COLLEGE POST

HAPPY INDEPENDENCE DAY

seed...

One-day Seminar/Workshop for Principals and Heads of HEI
On use of: AI, Block Chain and Quantum Technologies
in Higher Education - Scope, Challenges, and Ethical Aspects
Venue: Conference Room, National Institute of Educational Planning and Administration Hostel
17 B Aurobindo Marg, New Delhi
Date: 7th September, 2024

Tentative sub-themes:
The tentative themes for exploration would be:
1. Use of Generative AI in higher education-Teaching-Learning, Evaluation and Research
2. Block chain Technology for efficient management of students' records, credit system, and certification
3. Quantum Computers and future research in higher education
4. Ethical Aspects of Development and Use of AI and other technologies.

Registration Fee:
Registration Fee for participation in seminar/workshop has been kept minimal Rs.2000/- for ICF members and Rs.3000/- for others. The amount can be paid through RTGs/NIET or through a given QR code to Indian Colleges Forum, SB Account No. 1484101030880, IFSC Code: CNRB0001484, Canara Bank, Jit Singh Marg Branch, New Delhi, 110067.

Link for Registration Form:
https://docs.google.com/document/d/1Al8YJxKUIF9MKaSdWx0oSNCWmo3UJE6C/edit?usp=sharing&ouid=113559836230663495954&rtpof=true&sd=true

Last date of Registration: The last date for Registration is 2nd September, 2024

Certificate: Certificate of Participation will be provided to the participants.

Award Ceremony: There will be an award ceremony for International Diploma in Educational Leadership-Higher Education in the evening.

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"Those who want to lead always,
Keep themselves up-to-date and alert"

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EDITORIAL

EDUCATION, ECONOMY AND POLICY OF LIBERALIZATION IMPACTING HIGHER EDUCATION AND YOUTH IN INDIA

The first decade of the first century brought several changes in education in particular higher education, the economy, and employment/unemployment of educated youth. Till 1986 when the New education policy was formulated the focus of India was the expansion of education, promoting excellence and relevance, faculty development to help ensure quality, providing resources to universities and colleges for research and development, and setting up more centers of advanced studies.

Philanthropists set up colleges in their states, The model was: that philanthropists build colleges and state-provided grants in aid for running and development of colleges. Students entering colleges received almost free education and it encouraged first-generation learners and middle and upper-middle-class families to get higher education for their wards. Girl students also had an opportunity to study as it did not put any burden on their parents. This was a scenario up end of the eighties.

Mid of the 1980s and early 1990s some changes in professional engineering and medical colleges started taking place in the form of merit and paid seats. Paid seats were a concept of charging nearly full cost fees from students. This happened as education at higher secondary schools expanded and students aspired to get into professional colleges, but professional colleges were not set by the state.

The philanthropists did not set up such colleges as investment and management needs were high. Hence the supply of professional colleges in India to meet the aspirations of students was very low. The pressure, therefore, started building for admission to engineering and medical colleges. This caused competition for admission to these institutions. The number of seats for admission was a limited concept of merit seats for those who competed got admission at regular fees, and those who could not get into the merit list were offered, again limited paid seats under the management quota. This limited management quota seats became paid seats means high fees and many institutions stated to have charged underhand fees. Since more students are aspiring to seek admission to professional colleges, more onumber of colleges started offering seats under the paid seat quota. This process continued, and colleges were opened under the private philanthropic sectors with this provision until 1990.

In 1990 with government of India adopted a policy of liberalization of the economy. The changes in liberalization and privatization of higher education started taking place. It took the form of self-financing courses in Grant -In-Aid colleges as government limited the grants in aid for existing number of courses and salaries of existing teachers. Universities also introduced self-financing courses. Self-financing universities were also set up by many states who enacted the acts for setting up self-financing universities. Self-financing colleges were also set up in engineering, medical and arts, science, commerce, social sciences, law, and education. The deemed to be universities were also set up under self-financing mode. It may be mentioned that all this happened without a clear pronouncement of policy on education or policy on financing of higher education.

The self-financing of school education started in eighties also. Though education institutions as per law of the land can be set up by the Centre, State governments, and under Trusts/ Society Acts as not- for -profit institutions. Earlier the government gave grants-in-aid to schools and colleges set up by Trusts/ Societies and schools and colleges were charging a nominal fee from students. With the liberalization, when the government withdrew from giving grant-in aid, to schools, and colleges The schools and colleges started charging full cost + fees from the students.

Therefore, the period of the late eighties and early nineties was the period of change in the political economy of India and the transformation of the system of higher education from public to private sector, though as not-for-profit private entities. The race for change started in the first decade of the 21st century and by the second decade, the growth of private sector almost surpassed the public sector initiatives in higher education.

The latest All India Survey of Higher Education Report 2021=22 reveals that there are in

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Editor
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IDEL-HE PROGRAMME

Fourth Batch of International Diploma in Educational Leadership - higher Education course work was completed in and project work was required to be done by the participants. Of the eight participants five participants have submitted the project work. The project work was evaluated by experts and participants namely, Dr. M Usman, Dr. Mohamed Ali, Dr. P. Vatsala, Ms Purobi Boruha and Shri Abhimanuy Katoch presented their work, The work, after discussion, was admitted for award of International Diploma in Education Leadership- Higher Education. It is proposed to hold one day National Level workshop on Generative AI for higher Education- Scope, Challenges and data security and award ceremony for the participants of IDEL-HE programme.

It may be of interest to readers that three batches of IDEL-HE programme has been completed. Twenty one senior College Principals completed the International Diploma and also visited UNESCO, UNDP and other higher educational institutes in Paris, France and Maastricht School of Management, Nederlands. Alumini list is available on www. seededu.org.

ICF ANNUAL NATIONAL CONFERENCE

After 25th Silver Jubilee ICF Annual Conference at Delhi, annual national conference of ICF could not be held owing to Covid 19 and subsequent slow down on various activities of SEED-ICF. However the College Post- the journal of higher Education continued to be published and sent digitally to all the members of the Forum. There has been some state level conference and some discussion with state secretaries of ICF online. However, in person conference could not be held. It is now proposed to hold an annual ICF National conference some time in Novermber/December, 2024 or so. We are inviting proposal from eminent members to show interest in holding this as well next Annual National Conference of ICF.

FACULTY DEVELOPMENT PROGRAMME

SEED - CHEST has developed online faculty development programme for teachers of Colleges and Universities. It had conducted an online and virtual programme for a period one week in Collaboration with Lakshmi Bai College and GAD TLC of Khalsa College, of DU. Content and Videos of the programme have been uploaded on LMS. This could be provided to faculty members of the ICF member colleges.

ELECTION AND NOMINATION OF STATE LEVEL SECRETARIES OF ICF

As per constitution of ICF, state secretaries could be elected for a period of two years from among the members through postal ballet or nominated based on seniority and willingness to act as state secretary and state level executive committee of the forum. We also propose to revamp ICF as many of the principals who took interest in activities of forum has retired and many new have joined. On the part of ICF office also there has been some delay and slow down owing Covid-19 and aftermath. We will soon atart working to contact each of the member colleges and seek their view and opinion about revamping of the Forum. We will also share with them the activities and progress so far made on promoting development of colleges and institutions of higher education.

FUTURE PLANS OF SEED-ICF

We are proposing to organized programme for short duration on important issues need felt by the member colleges as the national / regional/state/institutional level. Main objective is to provide support and hand holding in development Institutional Developent Plan, Preparing for internal and external quality assurance, faculty development to achieve excellence and academic and social engagement of teachers and students.

SEED- ICF has also a National Development Volunteer Scheme to inculcate, values, life skills and voluntary social engagement of students with society and the nation. For details visit www.seededu.org

SEMINAR/WORKSHOP ON USE OF AI, BLOCKCHAIN AND QUANTUM TECHNOLOGIES

SEED-ICF-CHEST has announced a One-day Seminar/ Workshop for Principals and Heads of Higher Education Instutes on use of AI, Blockchain and Quantum Technologies in Higher Education - Scope,Challenges and Ethical Aspects on 7th September,2024. The conference will be held in Conference Room of National Institute of Educational Planning and Administaration, New Delhi. The Seminar will focus on:

(1) Generative AI use in Higher Education- Teaching-Learning, Evaluation and Research
(2) Generative AI and Future of Higher Education - Panel Discussion
(3) Blockchain Technology for efficient management of students, Faculty, Credits and Certification Records
(4) Quantum Technology and Quantum Computers and future research in higher education
(5) Ethical Aspects in use of AI in Higher education

The Seminar/workshop will help deliberating and forming views on these imporatant aspects in use of these technologies in higher education.

SIGNING OF MOU BETWEEN LAKSHMIBAI COLLEGE OF DU AND SEED-CHEST

SEED-CHEST and Lakshmibaliai College of DU has signed MoU for implementation of Foundation Courses on Development of Personality and Life Skills of students. Each of these two courses are of two credits and can be completed in six weeks each. Courses are on LMS with text, video and possibility of interaction with experts. The test for achievement will be done through MCQ and short and long assignment. Certificate of completion of the course will be jointly awarded by Lakshmibai College and SEED-CHEST. These courses are available to students of the college and colleges within and outside Delhi.

CRITICAL THINKING AS KEY TO ACHIEVING ACADEMIC EXCELLENCE IN HIGHER EDUCATION

KAPIL MURDIA *

Future of achieving excellence and innovations in higher education depends on development of Critical Thinking and problem solving abilities among students. This paper explores the concept in design thinking style.

What is Critical thinking - Critical thinking is the ability to think and reflect "autonomously" in order to make thoughtful decisions by focusing on root-cause issues and analysing effects/consequences that can result from actions.

It is key skill in top WEF 10 skills for the future.

What are the top 10 job skills for the future? World Economic Forum (weforum.org)

TOP 10 SKILLS OF 2025
1. Analytical thinking and innovation
2. Active learning and learning strategies
3. Complex problem solving
4. Critical thinking and analysis
5. Creativity, originality and initiative
6. Leadership and social influence
7. Technology use, monitoring and control
8. Technology design and programming
9. Resilience, stress tolerance and flexibility
10. Reasoning, problem solving and ideation

TYPE OF SKILL
" Problem solving
" Self-management
" Working with people
" Technology use and development

IMPORTANCE OF CRITICAL THINKING IN THE CONTEXT OF INFORMATION OVERLOAD

Understanding Information Overload

In today's digital age, we are constantly bombarded with vast amounts of information from various sources such as social media, news websites, emails, and advertisements. This phenomenon, known as information overload, can lead to difficulties in processing and understanding the information we encounter. It can result in stress, confusion, and the inability to make well-informed decisions.

ROLE OF CRITICAL THINKING

Critical thinking involves analyzing, evaluating, and

With the prevalence of misinformation and fake news, critical thinking is essential in assessing the reliability and validity of the information sources. This involves checking the authenticity of the source, the evidence presented, and the logical consistency of the arguments.

synthesizing information in a systematic, objective, and logical manner. It helps individuals to:

(1) Distinguish Relevant from Irrelevant Information:

In the face of a deluge of data, critical thinking enables individuals to identify what is important and pertinent to their specific needs or problems.

This involves filtering out noise and focusing on credible and relevant sources, thereby reducing cognitive load and increasing efficiency.

(2) Evaluate the Credibility of Sources:

With the prevalence of misinformation and fake news, critical thinking is essential in assessing the reliability and validity of the information sources.

This involves checking the authenticity of the source, the evidence presented, and the logical consistency of the arguments.

(3) Analyse and Interpret Information:

Critical thinking allows for a deeper understanding of the information by examining underlying assumptions, biases, and potential implications.

It helps in breaking down complex information into understandable parts and seeing the bigger picture.

