

# *CRITICAL THINKING IN THE CLASSROOM*



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# NELSON MANDELA AND CRITICAL THINKING

- Shades of gray are not easy to articulate. Black and white is seductive because it is simple and absolute. It appears clear and decisive. Because of that, we will often gravitate toward yes or no answers when a “both” or a “maybe” is closer to the truth. Some people will choose a categorical yes or no simply because they think it appears strong. But if we cultivate the habit of considering both – or even several – sides of a question, as Mandela did, of holding both good and bad in our minds, we may see solutions that would not otherwise have occurred to us. This way of thinking is demanding. Even if we remain wedded to our point of view, it requires us to put ourselves in the shoes of those with whom we disagree. That takes an effort of will, and it requires empathy and imagination. But the reward, as we can see in the case of Mandela, is something that can fairly be described as wisdom.

- From *Nelson Mandela: Portrait of an Extraordinary Man* by Richard Stengel, p.214.

# CRITICAL THINKING IN THE IB

- **IB Mission Statement (Third Clause):** These programmes encourage students across the world to become active, compassionate and lifelong *learners who understand that other people, with their differences, can also be right.*

## Learner Profile:

- **Thinkers:** They exercise initiative in *applying thinking skills critically* and creatively to recognize and approach complex problems, and make reasoned, ethical decisions.
- **Open-minded** They understand and appreciate their own cultures and personal histories, and are *open to the perspectives*, values and traditions of other individuals and communities. They are accustomed to seeking and *evaluating a range of points of view*, and are willing to grow from the experience.
- **Balanced:** They understand the *importance of intellectual*, physical and emotional *balance* to achieve personal well-being for themselves and others.

# CRITICAL THINKING IN THE PYP

- **Form:** What is it like?
- **Function:** How does it work?
- **Causation:** Why is it like it is?
- **Change:** How is it changing?
- **Connection:** How is it connected to other things?
- **Perspective:** What are the points of view?
- **Responsibility:** What is our responsibility?
- **Reflection:** How do we know?
  - Key Concepts of the PYP

# CRITICAL THINKING IN THE MYP

- The programme is devised to help students develop the knowledge, attitudes and skills they need to participate actively and responsibly in a changing and increasingly interrelated world. This implies a “living curriculum”, one which calls for more than “knowing”: ***it involves reflective thinking, both critical and creative, about ideas and behaviour.***
  - *The Middle Years Programme: A Basis For Practice, 2*

# CRITICAL THINKING IN THE DP

- Three forces shaped the Diploma Programme and continue to influence its development. They are pragmatic, idealistic and **pedagogical—the promotion of a broad-based education that develops critical and creative thinking skills and focuses on learning how to learn.**
- All group 3 subjects (individuals and societies) focus on understanding human nature, decisions and events in a global as well as local context and **emphasize critical thinking**, the development of multiple perspectives and constructive comparisons.
  - *The Diploma Programme: A Basis For Practice*, 1 and 4.
- Martha Nussbaum suggests that foreign language learning has been one of the neglected aspects of learning for world citizenship. Like the IB, she also suggests that all students should learn at least one foreign language. She says, “Seeing how another group of intelligent human beings has cut up the world differently, how all translation is imperfect interpretation, gives a young person an essential lesson in cultural humility.”

# A PARABLE IN CRITICAL THINKING

- Nelson Mandela once recited to his biographer the parable of the young Xhosa man who left his small village to search for a wife.
- He spent years travelling all around the world looking for the perfect woman, but did not find her. Eventually he came back to the village without a bride, and on his way in to town saw a woman and said, "Ah, I have found my wife." It turns out, Mandela said, that she had lived in the hut next door to his all her life.

# WHAT IS THE MORAL OF THE STORY?

- Mandela's biographer asked, "Is the moral of the story that you don't need to wander far and wide to find what you are looking for because it is right in front of you? Or is it that sometimes you must have wide experience and knowledge in order to appreciate those things that are closest and most familiar to you?"
- Mandela thought about his for a moment, nodded, and then said, "There is no one interpretation. Both may be correct".
- There are no simple answers to most difficult questions. Many explanations may have varying degrees of truth. Most problems have many causes, not just one. The ability to recognise this is part of wisdom.



