# Critical and Creative Thinking glossary

appeal to consensus

To hold the mistaken view that merely because a particular belief is held to be true by most people, then it must be true; for example, believing that energy drinks are not harmful at all because most consumers do not think they are harmful.

arguing from ignorance

To hold the mistaken view that a proposition must be true because there is a lack of evidence to the contrary. In other words, arguing for a claim about reality from limited knowledge; for example, believing that someone is guilty because there is no evidence that they are innocent, or believing that, because scientists have not been able to conclusively show that Tasmanian tigers have not survived in some remote part of the wilderness, they are not extinct.

argument and sub-argument

An argument is a collection of statements, called premises or reasons, intended to establish how true another statement, called the conclusion, is. That is, an argument consists of a conclusion supported by at least one reason or premise. Reasons could be supported by evidence and/or values.

A sub-argument is an argument that is used to support the conclusion of a main argument; for example, a main argument that concludes that vaping should be banned could be supported by 3 reasons, one of which is that it is unhealthy, with this reason itself supported by its own argument (‘It is unhealthy because …’).

cause and effect fallacies

A range of errors in reasoning associated with connecting cause and effect; for example, assigning one cause when there might be multiple causes, assigning a cause based on correlation alone, confusing cause and effect or falsely assigning causes to make a prediction (for example ‘The next coin flip will be heads, because the last 3 have been tails’).

claim

A statement that you or someone else accepts or takes to be true or established.

closed question

A closed question has a definitive answer, for example ‘What was the name of the main character?’ or ‘How much does this product cost?’

cognitive bias

Describes partiality or distortions in our thinking or belief formation, where conclusions reached are drawn in a non-rational fashion; for example, confirmation bias describes the tendency to overplay or only seek or notice evidence that is consistent with one’s existing beliefs, and to underplay, ignore or not seek contrary evidence.

conclusion

A claim that is arrived at by a consideration of reason(s), called premises.

contradiction

A statement that denies or is in direct opposition to another statement or itself, leading to a form of incoherence, for example someone in conversation with their friend denying that they have ever stolen anything but admitting that they have pirated a video game, and the friend claiming a contradiction because pirating is stealing and you cannot say that you have never stolen when you have stolen, in the form of piracy.

criteria

The bases that we use to describe, categorise, compare or evaluate something, with a single criterion referring to just one basis, for example if I want to describe something I might select accuracy, precision and clarity as the bases for the desirable qualities of my descriptions.

fact

Denotes a state of affairs that exists.

fallacy

An argument or piece of reasoning in which there exists an error in reasoning.

false analogy

A fallacy used when reasoning that wrongly assumes that because 2 things are alike in some respect(s) they must be alike, or analogous, in other relevant respect(s); for example, concluding that because octopuses and people are both good at problem-solving, their brains must work in a similar way.

false dichotomy

A false dichotomy occurs when an argument presents 2 options and ignores, either purposefully or out of ignorance, other alternatives; for example, claiming that unless you support a specific project you are against renewable energy, when there may be alternative renewable projects that could be considered as an option.

grounds for claims

The evidence, information or data offered in support of each claim; for example, evidence showing that a product is harmful provides grounds for a claim that a product is harmful.

hasty generalisation

A fallacy where a conclusion in an argument or a claim is supported by insufficient evidence, for example a sample size that is too small.

if-then thinking

Reasoning that involves making the inference that if something is true, then we can draw a conclusion that we can have some confidence in. This in some cases involves cause and effect (‘If we win this game, then we will get into the final’) and in other cases is not causal (‘If we know that 3 students each like a different flavour of Neapolitan ice cream and the first 2 like chocolate and vanilla, then we can infer that the third must like strawberry’).

main question

The primary or overall focus of an inquiry expressed as a question, where inquiry could involve, for example, fieldwork, an experiment or research into a current issue.

modification

To introduce an adjustment or amendment to one or more characteristics as a way to generate a new idea or possibility; for example, varying the shape, size or materials used.

open question

An open question can have a variety of equally reasonable responses rather than one definitive answer, for example ‘Which colour would work best to represent this mood?’, ‘What is happiness?’ or ‘How significant is/will be this event?’

possibilities

Ideas that have been critically analysed and judged to be a potential solution or option.

spaced practice

A learning strategy in which knowledge and skills are reviewed and revisited over a long period of time, rather than in a short period of time; for example, learning some facts by reviewing and revisiting over a few weeks rather than over a few hours on one day.

sub-question

A secondary question that is related to, addresses or explores a particular aspect of a main question; for example, a main question such as ‘What do students like best about our school?’ would be associated with sub-questions that seek responses about different characteristics of the school.

thinking processes

Mental activities or methods used to achieve a purpose when thinking, which can be expressed in verbal or non-verbal ways, for example the stages used in problem-solving or decision-making, a systematic series of prompts used to test the strength of a proposition, or a mind map used to organise information.

value

An ethical concept thought to be important by an individual or group, such as ‘fairness’, ‘justice’ or ‘freedom’.