(4) Make Informed Decisions:

By systematically evaluating information, critical thinkers can make decisions based on evidence and rationality rather than emotions or superficial factors.This leads to more effective problem-solving and decision-making, minimizing the risk of errors and biases.

(5) Adapt to New Information:

Critical thinking fosters an open-minded attitude, encouraging individuals to be flexible and adapt to new evidence or perspectives.This is particularly important in a rapidly changing information landscape where staying updated and responsive is crucial.

Application in Decision Making

I. Problem Identification:

Critical thinking helps in clearly defining the problem by distinguishing it from related issues and understanding its scope and impact.

II. Gathering Information:

It guides the process of collecting relevant and high-

Mr. Kapil Murdia is a technology expert and Design Thinker

quality information from diverse sources, ensuring a comprehensive understanding.

III.   Evaluating Options:

By applying logical reasoning and evidence-based analysis, critical thinkers can weigh the pros and cons of different options.This includes considering potential risks, benefits, and long-term consequences.

IV.   Choosing the Best Course of Action:

Critical thinking supports the selection of the most effective and feasible solution based on a balanced consideration of all available information. It also involves contingency planning and anticipating possible outcomes.

V.   Reflecting and Learning:

Post-decision reflection is a key component of critical thinking, allowing individuals to evaluate the effectiveness of their decisions and learn from their experiences.This continuous improvement loop enhances future decision-making processes.

Critical thinking is crucial in the age of Generative AI (GenAI) and deep fakes for several reasons:
1.   With the advancement of AI, it's becoming increasingly difficult to distinguish between real and artificially generated content. Deep fakes can create convincing images, videos, and audio recordings that appear authentic. Critical thinking enables individuals to analyze and question the validity of such content.
2.   The ease of creating and spreading false information using AI tools means that without critical thinking, people are more susceptible to believing and sharing misinformation. This can have serious consequences for individuals and society as a whole.
3.   Critical thinking involves evaluating information from various sources, considering different perspectives, and making decisions based on reasoned judgment. In an era where AI can generate plausible but false narratives, this skill is essential for making informed choices.
4.   A critical thinker approaches information with a healthy dose of skepticism, asking questions about the source, context, and plausibility of the information presented. This habit is vital in an environment where AI-generated content can be tailored to manipulate opinions.
5.   As AI continues to evolve, so must our learning and adaptation strategies. Critical thinking helps individuals learn effectively and adapt to new challenges, ensuring they are not solely reliant on AI for answers but can also question and improve upon AI-generated solutions.
6.   Understanding the ethical implications of AI-generated content and the potential for misuse requires a critical mindset. It's important to consider the broader impact of AI and deep fakes on privacy, security, and trust in media.

In summary, critical thinking is a defence mechanism against the potential pitfalls of GenAI and deep fakes, empowering individuals to navigate the complex digital landscape with confidence and discernment. It's a skill that becomes more valuable as technology advances and the line between real and artificial becomes increasingly blurred.

IMPORTANCE OF CRITICAL THINKING IN EDUCATION

Critical thinking is a fundamental skill in education because it equips students with the ability to analyze information, make informed decisions, solve problems effectively, and think independently.

Critical thinking is essential in education as it enhances academic achievement, fosters independent and lifelong learning, prepares students for the workforce, promotes democratic engagement, develops ethical reasoning, and improves communication skills. By cultivating critical thinking, educators help students become well-rounded, capable, and engaged individuals, ready to face the complexities of the modern world.

Here are several reasons why critical thinking is crucial in the educational context:

1.   Enhances Academic Achievement

Deeper Understanding: Critical thinking encourages students to go beyond rote memorization. They engage with the material at a deeper level, leading to a better understanding of the subject matter.

Improved Problem-Solving: Students learn to approach problems systematically, considering various perspectives and solutions, which enhances their problem-solving abilities.

Example: In mathematics, rather than just applying formulas, students learn to understand underlying concepts and principles, leading to better problem-solving skills and higher achievement.

2.   Fosters Independent Thinking

Autonomy: Critical thinking helps students develop independence in their learning processes. They learn to question assumptions, evaluate evidence, and form their own opinions.

Self-Directed Learning: Students become more self-directed, taking responsibility for their learning and seeking out information and resources proactively.

Example: In research projects, students use critical thinking to evaluate sources, synthesize information, and present well-reasoned conclusions, rather than relying solely on teacher guidance.

3.   Encourages Lifelong Learning

Adaptability: Critical thinkers are better equipped to adapt

to new situations and learn continuously throughout their lives. They are open to new ideas and willing to change their views based on new evidence.

Curiosity: Critical thinking fosters a natural curiosity and a love of learning, motivating students to explore new topics and fields of knowledge.

Example: Lifelong learners use critical thinking to keep up with advancements in their fields, continuously updating their knowledge and skills.

4. Prepares for the Workforce

Employability: Many employers value critical thinking skills because they lead to better decision-making, problem-solving, and the ability to work effectively in complex environments.

Innovation: Critical thinkers are often more innovative, as they can identify problems, think creatively, and develop new solutions.

Example: In fields like engineering, business, and healthcare, professionals use critical thinking to analyze data, develop strategies, and implement effective solutions.

5. Promotes Democratic Engagement

Informed Citizenship: Critical thinking enables students to evaluate political arguments, identify biases, and understand different viewpoints. This prepares them to be informed and engaged citizens.

Active Participation: Educated individuals are better equipped to participate in democratic processes, advocate for their beliefs, and contribute to societal discussions.

Example: In social studies, students analyze historical events, understand the causes and effects, and evaluate the credibility of sources, leading to a more nuanced understanding of current events and politics.

6. Develops Ethical Reasoning

Moral Judgments: Critical thinking helps students develop the ability to make ethical decisions by evaluating the consequences of actions and considering the rights and responsibilities involved.

Fairness and Justice: Students learn to approach issues with an open mind, considering all sides before forming judgments, which promotes fairness and justice.

Example: In discussions about controversial topics, students use critical thinking to weigh different ethical perspectives and develop reasoned arguments.

7. Improves Communication Skills

Articulation: Critical thinkers can articulate their thoughts clearly and persuasively, both in writing and orally. They can present well-structured arguments and respond thoughtfully to counterarguments.

Listening: Critical thinking also involves active listening, understanding others' viewpoints, and engaging in constructive dialogue.

Example: In debates and essays, students use critical thinking to construct coherent arguments, provide evidence, and address opposing viewpoints effectively.

IMPORTANCE OF UNDERSTANDING CRITICAL THINKING AS A PROCESS

Recognizing critical thinking as a process is essential for structured problem-solving, informed decision-making, skill development, effective communication, and adaptability. It transforms critical thinking from an abstract concept into a practical, step-by-step approach that can be systematically applied across various domains. This understanding enhances the ability to think critically, leading to better outcomes in both personal and professional settings.

Understanding critical thinking as a process is crucial because it frames it as a structured and systematic approach to analyzing and solving problems, making decisions, and evaluating information. Here are several reasons why recognizing critical thinking as a process is important:

1. Structured Approach to Problem-Solving

Sequential Steps: Viewing critical thinking as a process involves a series of sequential steps that guide individuals through logical stages of thinking. This helps ensure that no important aspect is overlooked.

Consistency: A structured approach promotes consistency in how problems are addressed, leading to more reliable and reproducible outcomes.

Example: The process typically includes identifying the problem, gathering information, analyzing the data, generating options, evaluating alternatives, and making a decision.

2. Enhanced Clarity and Focus

Clarity in Thought: Treating critical thinking as a process helps clarify thoughts and ideas. Each step of the process requires specific focus, reducing ambiguity and confusion. Focused Analysis: By breaking down thinking into distinct stages, individuals can concentrate on one aspect of the problem at a time, leading to deeper and more focused analysis.

Example: When addressing a business challenge, a clear, step-by-step process helps in systematically evaluating market conditions, financial data, and competitive strategies.

3. Improved Decision-Making

Informed Choices: A systematic process ensures that decisions are based on thorough analysis and well-supported evidence rather than impulsive reactions or incomplete information.

Reduced Bias: Structured critical thinking minimizes the influence of cognitive biases and emotional responses,

leading to more rational and objective decisions.
Example: In medical diagnosis, following a structured critical thinking process helps in considering all possible symptoms, medical history, and diagnostic tests before arriving at a conclusion.

4. Skill Development and Refinement

Skill Building: Understanding critical thinking as a process helps individuals develop and refine their critical thinking skills. Each stage of the process enhances different aspects of critical thinking, such as analysis, evaluation, and synthesis.

Continuous Improvement:Recognizing it as a process encourages continuous improvement and learning. Individuals can identify which stages they need to improve and focus on enhancing those specific skills.

Example: Students who learn critical thinking as a process can progressively develop their abilities to critically analyze texts, construct arguments, and evaluate sources.

5. Effective Communication and Collaboration

Common Framework: A shared understanding of the critical thinking process provides a common framework for teams to discuss and address problems. This enhances communication and collaboration.

Transparent Reasoning: It makes reasoning transparent and understandable to others, facilitating constructive feedback and collective problem-solving.

Example: In a project team, following a structured critical thinking process ensures that all members understand each step and can contribute effectively, leading to better team outcomes.

6. Adaptability and Flexibility

Dynamic Process: Understanding critical thinking as a process highlights its dynamic nature. It can be adapted to different contexts and problems, making it a versatile tool.

Flexibility in Application: Different stages of the process can be emphasized or revisited as needed, providing flexibility in tackling a wide range of issues.

Example: Whether dealing with a technical problem, a strategic business decision, or a personal dilemma, the critical thinking process can be tailored to suit the specific context and requirements.

KEY MILESTONES IN THE CRITICAL THINKING PROCESS

Cause vs. Effect: A Starting Point for Critical Thinking

Starting with cause and effect in critical thinking provides a structured approach to analyzing situations, solving problems, and making informed decisions. By identifying causes, understanding their effects, and avoiding logical fallacies, critical thinkers can develop a deeper understanding of complex issues and create effective,

evidence-based solutions. This foundational skill enhances the overall process of critical thinking, leading to better outcomes in both personal and professional contexts.

Understanding the relationship between cause and effect is fundamental to critical thinking. This concept helps individuals to identify and analyze the origins and outcomes of various situations, events, or phenomena. Let's break down how distinguishing between cause and effect serves as a foundational step in the critical thinking process.

Cause: The Starting Point

Definition: A cause is an action, event, or condition that produces a result or outcome. It is the reason something happens.

Identification: Critical thinkers begin by identifying potential causes behind a situation. This involves asking questions like:

*   What triggered this event?
*   What factors contributed to this outcome?
*   What actions led to these consequences?

Effect: The Outcome

Definition: An effect is the result or consequence of a specific cause. It is what happens as a result of an action, event, or condition.

Analysis: Understanding the effects helps in assessing the impact and significance of the causes identified. This involves questions such as:

*   What were the immediate and long-term results?
*   How did this outcome affect the individuals or systems involved?
*   What changes occurred as a consequence?
*   The Interplay between Cause and Effect

Clarity and Understanding:

Initial Analysis: Recognizing cause and effect helps in gaining a clear understanding of a situation. By identifying the root cause, critical thinkers can avoid superficial or erroneous conclusions.

Example: In analyzing a company's declining sales, critical thinkers would look for underlying causes (e.g., poor marketing strategy, increased competition, economic downturn) rather than just observing the effect (decreased revenue).

Problem Solving:

Targeted Solutions: Knowing the cause allows for the development of targeted solutions that address the root problem, rather than just mitigating symptoms.

Example: If an organization identifies poor employee morale as the cause of decreased productivity, they can implement specific interventions such as employee engagement programs, rather than merely enforcing stricter deadlines.

Predictive Analysis:
Anticipating Outcomes: Understanding cause and effect relationships enables critical thinkers to predict potential future outcomes based on current actions or conditions.
Example: Environmental scientists use cause and effect analysis to predict the impact of pollution on climate change, enabling them to advocate for policies that address the root causes of environmental degradation.