# WHAT IS CRITICAL THINKING?

- “As long as people have purposes in mind and wish to judge how to accomplish them, as long as people wonder what is true and what is not, what to believe and what to reject, strong critical thinking is going to be necessary.
- Critical thinking is sceptical without being cynical. It is open-minded without being wishy-washy. It is analytical without being nitpicky. Critical thinking can be decisive without being stubborn, evaluative without being judgmental, and forceful without being opinionated.”
  - Peter Facione, *Critical Thinking: What It Is and Why It Counts?*
- A panel of forty-six men and women from throughout North America, representing many different scholarly disciplines, participated in a research project that lasted two years and was conducted on behalf of the *American Philosophical Association*. Their work was published under the title *Critical Thinking: A Statement of Expert Consensus for Purposes of Educational Assessment and Instruction*.
- “The experts” agreed that the following six terms best described characteristics of good critical thinking:



# CHARACTERISTICS OF CRITICAL THINKING

- **Interpretation:** “to comprehend and express the meaning or significance of a wide variety of experiences, situations, data, events, judgments, conventions, beliefs, rules, procedures, or criteria.”
- **Analysis:** “to identify the intended and actual inferential relationships among statements, questions, concepts, descriptions, or other forms of representation...”
- **Evaluation:** “to assess the credibility of statements or other representations...and to assess the logical strength of the actual or intended inferential relationships among statements, descriptions, questions or other forms of representation.”
- **Inference:** “to identify and secure elements needed to draw reasonable conclusions; to form conjectures and hypotheses; to consider relevant information and to deduce the consequences flowing from data, statements, principles, evidence, judgments, beliefs, opinions, concepts, descriptions, questions, or other forms of representation.”
- **Explanation:** “Being able to present in a cogent and coherent way the results of one’s reasoning...”
- **Self-Regulation:** “You can monitor and correct an interpretation you offered. You can examine and correct an inference you have drawn. You can review and reformulate one of your own explanations”

# WHAT CRITICAL THINKING IS NOT

- Having a critical spirit does not mean that the person is always negative and hypercritical of everyone and everything.
- While memorization definitely has many valuable uses, fostering critical thinking is not among them.

# WHAT SHOULD CRITICAL THINKERS BE ASKING?

- Ask if you have understood the speaker's position.
  - This can be an effective means of conflict resolution or avoidance in many relationships.



- Ask for definitions of any words that seem central to the position.
  - What does “critical thinking” or “ethics” or “art” or “emotion” or “language” or...mean?
  - What does it mean to be educated?
    - Think of someone you know (knew) personally who you consider(ed) to be an “educated person”
    - What characteristic(s) or term(s) would you use to describe what it means to be educated?

# WHAT SHOULD CRITICAL THINKERS BE ASKING?

- Ask about the assumptions upon which our positions are based?
  - Our school is the best school in our country because it consistently scores better than other schools on exams
  - Be cognizant of your worldview



# TESTING OUR ASSUMPTIONS

- There are no priests, adoptions, remarriages, aliens, twins, clones or grandfathers involved!
- *A father and son were driving to a ball game when their car stalled on the railroad tracks. In the distance a train whistle blew a warning. Frantically, the father tried to start the engine, but in his panic he couldn't turn the key and the car was hit by the oncoming train. An ambulance sped to the scene and picked them up. On the way to hospital the father died. The son was still alive but his condition was very serious and he needed immediate surgery. The moment they arrived at hospital he was wheeled into an emergency operating room and the surgeon came in, expecting a routine case. However, on seeing the boy, the surgeon blanched and muttered, 'I can't operate on this boy - he's my son.'*
- The answer is that the surgeon is a woman - the boy's mother and the man's wife.



- In its simplest terms, a worldview is a set of beliefs about the most important issues in life. More technically, a world view is a conceptual scheme by which we consciously or unconsciously place or fit everything we believe and by which we interpret and judge reality.
- Either way, we all have worldviews and our worldviews act as a guide throughout life.
- We look at the world through our own set of “lenses”.
- What constitutes the make-up of our lenses? What makes up our worldview? The list is lengthy.
- Bias is not necessarily a bad thing, we just need to be aware that it exists and be willing to monitor it



# WHAT SHOULD CRITICAL THINKERS BE ASKING?

- Ask if statistics used lead to the correct conclusions.
  - *Freakanomics*: What caused a decrease in crime throughout the United States in the 1990s?  
(<http://www.youtube.com/watch?v=zk6gOeggViw>)
    - An increase in the number of people being incarcerated?
    - A decrease in crack use?
    - A stronger economy?
    - Increase in police on the streets?
      - These may have accounted for 50% of the decrease, where did the other 50% come from?

