

CRITICAL THINKING FOR CRITICAL TIMES

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Critical thinking is a critical skill for everybody living in the post-factual times. It can help you make sense of arguments and opinions of others and reflect on and question your own arguments and assumptions. This course is designed to provide you with an opportunity to develop and practise identification, analysis and assessment of arguments using diverse critical thinking skills and techniques. It will be organised around group and individual tasks, and problem-solving as well as in-class discussion.

Participants

Introduction to Critical Thinking

Task I *What is the main point of the video sample?*

Source: Beau Lotto + Amy O'Toole: Science is for everyone, kids included: (<http://www.youtube.com/watch?v=0g2WE1qXiKM>)

Task II *If you have brought a sample of what you mean by "critical thinking", share and compare in groups.*

Task III Read the following definitions of and comments on critical thinking. Decide which of them is closest to your own understanding of the term and/or create your own definition. Discuss in groups.

(a) Critical thinking includes three primary components: understanding the author's intended meaning; synthesising all available information, and analysing. (Vermillion, 1197)

(b) Critical thinking means criticism of what other people are doing, or finding errors. (Mayfield, 1991).

(c) Critical thinking is an inevitable complex process in human mind that evaluates and judges information based on certain standard. (Lopez, 1998).

(d) Critical thinking is the use of those cognitive skills and strategies that increase the probability of a desirable outcome. It is used to describe thinking that is purposeful, reasoned, and goal directed – the kind of thinking involved in solving problems, formulating inferences, calculating likelihoods, and making decisions when the thinker is using skills that are thoughtful and effective for the particular context and type of thinking task. (Halpern, 2003)

(e) Critical thinking is a kind of reflective scepticism; where scepticism can be defined as any type of questioning attitude towards knowledge, facts, or opinions/beliefs stated as facts, or doubts regarding claims that are taken for granted elsewhere. (McPeck, 1981)

(f) Critical thinking is reasonable reflective thinking that is focused on deciding what to believe or do. (Ennis, 1992)

(g) Critical thinking is a type of social practice that has origins in culturally determined sets of behaviours which analyses the reliability of new ideas before they are allowed in or out. (Onosko and Newmann 1994; Benesch, 1993)

(h) Critical thinking is our response to the need to question what we read, look for assumptions and weaknesses, make connections, respond, and evaluate. (Rogers, 2013)

(i) Critical thinking is a set of steps taken to activate human intellectual thinking to ponder before believing in new arguments. (Ennis, 1996)

(j)



<https://globaldigitalcitizen.org/critical-thinking-exercises-blow-students-minds>

Task IV CRITICAL THINKING in ACADEMIC SITUATIONS

1) *Here are six abstracts of journal articles related to topic of “triangulation”. You are not sure what triangulation means as a method and how you could use it in the area of Humanities. Read the abstracts (A-F) and choose which texts would be worth reading.*

(A) The Ordnance Survey techniques of analytical aerial triangulation have been widely reported over the years. The author describes some modifications to that system as well as tests on independent model methods of aerial triangulation and investigations into the cause of image deformation.

(B) Triangulation involves the careful reviewing of data collected through different methods in order to achieve a more accurate and valid estimate of qualitative results for a particular construct. This paper describes how we used three qualitative methods of data collection to study attitudes of students toward graphing, hands-on activities, and cooperative grouping techniques using the triangulation method.

(C) We show that a triangulation of a set of n points in the plane that minimizes the maximum edge length can be computed in time $O(n^2)$. The algorithm is reasonably easy to implement and is based on the theorem that there is a triangulation with minmax edge length that contains the relative neighborhood graph of the points as a subgraph. With minor modifications the algorithm works for arbitrary normed metrics.

(D) This paper explores various types of triangulation strategies and indicates when different types of triangulation should be used in research. Our reviews included literature on triangulation and multimethod strategies published since 1960 and research books specifically focusing on triangulation. By triangulation we mean the combination of at least two or more theoretical perspectives, methodological approaches, data sources, investigators, or data analysis methods. The intent of using triangulation is to decrease, negate, or counterbalance the deficiency of a single strategy, thereby increasing the ability to interpret the findings. The use of triangulation strategies does not strengthen a flawed study. Researchers should use triangulation if it can contribute to understanding the phenomenon; however, they must be able to articulate why the strategy is being used and how it might enhance the study.