Evidence-Based Reasoning:
Logical Connections: Establishing cause and effect relationships requires evidence-based reasoning, which is a core component of critical thinking. This involves gathering data, verifying sources, and constructing logical arguments.
Example: In medical research, establishing that a specific virus causes a particular disease involves rigorous testing and validation to ensure that the relationship is not coincidental.

Avoiding Fallacies:
Preventing Misattributions: Critical thinkers are cautious of fallacies like post hoc ergo propter hoc (assuming that because one event followed another, the first event caused the second). They seek to establish true causation rather than mere correlation.
Example: Just because an employee received a promotion after a new manager was hired does not necessarily mean the new manager caused the promotion. Critical thinkers would look for a direct link between the manager's actions and the promotion decision.

Breaking the Problem into Smaller Parts: A Key Milestone in the Critical Thinking Process
One of the most effective strategies in the critical thinking process is breaking down a complex problem into smaller, more manageable parts. This approach, often referred to as "decomposition," allows for a more focused and thorough analysis, making it easier to develop practical solutions.

Breaking a problem into smaller parts is a key milestone in the critical thinking process. It enhances understanding, facilitates root cause analysis, improves problem-solving efficiency, promotes better collaboration and communication, ensures efficient resource use, and aids in monitoring and evaluation. This systematic approach leads to more effective and sustainable solutions, making it an indispensable strategy in critical thinking and decision-making.
Here's how this strategy works and why it is essential:

1.   Enhanced Understanding and Clarity
Simplification: Decomposing a problem helps to simplify it. Complex problems can be overwhelming, but by dividing them into smaller parts, each component becomes more understandable and less daunting.
Focused Analysis: Each smaller part can be analyzed individually, allowing for a more detailed and thorough understanding. This makes it easier to identify the root causes and contributing factors of the problem.

2.   Identifying Root Causes
Root Cause Analysis: By examining each smaller part separately, critical thinkers can pinpoint the underlying causes of the problem more accurately. This prevents superficial analysis and ensures that solutions address the actual issues rather than just symptoms.
Example: In a scenario where a company is facing declining sales, breaking down the problem might involve analyzing factors such as marketing strategies, customer satisfaction, product quality, and competition. This detailed analysis can reveal specific areas needing improvement.

3.   Improved Problem-Solving
Targeted Solutions: Once the problem is broken down, solutions can be developed for each smaller part. This allows for more precise and effective interventions.
Step-by-Step Approach: Solving smaller problems step by step can lead to the resolution of the overall problem. It also makes the problem-solving process more manageable and organized.
Example: In a software development project encountering delays, breaking down the problem might involve looking at the coding process, team communication, resource allocation, and project management practices. Addressing each of these components can collectively resolve the delay issue.

4.   Enhanced Collaboration and Communication
Teamwork: Decomposing a problem facilitates better collaboration, as different team members or departments can focus on specific parts of the problem based on their expertise.
ClearCommunication: It also improves communication by providing a clear structure and specific areas of focus, making it easier to discuss and address the issues.

5.   Efficient Use of Resources
Resource Allocation: By understanding the specific parts of a problem, resources (time, money, personnel) can be allocated more efficiently to areas where they are most needed.
Prioritization: It also helps in prioritizing tasks, ensuring that critical issues are addressed first, leading to a more effective use of resources.

6.   Monitoring and Evaluation
Progress Tracking: Breaking down the problem allows for easier tracking of progress, as each smaller part can

be evaluated individually. This helps in identifying what works and what doesn't, enabling timely adjustments. Continuous Improvement: This approach supports a cycle of continuous improvement by allowing for incremental changes and refinements based on ongoing analysis and feedback.

Practical Steps to Decompose a Problem
*   Identify the Main Problem:
*   Clearly define the overarching problem you are facing.
*   Break Down the Problem:
*   Divide the main problem into smaller, more specific sub-problems or components. Use techniques like mind mapping or flowcharts to visualize this breakdown.

Analyze Each Component:
*   Examine each smaller part separately to understand its specific causes, effects, and contributing factors.
*   Develop Solutions for Each Part:
*   Create targeted solutions for each sub-problem. Ensure that these solutions are practical and feasible.

Implement and Monitor:
Implement the solutions step by step, monitor their effectiveness, and make necessary adjustments.

ASKING THE RIGHT QUESTIONS" IN THE CONTEXT OF CRITICAL THINKING

Asking the right questions is a cornerstone of critical thinking. It drives the process of inquiry, analysis, and evaluation, leading to a deeper understanding and more informed decision-making.

Asking the right questions is integral to critical thinking because it facilitates understanding, information gathering, analysis, reflection, decision-making, problem-solving, and collaboration. By honing the skill of questioning, individuals can enhance their critical thinking abilities, leading to more effective and informed outcomes in various contexts.

Here's why asking the right questions is essential in critical thinking and how it can be effectively applied:

1. Clarifying Understanding
Defining Problems: Asking precise questions helps in clearly defining the problem or issue at hand. This is the first step in the critical thinking process.
Avoiding Assumptions: It helps to avoid assumptions and clarify any ambiguities, ensuring that all aspects of the problem are understood.
Example: Instead of asking, "Why is this project failing?" a more specific question would be, "What factors are contributing to the delays in this project?"

2.   Gathering Relevant Information
Focused Inquiry: The right questions help to gather specific and relevant information, which is crucial for effective analysis.
Identifying Sources: They guide the search for reliable sources and evidence, ensuring that the information collected is pertinent and credible.
Example: In researching climate change, asking, "What scientific evidence supports the link between human activities and climate change?" focuses the inquiry on relevant and reliable data.

3.   Analyzing and Evaluating Information
Critical Analysis: Questions that probe deeper into the subject matter encourage critical analysis and evaluation of the information gathered.
Identifying Biases: They help in identifying biases, inconsistencies, and gaps in the information, leading to a more accurate and objective understanding.
Example: After reading an article, asking, "What are the author's main arguments, and what evidence supports these arguments?" helps in critically evaluating the content.

4.   Stimulating Thought and Reflection
Encouraging Reflection: Thought-provoking questions stimulate reflection and deeper thinking, encouraging individuals to explore different perspectives and consider various implications.
Promoting Insight: They often lead to new insights and a more comprehensive understanding of the issue.
Example: In a discussion about ethics, asking, "What are the potential consequences of this decision for all stakeholders involved?" promotes thorough reflection on the ethical implications.

5.   Guiding Decision-Making
Weighing Options: Questions help in systematically evaluating different options and their potential outcomes, leading to better decision-making.
Prioritizing Actions: They assist in prioritizing actions based on a clear understanding of the pros and cons associated with each option.
Example: When choosing a new software for a company, asking, "What are the key features we need, and how do the available options compare in terms of these features?" guides the decision-making process.

6.   Facilitating Problem-Solving
Breaking Down Problems: Questions help in breaking down complex problems into smaller, more manageable parts, making it easier to address each component systematically.
Developing Solutions: They lead to the generation of creative and effective solutions by exploring various

aspects and potential strategies.
Example: In a team facing productivity issues, asking, "What specific obstacles are preventing us from meeting our goals?" helps in identifying and addressing the root causes.

7. Encouraging Collaboration and Dialogue

Engaging Others: Open-ended and thoughtful questions encourage participation, collaboration, and dialogue among team members or peers.
Building Consensus: They help in building consensus by ensuring that all viewpoints are considered and discussed.
Example: In a group project, asking, "What are everyone's thoughts on this approach, and do we have any alternative suggestions?" fosters collaborative problem-solving.
Effective Strategies for Asking the Right Questions
" Be Specific and Clear:
" Formulate questions that are specific and clear to avoid misunderstandings and to focus the inquiry.
" Be Open-Ended:
" Use open-ended questions to encourage exploration and discussion rather than yes/no answers.

ASK FOLLOW-UP QUESTIONS:

Follow up initial questions with more detailed ones to delve deeper into the topic and uncover additional insights.
Consider Different Perspectives:
I. Ask questions that explore different viewpoints and consider various angles of the issue.
II. Prioritize Relevance:
III. Focus on questions that are directly relevant to the problem or topic to ensure productive inquiry.

Lets discuss some tools and techniques to sharpen critical thinking

5 Whys technique (sometimes known as 5Y). This is a simple but powerful tool for cutting quickly through the outward symptoms of a problem to reveal its underlying causes - so that you can deal with it once and for all.

7 So-What's: Consequences of Actions

Navigating the complex world of decision-making requires a strategic lens that goes beyond immediate solutions. The "So What?" or "And Then What?" analysis approach is a powerful tool that encourages leaders to consider the implications and consequences of their potential solutions. This methodology's simplicity and adaptability makes it a versatile tool for improved decision-making, encouraging thoughtful analysis and strategic foresight. The step-by-step process of using the 7 So-Whats.
1. Define the Initial Action or Solution
2. Question Each Layer of Impact: With each 'So What?' or 'And Then What?'
3. Continue the Inquiry

DEFINETHE INITIAL ACTION OR SOLUTION

Begin by clearly stating the initial problem statement and then the proposed solution or action. For instance,
Problem statement: Our current online ordering system is not meeting the evolving needs of our business and customers, leading to decreased efficiency, lower customer satisfaction, and hindered growth potential."
Solution: "We are changing our online ordering system to platform X."
Question Each Layer Of Impact: With Each 'So What?', Delve deeper into the implications. For example, "So what will that mean for the business?" leading to "It means training the staff on the new platform." Or if you want to use 'And then what" you would say "And then what does that mean for the business?"

Continue the Inquiry

Keep probing with 'So what?' (Or and then what) until you reach the seventh layer, by which time you should have a comprehensive understanding of the potential impact and required actions.

The 80-20 Rule (aka Pareto Principle):

The 80-20 rule, also known as the Pareto Principle, is a familiar saying that asserts that 80% of outcomes (or outputs) result from 20% of all causes (or inputs) for any given event.

Lets understand this -
The 80-20 rule maintains that 80% of outcomes comes from 20% of causes.
The 80-20 rule prioritizes the 20% of factors that will produce the best results.
A principle of the 80-20 rule is to identify an entity's best assets and use them efficiently to create maximum value.
This rule is a precept, not a hard-and-fast mathematical law.
People sometimes mistakenly conclude that if 20% of factors should get priority, then the other 80% can be ignored.
It was first used in macroeconomics to describe the distribution of wealth in Italy in the early 20th century. Although the 80-20 rule is frequently used in business and economics, you can apply the concept to any field - Wealth distribution, personal finance, spending habits
At its core, the 80-20 rule is about identifying an entity's best assets and using them efficiently to create maximum value. For example, a student should try to identify which parts of a textbook will create the most benefit for an upcoming exam and focus on those first. This does not imply, however, that the student should ignore the other parts of the textbook.

Example of the 80-20 Rule

Carla was working on an assignment for her digital communications class. The project was to create a blog and monitor its success during the course of a semester. Carla designed, created, and launched the site. Midway through the term, the professor conducted an evaluation of the blogs. Carla's blog, though it had achieved some visibility, generated the least amount of traffic compared with her classmates' blogs.

Define the Problem

Carla happened upon an article about the 80-20 rule. It said that you can use this concept in any field. So, Carla began to think about how she might apply the 80-20 rule to her blog project. She thought, "I used a great deal of my time, technical ability, and writing expertise to build this blog. Yet, for all of this expended energy, I am getting very little traffic to the site."

She now understood that even if a piece of content is spectacular, it is worth virtually nothing if no one reads it. Carla deduced that perhaps her marketing of the blog was a greater problem than the blog itself.

Apply the 80-20 Rule

To apply the 80-20 rule, Carla decided to assign her 80% to all that went into creating the blog, including its content. Her 20% would be represented by a selection of the blog's visitors.