# HAVE YOU CONSIDERED OPPOSING CLAIMS AND IMPLICATIONS

CLAIM

COUNTER-CLAIM



CONCLUSION

(Is it supported by opinion or evidence)



IMPLICATIONS



# NELSON MANDELA: CONSIDERING OPPOSING CLAIMS

- Richard Stengel, the man who wrote *Long Walk to Freedom*, Nelson Mandela's autobiography, asked Mandela in the early stages of the four years he spent interviewing him his book if Mandela embraced the armed struggle against apartheid because he felt it would never be defeated by non-violence or if it was the only way of keeping the ANC from splintering.
- He looked at Stengel with a gaze of perplexity and asked, "why not both."
- Stengel goes on to say that "yes" or "no" questions frustrated Mandela because, "for Mandela the answer is almost always both. It's never as simple as yes or no. He knows that the reason behind any action is rarely clear. There are no simple answers to the most difficult questions. All explanations may be true. Every problem has many causes, not just one. That is the way Nelson Mandela sees the world."
  - From *Nelson Mandela: Portrait of an Extraordinary Man* by Richard Stengel, p.210



Winter



Spring



Mid-Summer



Early Fall

The Kudzu was originally brought in to stop soil erosion

# CRITICAL THINKING IN SCIENCE AND TECHNOLOGY

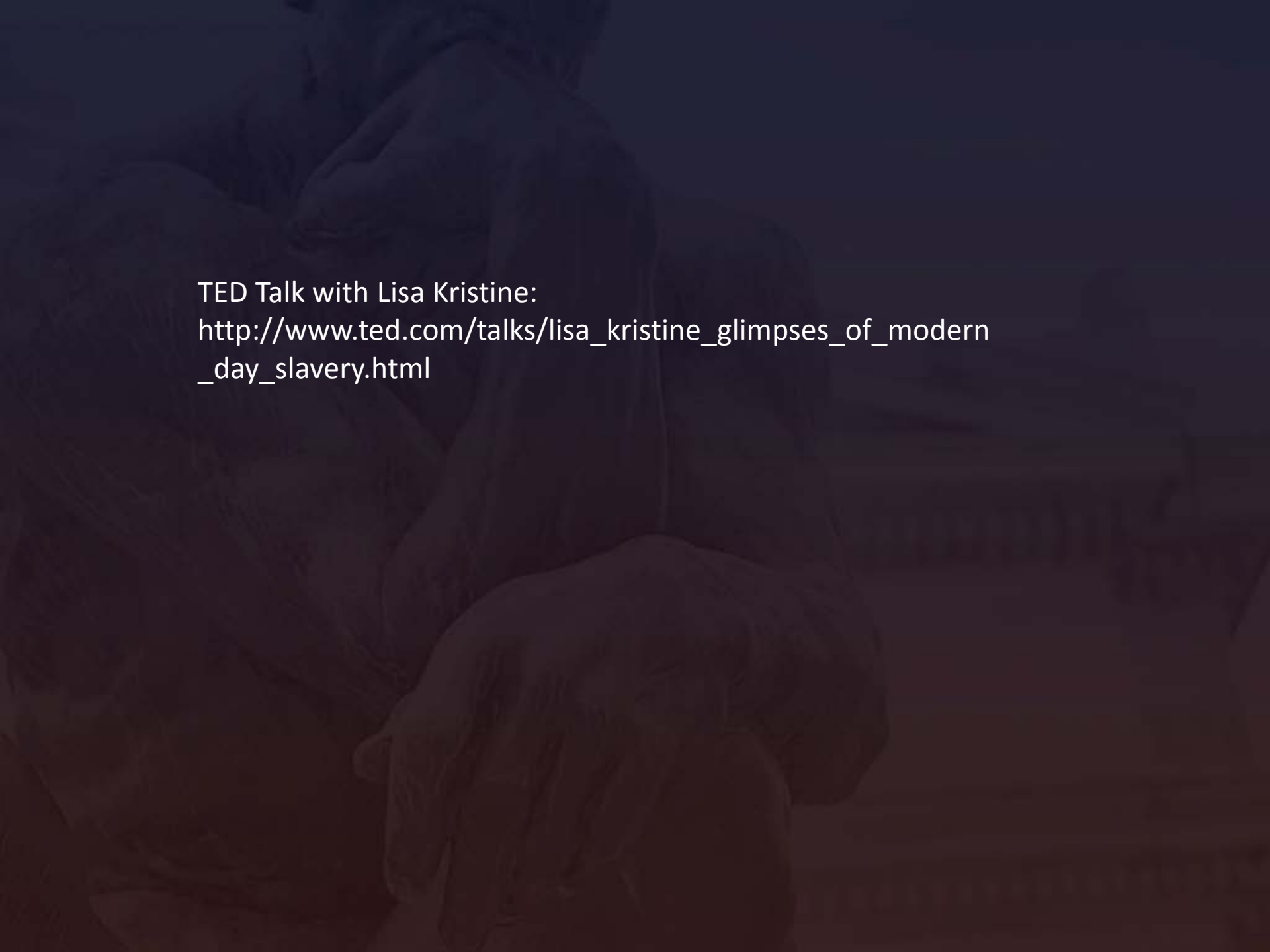
- Achievement comes to denote the sort of thing that a well-planned machine can do better than a human being can, and the main effect of education, the achieving of a life of rich significance, drops by the wayside.  
- John Dewey, *Democracy and Education*, 1915
- We should have no objection to good scientific and technical education, the problem may be that other “abilities”, equally crucial, are at risk of getting lost in the competitive flurry, that are crucial to the health of any democracy as well as the creation of a decent world culture capable of constructively addressing the world’s most pressing problems.
- Martha Nussbaum suggests that these “abilities” include: being able to think critically; the ability to transcend local loyalties and to approach world problems as a “citizen of the world” and the ability to imagine sympathetically the predicament of another person.
- This is not to say that good scientific and technical education is not important. In fact, Nussbaum believes critical thinking it is a necessity in science and technology “Searching critical thought, daring imagination, empathetic understanding of human experiences of many different kinds, and understanding of the complexity of the world we live” will ensure greater innovation and better marketing strategies for all sorts of scientific, technical and entrepreneurial pursuits.

