

Education, Critical Thinking and Human Capital Formation

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I. Overview:

India's population is ever increasing and is going to reach a mark of 1.37 billion based on the most recent UN data. [1] India's population may reach to the mark of 1.53 billion by 2030. It will take the principle position very soon before china. Following questions embark with ever increasing population of India:

1. Will this population of India be an asset or a liability?
2. How can we make the population of India an asset for the Economy?
3. What can one do to use this resource to the best of advantage?

The answer to above questions lies in the idea of human capital and its formation.

For the above context, it is necessary to understand the meaning of Human Capital Formation.

According to Oxford Dictionary, the skills, knowledge, and experience possessed by an individual or population, viewed in terms of their value to an organization or country is known as Human Capital. It also indicates that it is associated with intellectual capacity that an individual possesses and can be regarded as the tangible and intangible resources associated with people. Further, the idea of human capital formation is viewed as a continuous and deliberate process that helps in acquiring knowledge, skills and experience to produce something of economic value.

Further deliberations on the questions are:

How can we develop intellectual capacities of humans to produce economic value with sustainable national development?

The three basic ideas of developing intellectual capacities to produce along with sustainability points to developing the domain of Critical Thinking.

Also we need to understand that all three concepts and ideas are interlinked with one another

1. Then what is critical thinking?
2. How can critical thinking help in human capital formation?
3. How can critical thinking help in generating economic value as well as sustainable national development?

Critical Thinking is a conscious rational thought to issues, problems, questions and decisions to be taken. To add to this idea, it also considers careful consideration of assumptions, inferences, implications, questions, information and point of view. It deals with the concepts of intellectual discipline of mind wherein traits of mind are also part of the structure of Critical Thinking. Halpern, (1996) defines it as "the use of those intellectual skills that increase the probability of rational consequence". Another definition by Warnick and Inch (2010), defines Critical Thinking as, "Capacity of a person to inquire into an issue, collect and assimilate all the data with reference to issue in question, reach at a definition by using the information collected and then defend the positions that are arrived at". Hickey (1990), defined it as "involving analytical thinking for the purpose of evaluating what is read". It has been suggested by a study conducted by Prasad (2015) that Critical Thinking affects academic achievement. It also suggests thinking aloud, regulation of cognition and self-reflection as important aspects of Critical Thinking. It points to the fact that Metacognition has positive effect on the academic achievement. Study conducted by Kaur (2009) suggests that Critical Thinking can improve environmentally friendly behaviour and also enhance the social skills of the students. Study conducted by Tyagi (2017) comes with a finding that high Critical Thinking means better mental health. It reduces symptoms of anxiety and depression. Study conducted by Kumari (2014) finds that Critical thinking impacts lateral thinking in a better way. Thus Critical Thinking can improve individuals and learner's abilities to think over variegated

domains of knowledge and at the same time preparing them to think more effectively in everyday reasoning tasks. This helps in better human capital formation

Answers to above can help to understand how critical thinking can help in economic value and sustainable development?

Human mind is naturally focussed on selfish tendencies as highlighted above. It takes interest in self-gratification and self-interest. Nevertheless, human beings have a strong capacity to think rationally, if thinking is taken seriously. Thinking has to be evaluated consciously for its quality so that it can be transformed for better consequences in the form of decisions. On this view, as you can see; critical thinking is an eminently practical goal and value. It is focused on an ancient Greek ideal of "living an examined life". It is based on the skills, the insights, and the values essential to that end. It is a way of going about living and learning that empowers us

It is quite possible and, unfortunately, quite "natural" to live an unexamined life; to live in a more or less automated, uncritical way. It is possible to live, in other words, without really taking charge of the persons we are becoming; without developing or acting upon the skills and insights we are capable of. However, if we allow ourselves to become unreflective persons — or rather, to the extent that we do — we are likely to do injury to ourselves and others, and to miss many opportunities to make our own lives, and the lives of others, fuller, happier, and more productive. [3]

Thus, critical thinking is analysing and assessing thinking with a view to transform it. Broadly, it is said that behaviour is a product of thinking. Further behaviour is reflected in actions and many of our current practices are destructive. To achieve sustainability, we need to challenge the way we think by questioning and reflecting upon current activities and decisions, and considering the need for new ways of acting. We need to change our behaviour in order to avoid environmental and socio-economic problems, rather than being reactive by acting on symptoms. Critical thinking and reflection – challenges us to examine and question the underlying assumptions that shape our world, knowledge and opinions by looking beneath the symptoms of unsustainable practice.