Using web analytics, Carla focused closely on the blog's traffic. She asked herself:

Which sources comprise the top 20% of traffic to my blog?

Who are the top 20% of my audience that I wish to reach?

What are the characteristics of this audience as a group?

Can I afford to invest more money and effort into satisfying my top 20% readers?

In terms of content, which blog posts constitute the top 20% of my best-performing topics?

Can I improve upon those topics, and get even more traction from my content than I'm getting now?

Carla analyzed the answers to these questions, and edited her blog accordingly:

She adjusted the blog's design and persona to align with her top 20% target audience (a strategy common in micromarketing).

She rewrote some content to meet her target reader's needs more fully.

Here is summary of common techniques, individuals can use to enhance their critical thinking skills, enabling them to analyze information more effectively, make better decisions, and solve problems efficiently. By incorporating these methods into their daily routines, students, professionals, and anyone engaged in complex tasks can

significantly improve their critical thinking capabilities.

1. Socratic Questioning

Description: This method involves asking a series of probing questions to explore complex ideas, uncover assumptions, and challenge inconsistencies.

Application: Used in classroom discussions, debates, and problem-solving sessions to deepen understanding and stimulate critical thinking.

Examples:
o   What do you mean by that?
o   How do you know this is true?
o   What if we looked at this from another perspective?

2. Mind Mapping

Description: A visual tool that helps organize information, ideas, and concepts in a non-linear manner. It involves creating a diagram with a central idea and branching out to related topics.

Application: Useful for brainstorming, planning, studying, and organizing thoughts.

Examples:
o   Creating a mind map to plan an essay or project.
o   Mapping out the causes and effects of a historical event.

3. SWOT Analysis

Description: A strategic planning tool that evaluates the Strengths, Weaknesses, Opportunities, and Threats related to a particular situation or decision.

Application: Used in business planning, project management, and decision-making processes.

Examples:
"   Analyzing a company's position before launching a new product.
"   Assessing personal skills and career opportunities.

4. Critical Reading and Note-Taking

Description: Techniques for reading texts critically and taking effective notes to identify key points, arguments, and evidence.

Application: Enhances comprehension and retention of information, useful for academic studies and professional development.

Examples:
"   Annotating texts with questions and comments.
"   Summarizing articles and identifying main arguments.

5. Argument Mapping

Description: A visual representation of the structure of an argument, showing the relationship between the main claim, supporting evidence, and counterarguments.

Application: Helps in analyzing, constructing, and presenting logical arguments.

Examples:

" Mapping out the arguments in a debate or essay.
" Evaluating the strength and validity of different positions.

6. Brainstorming
Description: A creative technique for generating a large number of ideas and solutions to a problem in a short amount of time.
Application: Used in group settings to encourage open and free-flowing ideas.
Examples:
1. Generating ideas for a marketing campaign.
2. Brainstorming potential solutions to a community issue.

7. Heuristics
Description: Simple, efficient rules or strategies that help in making quick decisions or solving problems.
Application: Useful in situations where quick judgments are needed, but they should be used with caution to avoid biases.
Examples:
A. Using the "rule of thumb" to estimate measurements.
B. Applying the "80/20 rule" to prioritize tasks.

8. Root Cause Analysis (RCA)
Description: A method for identifying the underlying causes of a problem rather than just addressing its symptoms.
Application: Used in quality control, process improvement, and troubleshooting.
Examples:
" Analyzing the root cause of a manufacturing defect.
" Investigating the reasons behind a decline in sales.

9. Fishbone Diagram (Ishikawa)
Description: A visual tool for identifying and organizing potential causes of a problem, shaped like a fishbone with the main problem at the head.
Application: Useful in root cause analysis and brainstorming sessions.
Examples:
A. Analyzing factors contributing to poor customer service.
B. Identifying causes of project delays.

10. Five Whys Technique
Description: A simple yet effective technique that involves asking "why" repeatedly (typically five times) to drill down into the root cause of a problem.
Application: Used in problem-solving and root cause analysis.
Examples:
1) Identifying the root cause of a software bug.
2) Investigating the reasons for employee dissatisfaction.

11. Devil's Advocacy
Description: A method where one person takes a position they do not necessarily agree with for the sake of argument, to test the strength of the opposing arguments.
Application: Helps in exploring different viewpoints and strengthening the robustness of an argument or decision.
Examples:
" Challenging a proposed business strategy by highlighting potential flaws.
" Testing the strength of a legal case by arguing the opposing side.

12. Reflective Thinking
Description: Involves reflecting on one's beliefs, values, and experiences to gain deeper insights and understanding.
Application: Enhances self-awareness and personal growth, useful in both personal and professional development.
Examples:
" Reflecting on a challenging experience to identify lessons learned.
" Analyzing one's decision-making process to improve future decisions.

Critical thinking and Rational thinking - Critical thinking and rational thinking are intertwined, with significant overlap in their use of logical reasoning, evidence evaluation, objective analysis, problem-solving, and decision-making. However, critical thinking encompasses a broader set of skills, including creative, ethical, and reflective dimensions, whereas rational thinking focuses more narrowly on logical coherence and evidence-based reasoning. Understanding and applying both types of thinking are essential for making well-informed, reasoned, and balanced decisions in various contexts.

Rational Thinking
Definition: Rational thinking is a component of critical thinking that focuses specifically on logical reasoning and the use of evidence-based arguments. It emphasizes coherence, consistency, and the application of formal principles of logic.

Key Characteristics:
o Logical Consistency: Ensuring that arguments are free of contradictions.
o Evidence-Based Reasoning: Using empirical evidence to support conclusions.

Objectivity: Striving for impartiality and minimizing emotional influences.
Deductive and Inductive Reasoning: Applying formal methods of reasoning to derive conclusions.

Applications:
1. Scientific research and hypothesis testing
2. Legal reasoning and judicial decisions
3. Financial analysis and risk assessment
4. Engineering and technical problem-solving
5. Overlap Between Critical Thinking and Rational Thinking

Logical Reasoning:
Both critical thinking and rational thinking rely heavily on logical reasoning. Critical thinking includes the application of rational thinking principles to ensure that arguments are sound and conclusions are well-supported by evidence.

EVIDENCE EVALUATION:
A core component of both critical thinking and rational thinking is the evaluation of evidence. Critical thinkers and rational thinkers alike seek out credible evidence and use it to inform their decisions and arguments.

OBJECTIVE ANALYSIS:
Both critical and rational thinking strive for objectivity. Critical thinkers aim to minimize biases and emotions in their analysis, a principle that is central to rational thinking.

PROBLEM-SOLVING:
Both approaches are essential in effective problem-solving. Critical thinking provides a framework for understanding the problem comprehensively, while rational thinking offers logical strategies for finding solutions.

DECISION-MAKING:
In decision-making, critical thinking ensures that all aspects of a situation are considered, while rational thinking ensures that decisions are based on logical and coherent arguments.

Distinct Aspects of Each
Broader Scope of Critical Thinking:
Critical thinking encompasses a broader range of skills, including creative thinking, ethical reasoning, and reflective judgment. It is not confined to logical reasoning alone but also involves questioning assumptions and considering multiple perspectives.

Focus of Rational Thinking:
Rational thinking is more narrowly focused on logical coherence and evidence-based reasoning. It emphasizes formal logic and often involves mathematical or scientific reasoning.

Emotional and Ethical Dimensions in Critical Thinking:
Critical thinking also involves considering the emotional and ethical implications of decisions. Rational thinking, while striving for objectivity, may not always address these dimensions explicitly.

HOW CONVERGENT AND DIVERGENT THINKING INTERSECTS WITH CRITICAL THINKING
Critical thinking is the ability to think and reflect "autonomously" in order to make thoughtful decisions by focusing on root-cause issues and analyzing effects/consequences that can result from actions.

Convergent and divergent thinking intersect with critical thinking by providing a structured approach to generating and evaluating ideas. Here's how these types of thinking intersect with critical thinking:

Divergent Thinking and Critical Thinking
Divergent Thinking is about generating multiple ideas and exploring various possibilities. It encourages open-ended exploration and creativity, which can enhance critical thinking in the following ways:

Broadening Perspectives: Divergent thinking helps in looking at problems from multiple angles, encouraging the consideration of various possibilities and alternatives. This broad perspective is a critical thinking skill that aids in understanding complex problems.

Creative Problem Solving: Divergent thinking fosters creativity, enabling individuals to come up with novel solutions and ideas. Critical thinkers use this creativity to challenge assumptions and develop innovative approaches to problem-solving.

Generating Hypotheses: In critical thinking, generating hypotheses and exploring different scenarios are essential. Divergent thinking supports this by allowing individuals to brainstorm various potential explanations and solutions.

CONVERGENT THINKING AND CRITICAL THINKING
Convergent Thinking involves narrowing down ideas to find the most effective solution. It requires analysis, evaluation, and decision-making, which are core components of critical thinking:

Analyzing Ideas: Convergent thinking involves critically analyzing ideas generated during the divergent thinking phase. It requires assessing the feasibility, effectiveness, and relevance of each idea.

Making Decisions: Critical thinking involves making well-informed decisions. Convergent thinking helps in selecting the best solution by evaluating evidence, considering pros and cons, and weighing different options.

Refining Solutions: Once ideas are narrowed down, convergent thinking aids in refining and improving solutions. Critical thinkers apply logical reasoning and evidence-based evaluation to ensure that the chosen solution effectively addresses the problem.

INTERSECTION OF DIVERGENT, CONVERGENT, AND CRITICAL THINKING

The intersection of these thinking styles enhances the problem-solving process by combining creativity with analysis:

Balanced Approach: Critical thinking benefits from the balance between divergent and convergent thinking. Divergent thinking expands the range of possibilities, while convergent thinking ensures those possibilities are realistic and practical.

Iterative Process: In complex problem-solving, critical thinking involves an iterative process of generating and refining ideas. Divergent and convergent thinking provide a framework for this iterative cycle, allowing for continuous improvement.

Informed Creativity: Divergent thinking fuels creativity, and when combined with critical thinking, it becomes informed creativity-innovative ideas that are grounded in logic and evidence.

By integrating divergent and convergent thinking with critical thinking, individuals can develop a more comprehensive approach to problem-solving that encourages creativity, thorough analysis, and informed decision-making.

If you want to learn more about rational thinking, @+91 98100 73724 sir recommendation - https://

en.wikipedia.org/wiki/Rationality_(book)

Look for more on this in the following sources.

SOURCES:
(1) Critical Thinking in the Age of AI - horizon.mit.edu. https://horizon.mit.edu/insights/critical-thinking-in-the-age-of-ai.
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Readers are encouraged to send their comments, opinions, and alternative views on any of the issues published in this issue for consideration by the College Post.

Editor

EDUCATION, EMPLOYMENT, AND UNEMPLOYMENT AMONG YOUTH IN INDIA-2000-2022 - HAVE WE FAILED OUR YOUTH?
(An analysis based on ILO-IHD- India Employment Report -2024)

Dr. G.D. Sharma *

The ILO-IHD Employment Report of India 2024 has revealed several aspects of employment and unemployment of youth in India since 2000 to 2022. This paper, based on data available in this report, uncovers the story of unemployment among youth and reasons for the same. It also refers to the general theory of employment and developmental model adopted by India affecting employment, income and demand in Indian economy.

THE BACKGROUND:

In the mid-1970s, I published an article on graduate involuntary unemployment in India based on 1991 Census Data. Which were available in printed form sometime in 1975. I analyzed the absorption capacity of sectors- as the employment of graduates in nine economic sectors. I projected it for another decade i.e. 1986. Observing the gap between the supply of graduates and employing/ absorbing capacity of economic sectors given the projected rate of growth. I said there is a need to change education processes or to restructure the economic processes to employ graduates passed out from the institutions of higher education. (See Graduate unemployment in India, published in Economic and Political Weekly, June 19, 1976 No. 25 (June 19, 1976).