# CRITICAL THINKING AND OUR CURRENT ECONOMIC MODEL

- Nussbaum suggests critical thinking is essential in our classroom, in part, because our economic model is one that does not encourage critical thinking. She says proponents of our current economic method fear development of critical thinking because “any serious critical thinking about class, about race and gender, about whether foreign investment is really good for the rural poor, about whether democracy can survive when huge inequalities in basic life-chances occur.”
- She goes on to say that “the student’s freedom of mind is dangerous if what is wanted is a group of technically trained obedient workers to carry out the plans of elites who are aiming at foreign investment and technological development.”

# CRITICAL THINKING AND OUR CURRENT ECONOMIC MODEL

- Since the unfettered pursuit of growth is not conducive to sensitive thinking about distribution or social inequality...Indeed, putting a human face on poverty is likely to produce hesitation about the pursuit of growth; for foreign investment often needs to be courted by politics that strongly disadvantage the rural poor.
- Nussbaum argues that an “education for economic growth” will not prioritize education in the humanities and arts because they don’t look like they lead to personal or national economic advancement. For this reason, all over the world, programs in arts and the humanities at all levels are being cut away in favour of the cultivation of the technical.
- Nussbaum doesn’t hate business. She does, however, believe a human face needs to be attached to our economic system by the teaching of critical thinking and global citizenship. As well, she insists that business needs us to develop critical and creative thinkers. “Leading business educators have long understood that to develop capacity to imagine is a keystone of a healthy business culture. Innovation requires minds that are flexible, ones that are creative...”.



TED Talk with Lisa Kristine:

[http://www.ted.com/talks/lisa\\_kristine\\_glimpses\\_of\\_modern\\_day\\_slavery.html](http://www.ted.com/talks/lisa_kristine_glimpses_of_modern_day_slavery.html)



# CRITICAL THINKING AND GLOBAL CITIZENSHIP

- You'll need the insights and critical-thinking skills you gain in history and social studies to fight poverty and homelessness, crime and discrimination, and make our nation more fair and more free.
  - Barack Obama, September 8, 2009

# CRITICAL THINKING AND GLOBAL CITIZENSHIP

- “Every society contains within itself people who are prepared to live with others on terms of mutual respect and reciprocity and people who seek the comfort of domination. We need to understand how to produce more citizens of the former sort and fewer of the latter.”
  - Martha Nussbaum, *Not For Profit*, p. 29.
- If, according to Nussbaum, a nation wants to promote a humane, people-sensitive democracy dedicated to promoting opportunities for “life, liberty and the pursuit of happiness” for all the following seem crucial:
- The ability to think well about political issues affecting the nation, to examine, reflect, argue, and debate, deferring to neither tradition nor authority.
- The ability to recognize fellow citizens as people with equal rights, even though they may be different in race, religion, gender and sexuality: to look at them with respect, as ends, not just as tools to be manipulated for one’s own profit.

