



## Inquiry and Integration in Education May-October 2018

25 May 2018

In IIE, we will get to Critical Thinking and Critical Reading in a few weeks. But by way of preparation before we begin the LTs, after a brief introduction, here is something to tickle your critical faculty. There are three exercises here in the document for you to think about and play with.

The passage in Q1 is from Chapter 2 (Role of the Government in Health) in an NCERT social science textbook for Class 7, so this is effective practice in reading textbooks critically.

Q 3 is from Encyclopedia Britannica (1911), so engaging with it is practice in doubting and questioning highest level 'experts' as well.

Enjoy!

NOTE- Please do not submit your answers. We will let you know when we open the discussion forum for discussing the answers.

## Introduction to Critical Reading

When a medical doctor recommends a surgery, how do we evaluate the advice? When we observe a class session by a teacher, how do we evaluate the quality of teaching? How do we evaluate the quality of a book? How do we decide who to vote for? whether to propose to someone, or accept a marriage proposal? which brand of tea to buy? whether to believe what a teacher or textbook says?....

The answer to each of these questions involves thinking critically. What then is critical thinking?

**Critical thinking** is a set of mental processes that we go through in evaluating the merit of something. 'Merit' here could be the truth of a statement, the usefulness of a product or a process, the moral rightness or wrongness of an action or practice, the effectiveness and efficiency of a policy, the beauty of a work of art, the significance of an event, and so on.

So we may view critical thinking as *the evaluation of a claim*. A **claim** is a statement that someone wants us to accept. It can be of the form, 'X is true,' (e.g., The statement, "Those who have high IQs do well in their higher studies," is true); 'X is useful,' (e.g., "Homework is useful in helping students to learn better."); 'X is beautiful,' (e.g., "The beauty of Shakespeare's sonnets makes him the best poet ever."); and so on.

We expect a claim to be supported (backed/defended) by adequate **justification**. To justify a claim, we need to present the **grounds** (basis) for the claim, and valid **reasoning** to show that the claim follows as a **conclusion** from the grounds.

Thus, in a criminal court, when a prosecution lawyer makes the claim that the accused is guilty, and presents a blood stained knife in support of the claim, (s)he is putting forward the blood stains and the finger prints as grounds for the claim. (S)he would then have to argue (give reasons) for how the stains and the finger prints constitute the basis for the claim. The argument might go as follows:

*The forensic specialist has published many articles in reputed journals in the field, and is a person of high repute; so we must take her as a credible expert witness. She has concluded that the blood stains on the knife are those of the victim, and that the finger prints are those of the accused. Hence, we must conclude that the blood stains are those of the victim and the finger prints are those of the accused.*

*If this knife was used to kill the victim, that explains the blood stains on the knife. Since we do not have an alternative explanation, we must conclude that the knife is the murder weapon.*

*If the accused is the murderer, that explains his finger prints on the murder weapon. Since we don't have an alternative explanation, we must conclude that the murderer is indeed the accused.*

**Critical reading:** When we read something, if we go beyond mere comprehension, and actively engage in examining the claims made in what we read, and the support for those claims, we are reading critically. Critical reading involves critical thinking.

The concepts of claim, justification (grounds, reasoning) and conclusion are central to critical thinking and hence to critical reading. When reading something critically, we need to ask:

- What is/are the *central claim(s)* of this piece of writing?
- What justification does it advance in support of the claim(s)?
- Is the *justification* sound? That is to say, are the *grounds credible*? Does the conclusion *follow logically* from the grounds?
- Are there *considerations not mentioned in this piece of writing* but are relevant to the evaluation of the claim? Would they strengthen or weaken the claim?
- Having considered all of the above, *should we accept the claim, reject it, or set it aside for further scrutiny?*

## ***EXERCISES***

The exercises below are designed to:

- (i) help in developing the capacity for critical reading, and
- (ii) provide practice in formulating clear and precise answers to questions.

### **Exercise 1**

**Text:** “Ayurvedic medicines are better than allopathic medicines because they are derived from plant sources.”

- Questions**
1. What is the claim presented in this message?
  2. What justification does the text present to support the claim?
  3. Do you agree with the justification? State your reasons.

### **Exercise 2**

Read the three texts below, and for each text, answer the questions given at the end.

**Text A:** In spite of advances in modern medicine, the major health problems in India remain unabated. Take tuberculosis. About five lakh people die from tuberculosis every year. This number is almost unchanged since Independence! Almost two million cases of malaria are reported every year and this number isn't decreasing.

**Text B:** Many people think that smoking causes cancer. This is obviously wrong. My grandfather was a chain smoker who started smoking when he was fifteen, and smoked nearly two packets of cigarettes a day till he died at the age of eighty six, without the least trace of cancer. In contrast, a forty five year old cousin of mine died of cancer two years ago. He was a non-smoker. There is no connection between smoking and cancer.

**Text C:** Although he is a poorly paid schoolteacher, Aman Shaw is an extremely intelligent person. Throughout his school days, he stood first in his class. He scored the highest in his board exams for both Classes 10 and 12, as well as in the IIT entrance examination. After his BTech, however, he joined his father's school as a teacher.

- Questions**
1. What is the claim presented in this passage?
  2. What evidence does the text present in support of the claim?
  3. Does this evidence support the conclusion? State your reasons.

### **Exercise 3**

The passage below, from the 11th edition of *Encyclopedia Britannica* (1911), is by Walter Francis Wilcox, chief statistician, United States Census Bureau, and professor of social science and statistics at Cornell University. Read it carefully, and answer the questions that follow:

“Mentally the negro is inferior to the white. The remark of F. Manetta, made after a long study of the negro in America, may be taken as generally true of the whole race: “the negro children were sharp, intelligent and full of vivacity, but on approaching the adult period a gradual change set in. The intellect seemed to become clouded, animation giving place to a sort of lethargy, briskness yielding to indolence.” We must necessarily suppose that the development of the negro and white proceeds on different lines. While with the latter the volume of the brain grows with the expansion of the brainpan, in the former the growth of the brain is on the contrary arrested by the premature closing of the cranial sutures and lateral pressure of the frontal bone. This explanation is reasonable and even probable as a contributing cause; but evidence is lacking on the subject and the arrest of even deterioration in mental development is no doubt very largely due to the fact that after puberty sexual matters take the first place in the negro’s life and thoughts. At the same time his environment has not been such as would tend to produce in him the restless energy which has led to the progress of the white race; and the easy conditions of tropical life and the fertility of the soil have reduced the struggle for existence to a minimum.”

#### ***Questions:***

- 1) What is the main claim of this passage?
- 2) Does Manetta’s testimony constitute credible grounds for the claim? Articulate the argument.
- 3) Does the reference to the anatomical development of the brain among negroes and whites constitute an argument for (1), or an explanation for some statement? If it is an argument, state it clearly. If it is a statement, articulate that statement.
- 4) Is the statement on the differences in the anatomical development of the brain of negroes and whites credible? What are your reasons?
- 5) What is the function of the reference to the life of the negro? If you think this is an argument, clearly state the grounds, reasoning, and conclusion.
- 6) Do you find the justification sound? State your reasons
- 7) Would you accept the central claims, reject them, or set them aside for further scrutiny?