I did not pursue this subject after that. I often felt that some analysis, based on subsequent and latest Census data of India should be done. But India did do a Census in 2021. Hence Census data on graduate unemployment are also not available.

The recent ILO-IHD- India Employment Report- 2024 has aroused my interest to look into employment and unemployment among youth and educated youth and in particular graduate employment and unemployment status. Hence I peeped into this report and found very useful data on employment and unemployment among youth in India from 2000 to 2022. The report has also given data on 2023 in some aspects. This gives an up-to-date status of employment and unemployment.

PUBLIC CONCERN:

One of the major issues raised during the 2024 Lok Sabha Election is unemployment among youth. The latest International Labour Organization and Human Development Institute India Report- 2024 - has stated that there has been a consistent unemployment among youth and educated youth for the last 22 years. In the light of this concern and observations of consistent unemployment there is need to look into the facts to assess the magnitude of the problem and possible reasons thereof.

India has a relatively high youth population and therefore their meaningful employment in the economy is essential to reap the demographic dividend. The question arises whether India has been able to do so particularly in the light of youth employment! If not why? What is the way forward? We attempt to address some of these questions.

India has a relatively high youth population and therefore their meaningful employment in the economy is essential to reap the demographic dividend. The question arises whether India has been able to do so particularly in the light of youth employment! If not why? What is the way forward?

THE ANALYSIS:
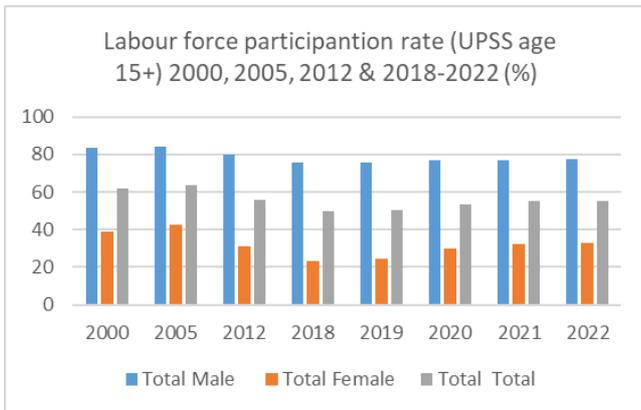
Labour Force and Work Force Participation 15+ population

Labour Force Participation: Of the total females 38.9 percent of them formed part of the labour force and males formed more than 83.6 percent of total males in the year 2000. Over the 22 years labour force participation of females and males decreased to 32.8 and 77.2 respectively.

Work Force Participation: The share of workforce participation of males and females was slighltly less in the 2000 ie., 81.5 and 38.3 percent. Like labour force participation the work force participation of females and males decrease over the 22 years. It was 73.8 and 31.7 to formed part This is almost 7 percentage points for both males and females. The overall work force participation rate for male and females put together declined to 8 percentage points over this period that is from 60.2 to 52.9 percent. Please See Figure -1 and 2 .

This decline could be partly explained by the population in the age group 15-18 who might have been engaged in education and skill formation. Yet the decrease in workforce participation needs a deeper explanation.
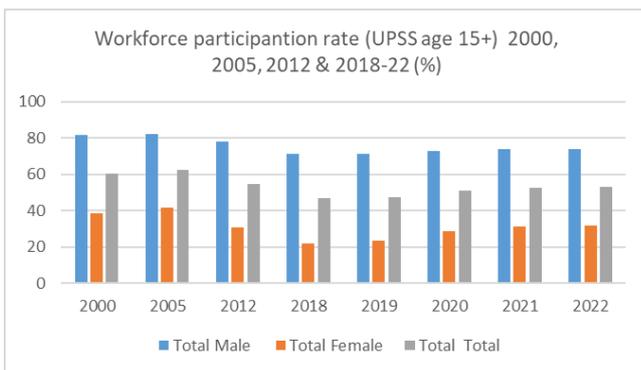
* Former Professor NIEPA, Former Secretary, UGC and Former Director, CEC- UGC

Figure-1

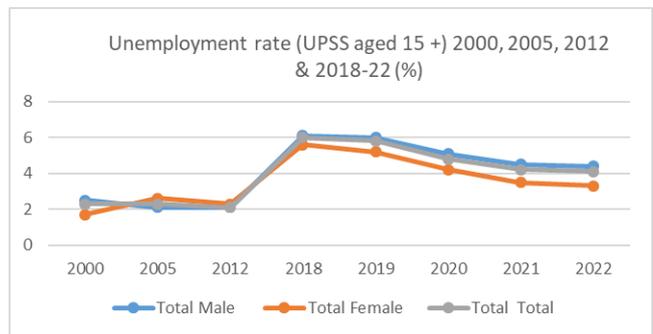*Source: Compiled from ILO-IHD India Employment Report -2024*

Figure-2

Source : Compiled from ILO-IHD- India Employment Report -2024

The reason for low rate of females' labour force and workforce participation could be due to Indian family institution and social structure of India. Institution of family and social structure invariably make women to engage in activities of the institution of a family raising, maintaining and development of family, hence their participation in paid employment is relatively less. Whereas, the male member is expected to get employed become a breadwinner, and maintain the family institution.

UNEMPLOYMENT RATE AGE GROUP 15+

The data reveal that labour force and workforce participation has decreased over the last 22 years but the unemployment rate has almost doubled during this period. It was 2.3 percent in 2000 and it increased to 4.1 percent in 2022. During Covid -19 the figure for unemployment has touched to 6 percent. It declined in subsequent years by two percentage points. But the situation has not improved to the level of 2000. Please see Figure 3.

Figure-3

Source: Compiled from ILO -IHD-India Employment Report -2024

STATUS OF EMPLOYMENT- THE TYPES OF EMPLOYMENT - REGULAR, SELF-EMPLOYED, AND CASUAL

The employment scenario in the Indian economy seems to be Self-driven and also with poor working conditions. The data reveal that the majority of the workforce is Self-employed and a good proportion are Casual workers. Both these types accounted for more than 80 percent in 2000 and more than 70 percent in 2022. The employment of the workforce in Regular jobs accounted for only 21.5 in 2022 as compared to 14.2 in 2000. The increase of 7 percentage points over the 22 years is minuscule. The difference in the status of Regular employment among Male and Female workforce is significant. The Male accounted for 26 percent and Females only 14 percent in 2022. See Figure 4.

Figure-4
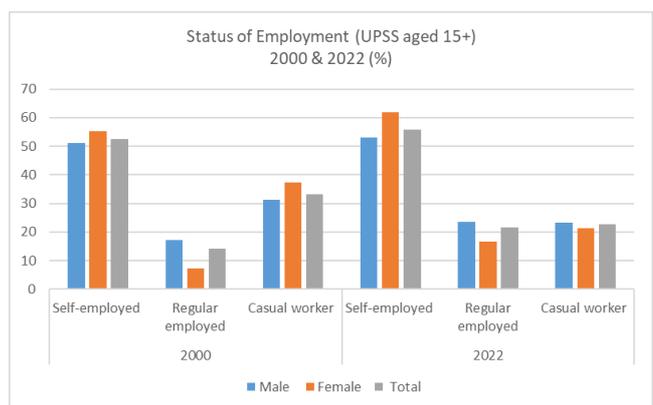
Source: Compiled from ILO-IHD- India Employment Report -2024

Thus the government, industries, and services sector giving Regular employment accounts for only one-fifth as of 2022. This poorly speaks of investment and development initiatives of government and industries over

the last two decades. The period where liberalization was touted as causing the development and removal of poverty. The huge proportion of Self-employed and Casual workers is a poor commentary on the government and industries' contribution to Regular and decent jobs for the workforce.

STATUS OF SECTORIAL EMPLOYMENT -SHARE OF TYPES OF WORKFORCE

Sectors namely Trade, Real estate, Hotels and Restaurants, Ownership dwelling and Professional services, Agriculture & livestock, and manufacturing are mostly run by Self-employed. It ranges from half to three forth. Whereas, Construction, Mining, and Quarrying are run through Casual workers. Education, Financial Services, Public Administration, Health, and Social Services are run through Regular employment.

Over 22 years the proportion of Self-employed in agriculture and livestock has increased. It was 57.6 in 2000 and increased to 78.1 Percent. The position of Self-employed and Casual workers broadly remained the same over this period, but for the Construction Sector wherein the proportion of Casual workers increased from 76.7 to 82.3 percent. It appears liberalization has led to the casualization of the workforce. Over the period of 22 years formalization of the economy has not taken place. The economy is run through poor labour working conditions through Self-employed and Casual workers in several sectors of the economy. Please see sectorial distribution of workforce in Figure 5 and 6.
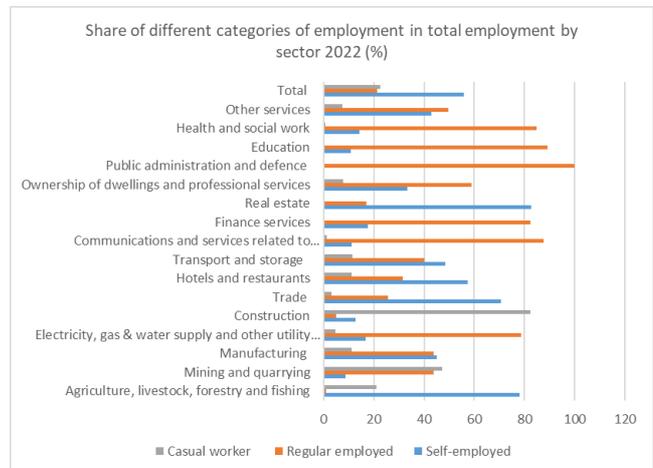
Figure-5
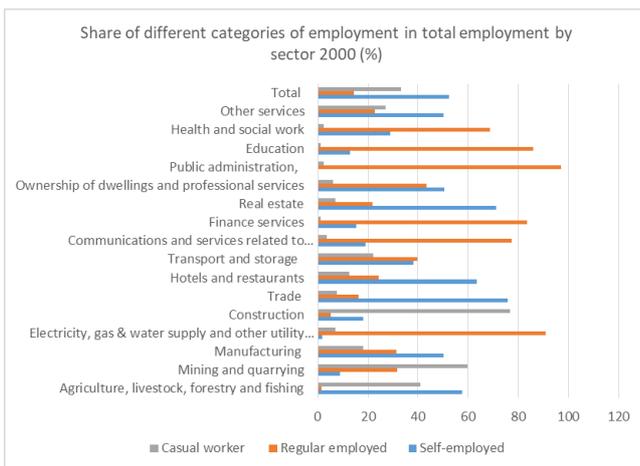
Source: Compiled from ILO-IHD -India Employment Report -2024

STRUCTURE OF ECONOMY - EMPLOYMENT AND GROSS VALUE ADDITION (GVA) SHARE

Over the 22 years, absorption of workers and GVA in 9 sectors of the economy has broadly remained the same,

Figure-6

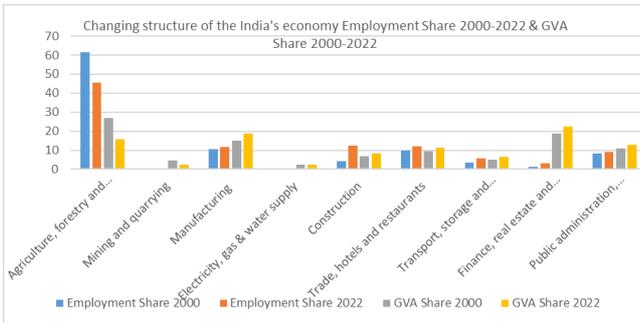*Source: Compiled from ILO-IHD-India Employment Report -2024*

but for Construction, Trade, Hotels, and Restaurants where share of employment increased and GVA share also increased by 2-3 percentage points. The share of manufacturing in employment increased very negligibly but GVA increased by three percentage points. In this sector share of employment increased in 2012 but again came down largely to the level of 2000. Finance. Real estate and Business had a small percentage of employment i.e. 1.2 in 2000 and added to 2.9 in 2022 with fluctuation in 2012 and 2019. The employment share of Agriculture decreased from 61.5 to 46.4 over this period. GAV of this sector also reduced from 27.1 to 15.6 over this period. In terms of GVA. Finance, Real estate and Business seems to be a major contributor with relatively less employment share.