# CRITICAL THINKING AND GLOBAL CITIZENSHIP

- The ability to have concern for the lives of others, to grasp what policies of many types mean for the opportunities and experiences of one's fellow citizens, of many types, and for people outside one's own nation
- The ability to imagine well a variety of complex issues affecting the story of a human life as it unfolds: to think about childhood, adolescence, family relationships, illness, death and much more in a way informed by an understanding of a wide range of human stories, not just by aggregate data
- The ability to judge political leaders critically, but with an informed and realistic sense of the possibilities available to them
- The ability to think about the good of the nation as a whole, not just that of one's own local group
- The ability to see one's own nation as a part of a complicated world order in which issues of many kinds require intelligent transnational deliberation for their resolution

# WHAT DO THE EXPERTS HAVE TO SAY ABOUT CRITICAL THINKING AND GLOBAL CITIZENSHIP?

- Johann Pestalozzi, when speaking about rote learning and “force-feeding” type education, argued that this sort of education created docile citizens who would later follow authority and not ask questions. Instead, Pestalozzi suggested an education aimed at having students active and inquisitive through the development of their critical thinking skills.
- Bronson Alcott’s instruction always took the form of questions rather than assertions, as children were urged to examine themselves, both their thoughts and their emotions.
- Martha Nussbaum says: “Stuffing children full of facts and asking them to regurgitate them does not add up to an education; children need to learn to take charge of their own thinking and to engage with the world in a *curious and critical* spirit.”

# WHAT DO THE EXPERTS HAVE TO SAY ABOUT CRITICAL THINKING AND GLOBAL CITIZENSHIP?

- John Dewey feared conventional methods of teaching that encouraged passivity. Instead, Dewey advocated for schools being places for analyzing, sifting and active problem-solving instead of being places for listening and absorbing
- Dewey even feared textbooks could do a disservice to critical thinking. Dewey said, “The child approaches the book without intellectual hunger, without alertness, without a questioning attitude, and the result is the one so deplorably common: such abject dependence upon books as weakens and cripples vigour of thought and inquiry.”
- Also Joel Westheimer, “What Kind of Citizen”

# IDEAS AND ACTIVITIES FOR CRITICAL THINKING

- Dewey suggests, students can start with a basic task, like weaving or sewing, and then basic questions of inquiry can be asked like:
  - Where do these materials come from? Who made them?
  - By what forms of labour did they reach me?
  - How should we think about the social organization of these forms of labour?

# IDEAS AND ACTIVITIES FOR CRITICAL THINKING

- Dewey emphasized that a focus on real-life activity is valuable because this way children are more lively, more focused, than when they are mere passive recipients.
- Model UN or Future Problem Solving Program International, a multinational program in which children learn to design solutions to global problems using critical thinking and imagination, are great examples of ways to help students actively engage in their learning.
- One of the devices Tagore utilized was role playing. Students were invited to step outside their own point of view and inhabit that of another person and as a result cultivate sympathy
- Both Tagore and Nussbaum talk about the importance that imagination play in teaching critical thinking.
- “Imagination helps to cultivate the ability to see something from someone else’s perspective. It is much easier to respect another’s opinion when one understands what life experiences generated that perspective or opinion.” - Nussbaum

# IDEAS AND ACTIVITIES FOR CRITICAL THINKING

- Bafa Bafa Game
- Immigration Game
- Star Power
- Confederation Game
- Going Bananas



# THE “BLACK BOX”

- In most, if not all cases, you can gain access to expected outcomes - “correct answers” - by consulting a source (teacher, text, website, etc.)
- What if you were asked to explore the structure of an “unknown” entity? That is, an entity whose internal structure is *not* described in any text - a structure for which there is no *correct* answer available from any source, a structure for which your own description would constitute the available truth.
- In groups, students are to examine the structure of the “Black Box” and come to a consensus as to what the “truth” of the inner structure of the box is.
- Each group will present their conclusion to the rest of the class and field questions and criticisms. In the end, as a class, a consensus on the “truth” of the contents of the box will be agreed upon.
- Do not open the box and reveal the structure of its contents.
- Discuss the ways in which the activity the students have engaged in is similar to the way in which real scientific work is carried out.