Another question that comes forward is: how will education help in achieving and realising this aim and what conception can be chosen for transacting the same

A substantive concept of critical thinking will help us to target both analysis of thought and assessment of thought and take into account the affective as well the cognitive dimension of thought. It not only emphasizes the intellectual skills and abilities but also intellectual traits, it also draws attention to the barriers to the development of critical thought, such as egocentric and Sociocentric thought. It will integrate the creative with the critical and incorporate the ethical dimension of thought. [4]

Model that promotes the broad conception of Critical Thinking

Richard Paul's model on critical thinking incorporates all the above elements in an integrated manner so that the critical societies can be sought. It mentions the usage of standards of thinking to assess the elements of reasoning to develop intellectual traits. [5]

How can the above approach change in people's thinking and how can it help to build critical societies?

Standards of Thinking- The Intellectual Standards are used to assess the quality of reasoning. It helps to assess a thought. These standards of thinking become a tool to accept or reject a thought by using the same. The intellectual standards are: Clarity, Accuracy, Precision, Relevance, Depth, Breadth, Logic, Significance and Fairness

To be accountable for one's actions one must be accountable for one's own thinking process. In order to take command of the thinking process and assess its quality one has to understand standards.

Elements of Reasoning: We analyse many things during a day. It might be concepts, textbooks, decision that we took in past or to be taken into the future. We do the analysis implicitly but we don't know the structure of analysis so. There are parts of thinking through which we analyse things. These parts are purpose, questions, information, assumptions, point of view, inferences, and implications. One usually does it implicitly. But conscious efforts are required to practice these explicitly. This analysis has to be assessed through the standards of thinking. The aspects of reasoning according to Paul (1990) are: Reasoning has a purpose, a question to answer, based on certain assumption, within a point of view, with some information, has inferences generated which has implications later.

The last aspect of the model is the Intellectual Traits that are required for being the /fair-minded critical thinker. To cultivate the mind, we need command of these essential dimensions, and we need to consistently apply them

as we think through the many problems and issues in our lives. These standards of thinking applied to the elements of reasoning will lead to the development of Intellectual Traits of mind like Intellectual Humility, Intellectual Courage, Intellectual Empathy, Intellectual Autonomy, Intellectual Integrity, Intellectual Perseverance and Confidence in Reason

The Outcome – Constant use of the intellectual traits produce a well-cultivated critical thinker who is able to:

- Raise essential questions as well as inquire. Questions will help to reflect on actions and probe beneath the thought process.
- Come to well-reasoned conclusions and solutions so that one becomes better decision maker.
- Thinks open-mindedly within alternative systems of thought, recognizing and assessing, as need be, their assumptions, implications, and practical consequences; and
- Communicates effectively with others in figuring out solutions to complex problem
- Continuously uses standards of thinking to assess elements of reasoning to cultivate intellectual traits

Implication of critical thinking would be

- Will become more employable because the general processing capacities will develop
- Will be equipped with logic, philosophies and concepts
- Workers' minds could be developed for sound logical and critical reasoning that would help them as better planners and decision-makers in management and general administration.
- Would develop reasoning abilities and in turn will be better decision makers to earn better and work better

According to P21, The brief, supported by executive summaries for educators, policymakers, and business leaders, makes forceful arguments for the importance of critical thinking:

- People with refined critical thinking skills are more prepared for the workforce.
- Training students in critical-thinking skills can improve academic outcomes related to writing and argumentation.
- Providing better real-world outcomes, higher rates of political participation, and sound decision-making and judgment in the real world, critical thinking is highly demanded by major employers.

Through:(Some ways)

- School education and higher education so that we develop human capital which in turn develops critical societies. It has to be a part of curricula so that everybody develops thinking capabilities
- It has to be part of economics classroom wherein we can ask questions based on logic
- Questions and discussions that use standards of thinking and elements of reasoning can be used to discuss reasoning in the classes
- Explicitly doing an assignment which will ask students to think and write about the purpose of an economic problem, subject, textbook, and concept.
- Writing about the questions that the policy deals with or tries to solve, or the key questions that the textbook asks
- Information based on the questions and the purpose as in the data, examples, proof given by the textbook or the subject
- Concepts and Ideas used by the subject or textbook or a policy
- Inference reached at by the subject/policy/textbook

II. Conclusion:

Research into critical thinking proves that thinking is a skill that needs to be cultivated and applied consciously. The human mind has to be trained to think consciously so that it can be developed and used for the right ends. If not, it will lead to distortions and blunders. The history of critical thinking documents the development of this insight in a variety of subject matter domains and in a variety of social situations.

It is distant dream but not an impossible one. Each one with reasoning abilities along with intellectual traits of mind can take responsibility of oneself. Be it energy problems, resources problems or population problem. Each one of us can help to solve any problems in the economy by being thinkers; critical thinkers

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