The reduction in the share of employment and GVA in agriculture seems to have gone to Construction and Finance, Real Estate, and Business. There is increase in employment and some increase in GVA in Construction. There is a less increase in employment but more increase in GVA in Finance, Real estate and Business. Structural change would have occurred, if the share of employment and GVA increased in Manufacturing. This sector has a greater multiplier effect and potential to impact employment and GVA in other sectors. Please See Figure 7.

AVERAGE MONTHLY EARNING OF DIFFERENT CATEGORIES OF WORKFORCE

Indian economy, as stated above, is largely not only run by Self-employed and Casual Workers but also with relatively low earnings among these workers. The average monthly earning of Casual workers over the last 22 years has been below the poverty line ie. Less than $2 per

Figure-7

Source: Compiled from ILO -IHD India Employment Report -2024

day. The condition of Self-employed workers is not better. It is less than half of the minimum wages prescribed for unskilled persons. It also decreased for Regular and Self-employed workers over the period.
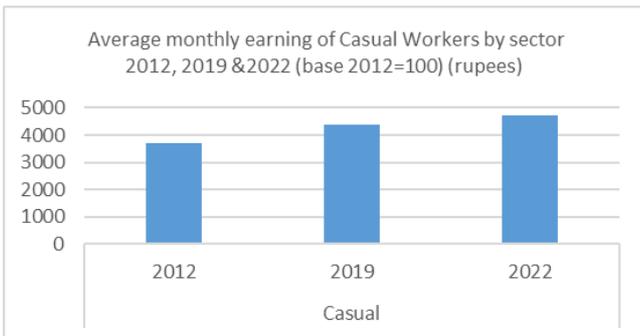
The monthly earnings of Casual Workers based on 2012 =100 (Rupees) in 2012 was Rs.3701 and in 2022 it was Rs.4712. For Self-employed persons, the monthly average earning on the same base for 2019 was Rs.7017 and it decreased to Rupees. 6843 in 2022. Please Figures: 8, 9 and 10.

Figure-8

Source: Compiled from ILO-IHD India Employment Report -2024

Figure-9

Source: Compiled from ILO -IHD-India Employment Report -2024

Figure-10

Source: Compiled from ILO -IHD-India Employment Report -2024

LOW INCOME- LOW DEMAND:

Indian economy is treating a large part of the workforce very badly. Paradoxically it is expecting demand to grow. Demand grows when employment and earnings grow. If earnings are pushed too low, owing to the supply of labour, the demand will not grow and productivity will also be low. Indian economy, despite the so-called push through liberalization, has gotten into a vicious circle of low employment, low earning, and low demand. The low earnings resulted in a large proportion of the population remaining under the poverty line.

II

ANALYSIS OF EDUCATION, EMPLOYMENT/ UNEMPLOYMENT OF YOUTH BY AGE GROUPS:

Having discussed the overall workforce scenario of the Indian economy, we attempt to discuss the employment and unemployment status of youth and in particular youth in different age groups. The purpose of this analysis is to ascertain whether economy has taken advantage of demographic dividend by meaningfully employing youth in prime age and the how has quality of workers has changed as seen from the point view of their education? Unemployment Rate among youth by level of Education The number of unemployed youth increased from 8.2 Million in 2000 to 18.9 Million by 2022. The number of unemployed youth has more than doubled over the last 22 years. The rate of unemployment by level of education shows that the rate of unemployment among youth in all levels of education has increased over the last 22 years except for Secondary and higher secondary level educated youth. It decreased marginally by 0.7. The increase in the rate of unemployment among Graduates was very high (24.5 in 2000)1 and it increased to 28.7.in 2022. The increase was highest in graduate and above education level youth. It was by 4.2 percentage points. Among the unemployed youth, the proportion of graduates and above education was almost half. It accounted for 48.8 percent in 2022. The increase in the share of unemployed graduates over 22 years was more than twice i.e. 22.9 in 2000 to 48.8 percent in 2022. The
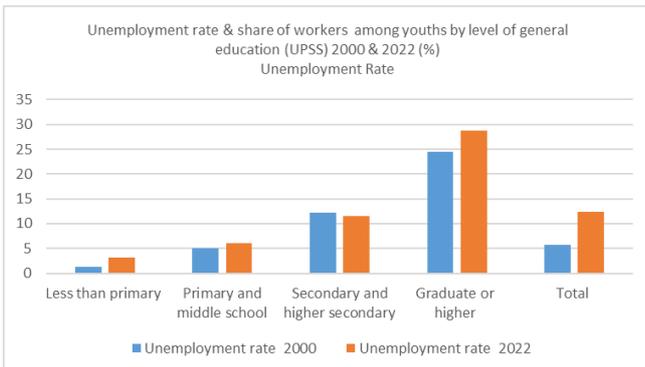
share of unemployed youth with all other levels of education decreased. The decrease in the share of Primary and Middle level educated youth was higher. The share came down from 30 percent in 2000 to 18 percent in 2022. See Figure: 11.

Figure-11
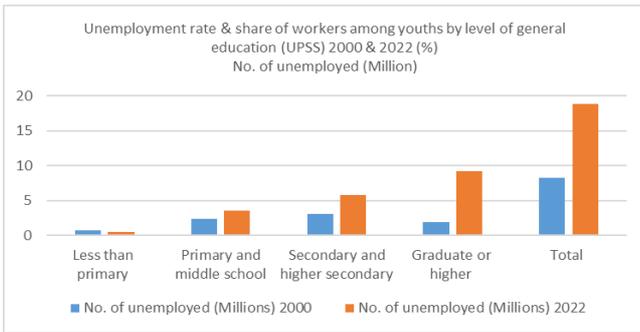
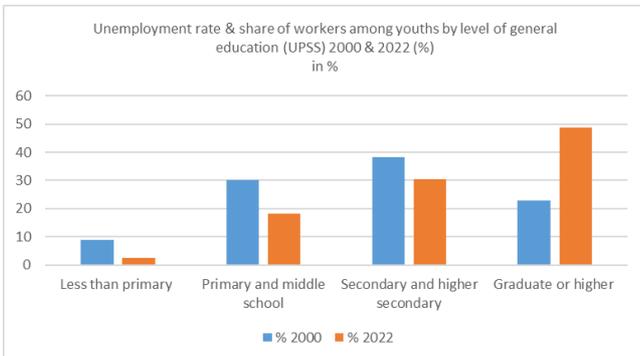*Source: Compiled from ILO -IHD-India Employment Report -2024.*

Figure-12

Source: Compiled from ILO -IHD-India Employment Report -2024

A study on Graduate unemployment in India, based on 1971 census data showed 13 .43 percent unemployed.

Figure-13

Source: Compiled from ILO-IHD- India Employment Report -2024

There were 2.14 million graduates and of this 0.288 graduates were unemployed. Thus the rate of unemployment among graduates is higher in 2000 and also 2022. It is more than double in as compared to 1971.

EDUCATION PROFILE OF YOUTH WORKFORCE. 15-29 YEARS:

Education has largely kept pace with the growth of the workforce population has significantly increased. This is expected to increase the quality of production and services when employed. See Figure: 14.
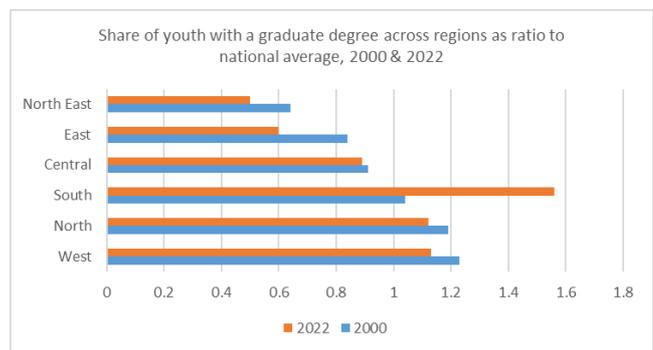
Figure-14
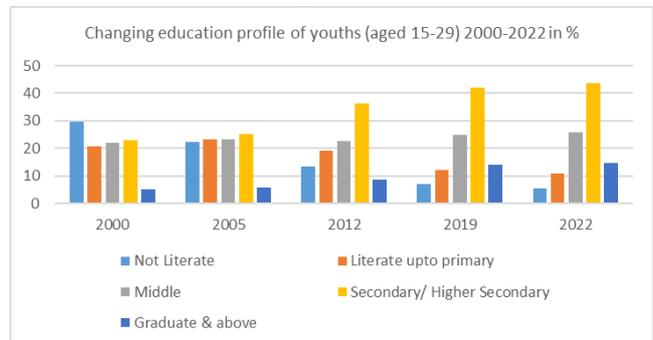
Source: Compiled from ILO -IHD-India Employment Report -2024

However, the change in graduate and above degree holders as ratio to the national average for several regions of India has declined except for the southern region over 22 years. For South region, it increased significantly over this period.

Figure-15

Source: Compiled from ILO-IHD- India Employment Report -2024

WORKFORCE PARTICIPATION NON-STUDENT YOUTH

The number of youth workers has slightly declined over the 22 years, there were 136.2 million youth workers in 2000. This figure came down to 135.4 million. As

observed in education profile of youth, the share of less than primary educated persons came down from 45.8 percent to 10.9 percent. That share of graduates and above increased to 16.9 percent from 4.2 percent over 22 years. The share of those with higher secondary education also doubled over this period. It was 16.5 in 2000 and increased to 32.9 percent.
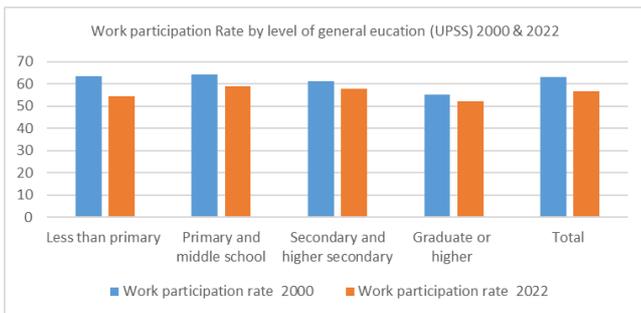
Figure-16
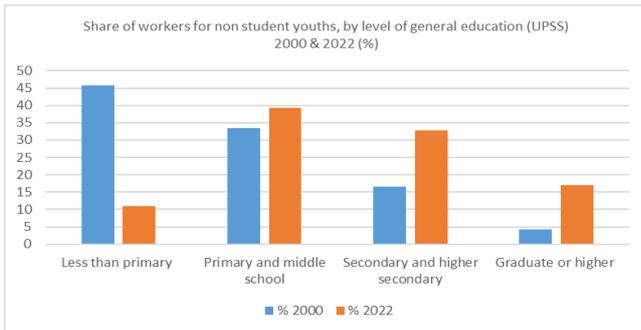
Source: Compiled from ILO-IHD- India Employment Report -2024

As the worker population decreased the work participation rate also decreased from 63 to 56.8. The decrease was observed in every level of education of workers. The overall change was - 6.2. The highest change was less than in the primary level of education.