# HISTORICAL THINKING SKILLS

- Establish *historical significance*
- Use *primary source evidence*
- Identify *continuity and change*
- Analyze *cause and consequence*
- Take *historical perspectives*, and
- Understand the *ethical dimension* of historical interpretations.
  - Dr. Peter Seixas and the *Centre for Historical Consciousness*

# CURRENT ISSUES

## “American Civil Liberties Union defends KKK in court”

- The group claims that while it may be racist, its intentions are peaceful and they should therefore be able to exercise their right to free speech in this way. Its intentions in distributing handbills are simply to “*spread its message widely,*” the Klan says.
- The white-supremacist group claims that the US was established by and for white men and that it should never “*fall into the hands of an inferior race,*”
- The ACLU claims that the Cape Girardeau Missouri ordinance, which “*mandates that no person shall throw or deposit any handbill in or upon any vehicle,*” is unconstitutional by suppressing free speech. Even if those who practice it, do so in order to keep “white blood” pure. With the help of the ACLU, the Klan is fighting for the right to spread these ideals and more onto the windshields of parked cars across the state of Missouri.

– <http://rt.com/usa/news/american-court-kkk-missouri-830/print/>

# IMAGINE YOU ARE...

- Assume you are the head of a Genocide Prevention Committee commissioned by the United Nations.
- Your task is to develop preventive measures in order to assist the international community in recognizing potential genocides.
- It is important to incorporate your understanding of the historical causes of genocide. Reflecting on the historical causes should give you some insight into establishing preventive measures that could be put in place to ensure potential genocides are recognized early and that appropriate, effective action can be taken to immediately avert these disasters.
- You must thoroughly **explain your solutions and recognize possible problems with them.**

# DOCUMENTARIES

**Critically examining documentaries such as:**

- *A Class Divided*
- *The Armenian Genocide*
- *The Cove*
- *The Corporation*
- *The Take*

**Documentaries for promoting global citizenship:**

- *Ghosts of Rwanda*
- *A Closer Walk*

# THE ART CRITIC

- Let's record the rationale we used for judging which work of art we preferred most.
- If there were a couple of works that were particularly popular, those that did not vote for those works need to explain what it was about them that they did not like.
- Are there any similarities between how we judge art and how we, say, judge a scientific theory, what is right and wrong, the validity of an economic theory and so on (we could discuss any area of knowing).
- In what way to be use reasoning to justify our choices in this activity?
- What role did sense perception and emotion play in our judgement?
- How might our background (cultural, personal, education, etc.) determine, or to any extent affect, our valuation of a piece of art?
- Does it matter if we see things in these works of art that are different to those the artist intended?

# FINAL WORDS ON CRITICAL THINKING AND INTERNATIONAL MINDEDNESS

- Responsible citizenship requires the ability to assess historical evidence, to use and think critically about economic principles, to assess accounts of social justice, to speak a foreign language, to appreciate the complexities of the major world religions...a catalogue of facts without the ability to assess them, or to understand how a narrative is assembled from evidence, is almost as bad as ignorance, since the pupil will not be able to distinguish ignorant stereotypes purveyed by political and cultural leaders from the truth, or a bias claim from a valid one.
- We need critical thinking, especially in the humanities, because, as Nussbaum articulates so well, “they make a world that is worth living in, people who are able to see other human beings as full people, with thoughts and feelings of their own that deserve respect and empathy, and nations that are able to overcome fear and suspicion in favour of sympathetic and reasoned debate”

# SOURCES

- Martha Nussbaum: *Not For Profit: Why Democracy Needs The Humanities*
- Richard Stengel: *Nelson Mandela: Portrait of an Extraordinary Man*
- Ronald Nash: *Worldviews in Conflict*
- Nick Alchin: Assumptions Example (The Surgeon) from the *Theory of Knowledge Teachers' Guide*
- Joel Westheimer, "What Kind of Citizen"
- Peter Facione: *Critical Thinking: What It Is and Why It Counts?*
- Peter Seixas: Historical Thinking Concepts
- Jerry Chris: "The Art of Asking Questions", presented in Los Angeles, CA, April 2004
- Richard van de Lagemaat: "The Black Box" Activity from *Forum*, the Theory of Knowledge newsletter
- 20 TOK Lessons From Around the World – The "Art Critic" Activity, available from the IBO