(E) The more recent interpretation of triangulation in social and educational research was summarised and examined with reference to theory triangulation applied in an empirical study. The construction of special educational needs (SEN) from the individual experiences of a sample of SEN co-ordinators and SEN teachers, parents, and adolescents with emotional and behavioural difficulties or physical disabilities were interpreted from the perspectives of personal construct theory, bio-psycho-social model, socio-psychological analysis, bioecological model of human development and a developmental model of self-understanding. Their points of convergence and divergence enriched and extended theoretical understanding. The focus on the 'verstehen' psychological level of analysis and on forging closer theory, concept and data connections influenced the range of theory choice. This instance of theory triangulation casts doubts on the Duhem-Quine thesis of underdetermination.

(F) The ice movement on the Byrd Glacier, Antarctica, was measured as function of time, on the basis of aerial photography. The method of aero-levelling strip triangulation with a minimum of geodetic control was applied. The methods and procedures were verified over Laufen-Bauma test area.

Task V CRITICAL THINKING in NON-ACADEMIC SITUATIONS

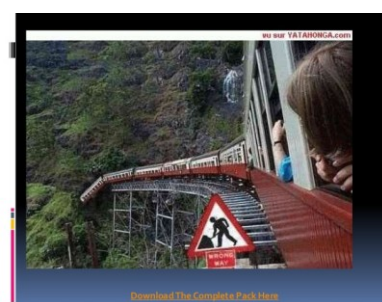
1) Read the texts below critically and explain what the aim of the authors was.

a) There are clear disparities between the treatment of white and other non-white drug users in the USA. A recent survey of the US Public Health Service estimated that 75% of illegal drug-users in the US were white, 13% Afro-American, and 9% Hispanic. Yet, in New York State, 93% of all drug-possession offenders sent to prison were Afro-American and Hispanic; in California, it was 72%.

b) Europe is above all a community of values. The aim of European unification is to realise, test, develop and safeguard these values. They are rooted in common legal principles acknowledging the freedom of the individual and social responsibility. Fundamental European values are based on tolerance, humanity and fraternity. Building on its historical roots in classical antiquity and Christianity, Europe further developed these values during the course of the Renaissance, the Humanist movement, and the Enlightenment, which led in turn to the development of democracy, the recognition of fundamental and human rights and the rule of law. The great currents of culture and art, scientific discoveries and their application for the general good, and the critical analysis of accepted views and perceptions have all had the effect that we can now live and work together in peace, liberty and freedom from want. Europe has spread these values throughout the world. Thus our Continent became the mother of revolutions in the modern world. Europeans have worked to establish freedom, justice and democracy as the principles of international relations, thereby opening the way to a free and peaceful future. (Buamgart, 2003)

2) Watch a part of Dane Baptiste's stand-up: Beware of job thieves! (<https://www.facebook.com/BBCOne/videos/dane-baptiste-beware-of-job-thieves-live-at-the-apollo/1787846954657798/>). Critically analyse the point he is making. Do you agree with Dane?

3) Look at the following pictures critically and discuss what should be done in such a situation.



4) Listen to the story of Nasreddin and help him solve his situation.

Task VI Watch a part of Chimamanda Adichie's TED talk: The danger of a single story (<https://www.youtube.com/watch?v=D9lhs241zeq>). Think of your university, your studies or professional field of interest and name some areas that could pose this danger of a single story.

Task VII *Work in pairs. Discuss the meaning of the following terms. They might differ in everyday life and in your field of studies or profession, discuss the differences of both of them.*

fact

knowledge

opinion

impression

feeling

belief

Task VIII *Read the statements below. Identify if they are facts, pieces of knowledge, opinions, impressions, feelings or beliefs.*

- a) The “orange” fruit in English is named after the “orange” colour.
- b) A quark is a fundamental, subatomic and indivisible particle that represents the smallest unit of matter. It is the basic building block for everything in the universe.
- c) Nobody wants good education, everybody wants a good degree.
- d) Crimea is a part of Ukraine.
- e) The boiling point of a substance is the temperature at which the vapour pressure of the liquid equals the pressure surrounding the liquid and the liquid changes into a vapour.
- g) Senses are physiological capacities of organisms that provide data for perception. Humans have five senses: sight, hearing, smell, taste and touch.
- h) Great teachers inspire students.

