something has not been disproven that is must be true, or at least have merit (Ex: Ghosts must exist because no one has proven they don’t.)

**weak or faulty analogy**—the mistaken belief that because two things are alike in a few certain ways they therefore must be alike in some other way. (Ex: Thinking that because viewing pornography and molesting children are both morally objectionable to many people, both should be judged, or even sanctioned, in the same way.)

**slippery slope**—a fallacy involving the mistaken belief that if the first event in a series of possibly linked events occurs, it will necessary lead to a series of other events leading to a certain outcome (Exs: the “Domino Theory” of the global spread of Communism; the belief that if a young person smokes a few cigarettes it will inevitably lead to death from lung cancer)

**credibility**—a person’s capacity for being trustworthy and/or believable; influenced by, among other things, their vested interest in an issue, their credentials, and their experience

**metacognition**—one’s awareness of their own thoughts and/or thought processes

**heuristic**—a guiding principle or “rule of thumb” used for approaching solving a problem, forming a belief, or making a decision (Exs: trial and error, doing preliminary research)

**availability heuristic**—basing the probability of something on how easy it is to recall how it has happened in the past

**representativeness heuristic**—basing the probability of something on how similar it should be to a known pattern (Ex: Expecting that it is more likely for six coin tosses to wind up “H T H T H T” than it is for them to wind up in another pattern, like “H H H T T T” or “H H T T H T”

**Manipulative social influence strategies**

**foot-in-the-door technique**—attempting to make someone more likely to agree with you on a big decision by first getting them to agree on a small one

**misuse of the reciprocity norm**—extending a generosity with the expectation that someone will not only reciprocate, but do so in some way that is of even greater benefit to you

**lowball technique**—attempting to get someone to commit to a seemingly attractive proposition while deliberately concealing its hidden costs

**feigned scarcity**—creating an illusion of scarcity for a commodity in order to get set someone to buy or otherwise embrace it now

**Causation issues**

**“Correlation is no assurance of causation.”**—Just because two happenings correlate with each other does not necessarily mean that one causes the other.

**“Statistical significance is not equivalent to practical significance.”**—While an event may show as statistically significant, its occurrence may still be too infrequent to merit practical consideration.

**Statistical and research concepts related to Psychology**

**sample**—a selection of subjects for observation in a study

**sampling bias**—the tainting a research results because the sample observed is insufficient in size to represent the population from which it is drawn

**experimenter bias**—the tainting of research results because of the influence of the researcher’s expectations or preferences

**three measures of central tendency:**

**median**—the middle score in a group of scores

**mean**—the average of all scores

**mode**—the score that occurs most often

**variability**—the degree by which a score varies from the mean

**standard deviation**—an index of the amount of variability within a set of data

**correlation**—the degree of relationship between two variables

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