Figure-17

Source: Compiled from ILO -IHD-India Employment Report -2024

### ANALYSIS OF WORKFORCE PARTICIPATION BY AGE GROUPS:

The picture of youth participation becomes clearer when segregated data for different age groups is analysed. This is because the 15 -29 years is large age group and young persons in the age group of 15-19 may be engaged in education and skill development and would be ready for employment after that. Therefore, based on available data for age groups namely, 15-19,20-24 and 25-29 analysis of employment and unemployment for the last 22 years is attempted here.

ACTIVITY STATUS OF YOUTH BY AGE GROUPS:

The activity status of youth for these three age groups 15-19-I, 20-24 -24-II, and 25-29-III is being discussed here. Age Group 15-19 years:

Data for the age group 15-19 years show that the proportion of persons engaged as students is high in 2022 as compared to 2000. This increased from 40. 4 to 72.4 over 22 years. Whereas those employed decreased to 15.2 percent from 35.4 percent. This is a significant change in this age group. Persons in this age group are taking to education activity than employment. The unemployment rate in this age group has slightly decreased over this period. Those engaged in domestic and other duties have also decreased to almost half over this period. See Figure: 18.

Figure-18
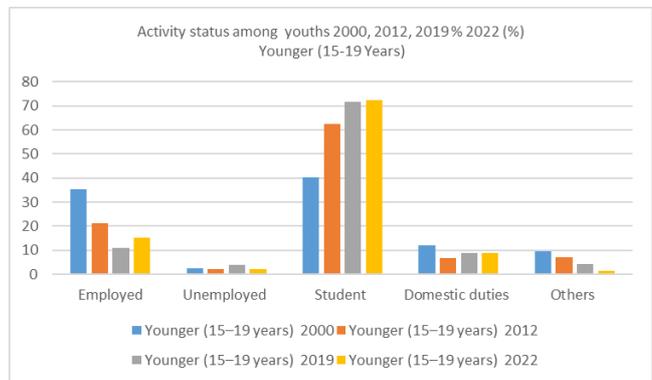
Source: Compiled from ILO -IHD-India Employment Report -2024

AGE GROUP 20-24 YEARS:

The age group 20-24 persons would be seriously looking for gainful employment. More than half of this age group persons were employed (55.8%) in the year 2000 but this proportion decreased to 40.2 percent by 2022. A significant decrease. The unemployment rate in this age

Figure-19
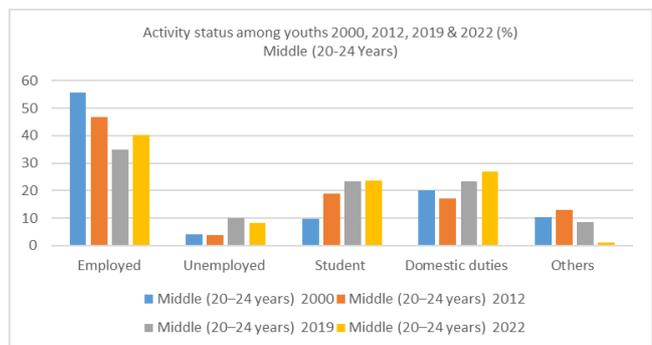
Source: Compiled from ILO-IHD- India Employment Report -2024

group also doubled (from 4.2 to 8.2 %) over this period. The proportion of those who undertook to studies also increased from 9.6 to 23.5 percent over this period. Although the proportion of those took to education doubled by 2012, it became more pronounced after Covid-19. Those engaged in domestic and other duties remained around 30 percent over this period. See Figure: 19.

Age Group 25-29 years:
The proportion of youth, in the age group 25-29 years, in employment decreased significantly from 66.6 to 58.6 over this period. The proportion of employed also decreased by five percentage point in 2012. Unemployment increased more than two times i.e. 2.5 to 5.5 percent. There was a decrease in 2012 and an increase in 2019. This could be explained by an increase in other activities in 2012 and a decrease in other activities in 2019. Employment in domestic activities among the workers of this age group in 2019 was also significant as it increased to 27.4 percent from 18 percent in 2012 and then to 32.6 percent in 2022.

Figure-20
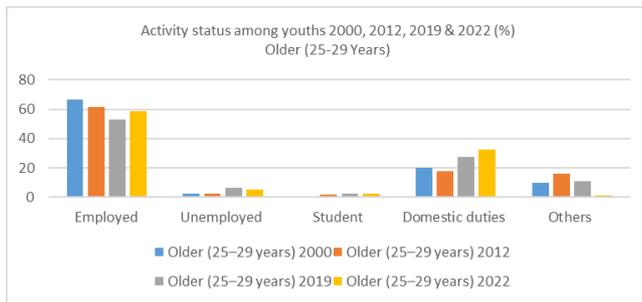
Source : Compiled from ILO-IHD- India Employment Report -2024

This age group worker faced significant challenges before Covid-19 and after Covid-19. The process of liberalization affecting, manufacturing, trade, and commerce has significantly disrupted the activity of all three age groups. For this age group, it must have been more profound and challenging because of job loss and mid-career follow-up adjustment.

STATUS OF EMPLOYMENT OF YOUTH BY AGE GROUPS-2000=2022
Status of employment in terms of self-employed, Regular Employment, and Casual Workers by three age groups mentioned above is analysed here.

Self -Employed:
The proportion of self-employed workers in the age group 15-19 years increased over the 22 years. Nearly half of them were Self-employed in 2000. This proportion increased to 54.1 percent. Whereas, the proportion of

Self-employed workers in the age group 20-24 years decreased i.e. from 51.2 percent to 47 percent over these 22 years. Their share decreased to 46.1 percent in 2012 and 41.5 by 2019 but increased to 47 percent by 2022. The proportion of Self-employed workers in the age group 25-29 years broadly remained the same but for some fluctuations in 2012 and 2019 with a slight increase in 2022 i.e. 45.9 as compared to 45.5 in the year 2000.
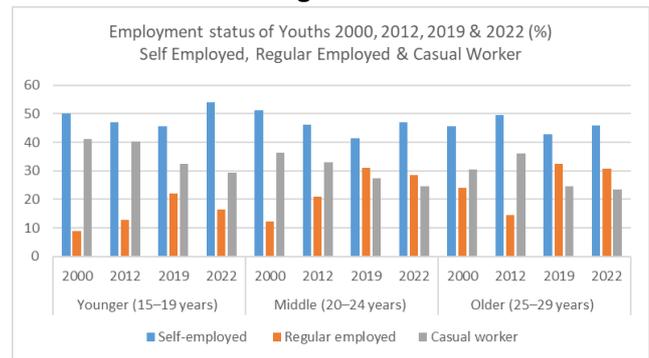
CASUAL WORKER:
The proportion of Casual workers decreased significantly in the age group 15-19 years over the last 22 years i.e. 41.1 percent in 2000 to 29.4 percent in 2022. This is about 11 percentage points. The decrease of this magnitude is observed for workers in the age group 20-24 years i.e. 36.4 to 24.5 from 2000 to 2022. The decrease in Casual Workers in the age group 25-29 years was relatively less i.e. 7 seven percentage points from 30.4 to 23.4. There was an increase in their share in 2012 and then decrease in 2019 and 2022. Yet the proportion of Self-employed and Casual Workers as of 2022 constitutes about 70 percent. See Figure: 21.

REGULAR EMPLOYED:
Regular Workers in the age group 15-19 years increased from 8.9 percent in 2000 to 16.5 percent by 2022. That in the age group 20-24 it increased from 12. 4 to 28.5 percent between these points in time. The increase was observed in the year's 2012 i.e., 20.9 and 31.1 percent in 2019 then came down to 28.5 percent in 2022. See Figure: 21. Thus there has been some positive change in status of youth workers from Self-employment and casual workers in these age groups over this period.

Figure-21

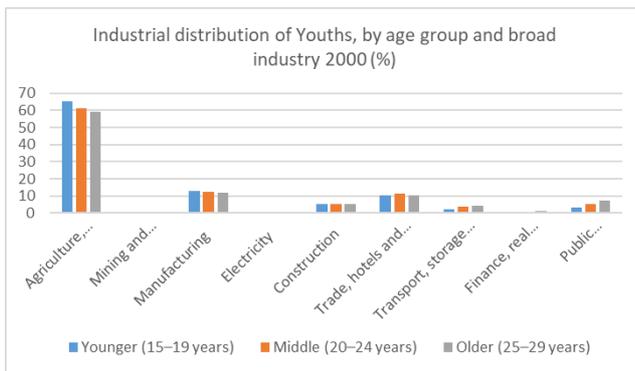*Source: Compiled from ILO -IHD-India Employment Report -2024*

The economy, as observed for all workers, is driven by Self-employed and Casual Workers. Which have less secured jobs and low earnings. Their proportion has decreased, but the proportion of unemployment among them has also increased. This shows over the 22 years,

the government sector and organized industrial sector which normally offer regular jobs have not expanded much to take advantage of demographic dividends through the effective employment-oriented policy and process of economic development. Let us look into where these age groups persons are employed and what has been the change over the period.

## INDUSTRY EMPLOYMENT OF YOUTH:

Some shift has taken place in the employment of youth in Agriculture, Forestry, and Fishing over this period in all three age groups of the working population. Data available from 2000 to 2019 show that those employed in the Agriculture sector decreased in three age groups by 7-9 percentage points. For the age group 15-19 the decrease was from 65.4 in 2000 to 41.1 in 2019. For the age group 20-24 years worker it was from 61 to 33.8 and 59 to 32.6 for 25-29 years age group workers over these two points in time. The decrease was set in by 2012 for the workers in these three age groups. See Figure 22, and 23.

Figure-22

Source: Compiled from ILO-IHD- India Employment Report -2024

Figure-23
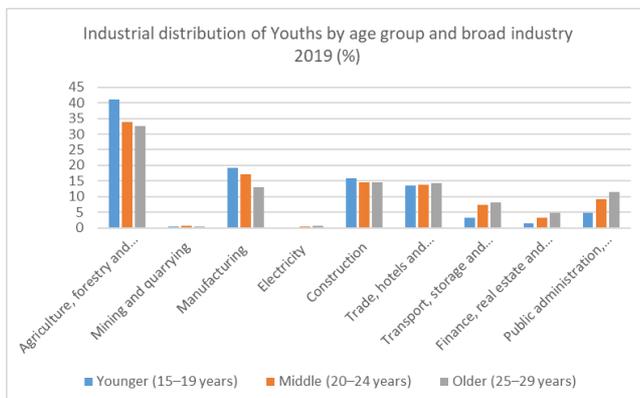
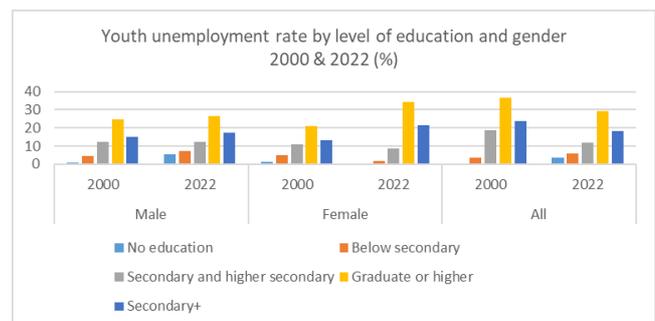*Source : Compiled from ILO -IHD-India Employment Report -2024*

The increase in the proportion of workers in all three age groups is observed for Construction, Transport, public administration, education health and "other" and Trade and Hotels and Restaurants. The increase was higher for all the age groups in Construction. It was almost two or more than two times in all the age groups. Manufacturing and Electricity showed relatively less increase in the share of workers in all age groups. So also for Public Administration, education and health, and others.

Therefore, the increase has been in less secured employment as Self-employed and Casual workers in Agriculture, Forestry, and Fisheries to the Construction sector. The structure of the economy in terms of regular, secured, and decent employment has not changed in favour of youth in these three age groups even though the education level of youth in the three age groups has very positively and favourably changed for the possibility of regular and secured work employment. Youth workers in these age groups have moved from casual, seasonal employment with low earnings in agriculture to the Construction sector and Transport and Trade and Restaurant sector.