Task IX CRITICAL THINKING STRATEGIES

Watch samples of communication of Hans Rosling: (https://www.youtube.com/watch?v=Oxxx03_JHIM), and Jordan Peterson (<https://www.youtube.com/watch?v=aMcixSThD54>). What is their confidence based on? Can you think of any experience when you could feel similar or identical level of confidence?

a) Watch a section of the Atul Gawande TED talk on getting better in his work. (<https://www.youtube.com/watch?v=oHDq1PcYkT4>). If you could choose, who would your coach be? Why?

b) To take different perspectives, you can try Edward de Bono's "Six Thinking Hats" strategy.

White hat – Facts & Information

White indicates neutrality. Imagine a computer that gives the facts and figures for which it is asked. It is neutral and objective. It does not offer interpretations or opinions. White hat thinking is a discipline and a direction.

Red hat – Feelings & Emotions

Red indicates feelings. Imagine fire that offers warmth or burns. It works always on individual basis and legitimizes emotions and feelings as a part of thinking. There is no need to justify, explain or provide a logical basis for one's feelings. The red hat allows to say: "This is how I feel about the matter."

Black hat – Critical Judgment

Black indicates caution. Imagine dark thoughts that make you be careful, cautious and critical about a situation. It draws us to matters that need our attention. Black thinking provides the "mismatch" mechanism and considers risks, dangers, obstacles, difficulties, potential problems and the downside of suggestions. It stops us doing things that are illegal, dangerous, unprofitable, polluting, etc.

Yellow hat – Positive

Yellow indicates optimism. Imagine sunshine and brightness. This offers concrete constructive and generative proposals and operations that are associated with making things happen. Yellow thinking may be even speculative and covers a positive spectrum ranging from the logical and practical at one end to dreams, visions and hopes at the other end.

Green hat – New Ideas

Green indicates energy. Imagine vegetation, fertility, growth and value of seeds. Green personifies creativity, new ideas, options, alternatives and modifications. It offers thinking that goes beyond the known, the obvious and the satisfactory.

Blue hat – The Big Picture

Blue indicates process control. Imagine the blue sky. This offers an "overview", the management and organisation of thinking. The blue thinking states the subject towards which the thinking is directed, sets the focus, agenda, sequence and strategy, defines problems and shapes questions. It also monitors processes and ensures that the rules of the game are observed.

Six Hats Activity:

a) Read the text about the genocide in Rwanda and fill in the table.

Rwanda's population of seven million was composed of three ethnic groups: Hutu (approximately 85%), Tutsi (14%) and Twa (1%). In the early 1990s, Hutu extremists within Rwanda's political elite blamed the entire Tutsi minority population for the country's increasing social, economic, and political pressures. The Hutu remembered past years of oppressive Tutsi rule, and many of them not only resented but also feared the minority.

On April 6, 1994, a plane carrying President Habyarimana, a Hutu, was shot down. Violence began almost immediately after that. Hutu extremists launched their plans to destroy the entire Tutsi civilian population. Political leaders who might have been able to take charge of the situation and other high profile opponents of the Hutu extremist plans were killed immediately. Tutsi and people suspected of being Tutsi were killed in their homes and as they tried to flee at roadblocks set up across the country during the genocide. Entire families were killed at a time. Women were systematically and brutally raped. It is estimated that some 200,000 people participated in the perpetration of the Rwandan genocide.

In the weeks after April 6, 1994, 800,000 men, women, and children perished in the Rwandan genocide, perhaps as many as three quarters of the Tutsi population. At the same time, thousands of Hutu were murdered because they opposed the killing campaign and the forces directing it.

Policymakers in France, Belgium, and the United States and at the United Nations were aware of the preparations for massive slaughter and failed to take the steps needed to prevent it. Aware from the start that Tutsi were being targeted for elimination, the leading foreign actors refused to acknowledge the genocide. International leaders rejected what was going on, moreover, they declined for weeks to use their political and moral authority to challenge the legitimacy of the genocidal government. They did nothing to silence the radio that televised calls for slaughter. Even after it had become indisputable that what was going on in Rwanda was a genocide, American officials had shunned the g-word, fearing that it would cause demands for intervention.

(Adapted from: http://www.unitedhumanrights.org/genocide/genocide_in_rwanda.htm)

b) Watch the following section from the "The Hotel Rwanda" film (<http://eapcreatively.blogspot.com/>) and fill in the table.

c) Compare critically those two sources of information.

Task X CRITICAL THINKING IMPROVEMENT

What can you do to improve your critical thinking?