RATE OF UNEMPLOYMENT AMONG YOUTH

The rate of unemployment among youth shows that the highest rate of employment among different levels of education is among Graduates and higher-educated people. Among youth between males and females, it is higher for females. Some portion of it could be due to voluntary unemployment. But figures for graduate and higher education level workers have not changed much in their favour over the last 22 years. It is higher as compared to the year 2000 for males. It was 24.5 in 2000 and it increased to 29.1 by 2022. As the education level rises unemployment rates of youth also increases. This is an indication that economic processes, industrialization, and services sectors have not increased enough to demand graduates and higher educated youth. See Figure 24.

Figure-24

Source: Compiled from ILO -IHD-India Employment Report -2024

UNEMPLOYMENT AMONG TECHNICAL AND VOCATIONAL EDUCATION WORKERS

Data reveal that over the past 17 years the rate of unemployment among all levels of technical education workers has increased. For those with a Technical Degree, the increase was by more than 11 percentage points. In the year 2005 the unemployment rate among Technical Degree holders was 18.3 and it increased to 29.4 in 2022. For those with Technical Diploma and Certificate below graduation level increased to 25.5 from 19.8 and for those with Technical Diploma and Certificate above graduation increased to 31.5 from 22.5 over 17 years. See Figure:25.
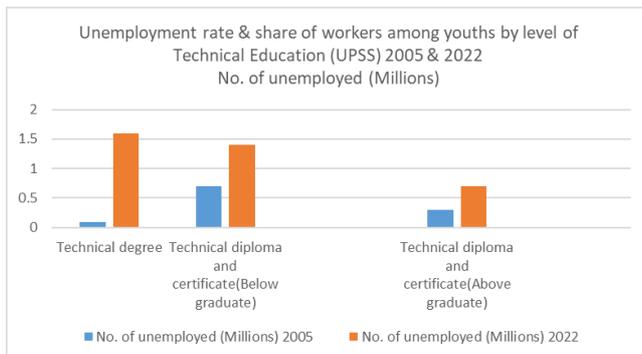
Figure-25
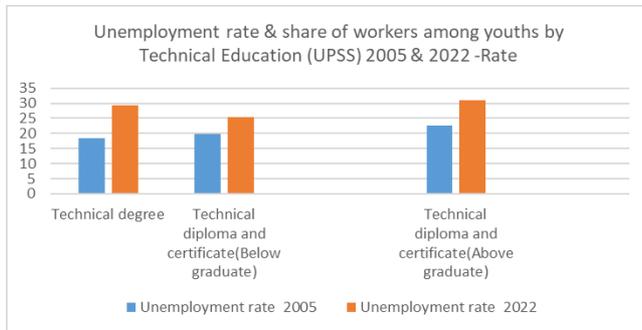
Source: Compiled from ILO-IHD- India Employment Report -2024

The total number of unemployed degree holders increased to 1.6 million from 0.1 million over this period. The number of unemployed diplomas and certificate below graduation increased to 1.4 million from 0.7 million. The number of those Technical Diploma and certificates above graduation increased to 0.7 from 0.3 million. The total number of technical education holder involuntary unemployed in the year 2022 was 3.7 as compared to 1.1 million - a more than three times increase. See Figure: 26.

Figure-26

Source: Compiled from ILO -IHD-India Employment Report -2024

VOCATIONAL EDUCATED WORKERS:

The number of unemployed workers with formal vocational training increased to 2.2 in 2022 from 1.2 million in 2005. The rate of unemployment among them increased to 22.4 in 2022 from 18.9 in 2005. The number of those with informal vocational training increased to 0.8 million from 0.3 million in 2005. The rate of unemployment among them also increased from 1.6 to 2.1 over this period. See Figure: 27 and 28.

Figure-27
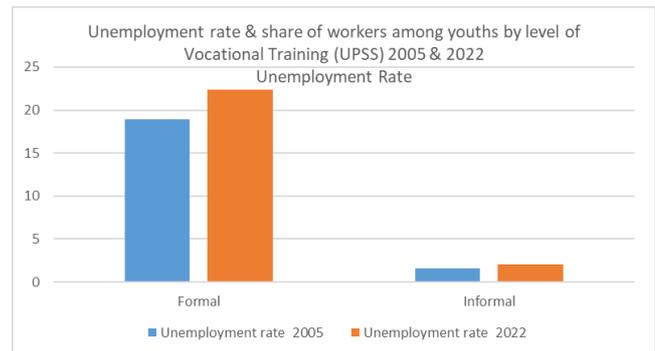
Source: Compiled from ILO - IHD-India Employment Report -2024

Figure-28
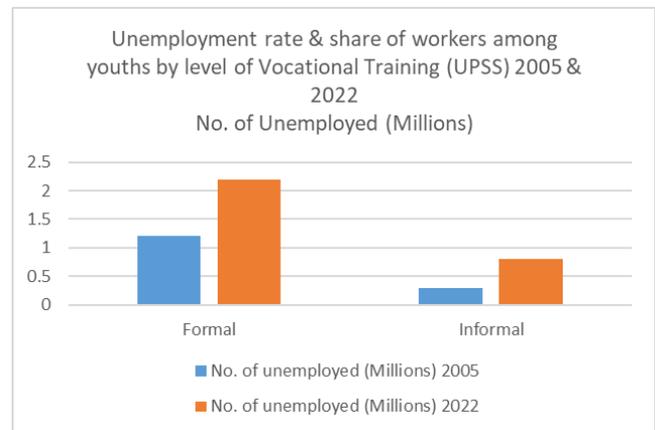
Source: Compiled from ILO-IHD India Employment Report -2024

YOUTH NOT EMPLOYMENT, EDUCATION AND TRAINING

The data of youth in three age groups not in employment, education, and training show that over the 22 years proportion of persons in the age group 15-19 in NEET has decreased as many of them might have engaged in education. But youth in the age group 20-24 years increased over this period from 34.2 to 36.3. During 2019 this it was much higher 41.8 but came down to 36.3. The proportion of youth in NEET in the age group 25-29

also increased from 32.1 to 39.1 percent over this period. Youth in this age group also experienced an increase in 2012 and serge in 2019 but came down to 39.1 percent in 2022. See Figure 29 .

Figure-29
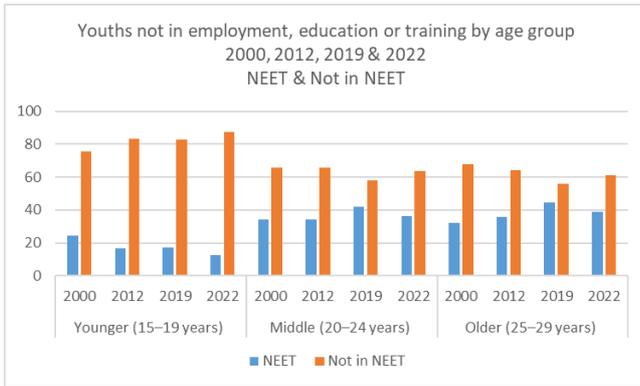
Source: Compiled from ILO -IHD-India Employment Report -2024

The above analysis of employment/unemployment among youth over the period of last 22 years indicate the deteriorating working opportunities for youth in their prime age. The huge proportion of unemployment among youth and relatively a large proportion of self =employed and casual workers with very low earnings, as also a significant (30 %+) proportion of those not in education, employment, and training, (some of them could be voluntary) is a matter of major concern for the Indian economy and society. The concern is serious as the situation over the last 22 years, as expected to improve, has not improved. It has worsened. The question arise why and how has it happened despite continuous effort to improve the performance of the economy.

THE PUBLIC CONCERN IS FOUNDED:
Above analysis of facts/data show that public concern for unemployment of educated youth is very much founded. The type of employment and wages also indicate lack of a well thought out policy of employment of youth and educated youth.

ECONOMIC DEVELOPMENT MODELS OF INDIA:
This calls us to examine our model of development since 2000. We will also make a brief description of the situation before 2000. To appreciate/ question the change in the model of development after 2000. This discussion is necessary to inform the youth in 19-29 age groups

THE MODEL BEFORE THE YEAR 2000:
Planned process of Development with positive State Intervention:
The Indian economy has been led by a planned process

of development since, 1951. The model was the positive state intervention in the development of the economy through the allocation of resources both at the Central and State government levels to achieve the targets of development. The process was slow but steady. The Indian economy grew at a 3-5 percent rate of growth with several ups and downs. During first three plans, Several Public Sector companies were set up. Some of them are now called Nav Ratna Companies, several centres of excellence in science and social science were set up. Systems of irrigation and electricity generation, institutions finance and baking were set up. All tended to provide jobs to worker as regular workers and secured jobs with requisite amenities. This continued till the eighth five-year plan. After that, it started wavering but the pan process continued till 2014. The process then disbanded and the Planning Commission was dismantled to take the shape of Think Tank- NITI Ayog under the philosophy of liberalization of economy. Liberalization of Economy Model of Development.

Around mid-1990s India faced some crises of payment on account of international trade. It had to borrow funds from IMF / World Bank to tie over the situation. The economic development model of IMF/World Bank is based on free trade and liberalization of economic processes, thereby allowing and opening the Indian economy to the international market.

THE ADVOCATES OF PHILOSOPHY OF LIBERALIZATION OF ECONOMY:
The liberalization of the economy was viewed as a panacea for solving the problems of employment, income generation, and development of the economy. The major concern for developing the economy was and is: to employ youth and educated youth. This also expected India to take advantage of the demographic dividend. The population of youth was relatively higher in India as compared to many countries in the world. Hence the policy of liberalization was also expected to spur employment and economic growth.

This philosophy of development advanced by the IMF and World Bank started receiving serious attention from India after the year 2000. This philosophy of free trade addressing the problem of poverty and development became a guiding principle of the World Trade Organization. Countries that became members of WTO agreed to its principles based on the philosophy of liberalization of the economy and to negotiate on free international trade. India also signed the agreement and launched to open the economy to World Trade.

FOREIGN DIRECT INVESTMENT:
The advocates of free trade and liberalization of the economy believed developing countries would usher in development with domestic and foreign direct investment

in the economy. India also revised its policy of Foreign Direct Investment by removing the conditions of foreign investment in the needed technology and areas of development to investment in any sector of the economy, barring national security aspects. The earlier policy was FDI only in the sectors of technology needs of the country. This clause was relaxed and FDI was allowed in the finance and services sector. (See Foreign Direct Investment- Creative or Disruptive External Economic Intervention, Research Monograph No.4/2014, and Society for Education and Economic Development, New Delhi)

OPENING OF INDIAN ECONOMY TO THE WORLD MARKET:

The policy of liberalization also opened India's economy to the world market, more particularly trade by China to India displacing many of the products of Small and Medium Scale Industries. A typical example is the Lock and Machine Tools industry in Aligarh of UP and Ludhiana of Punjab. There are several such examples, where Small and Medium scale industrialists became traders from Manufacturers.

One of the industry leaders consistently argued for a level playing field, but the rest thought that they would get a free hand to do their bidding. A good number of them suffered on account of imports replacing their industry and products and forcing a good number of them to take recourse to trading business rather than to take the risk in manufacturing.

Trade does employ youth and adults but comparatively less than the manufacturing sector. Yet another expectation was that liberalization and free trade would help increase exports and bridge trade deficit gaps. However, the figures for international trade in India have consistently shown trade deficits since 2000 It ranged from 1 to 3 percent of GDP. In 2022 it had highest amount of trade balance of US$ 124.91B.

DISINVESTMENT AND MONETIZATION OF PUBLIC ASSETS:- A HYPER LIBERALIZATION MODEL:

The philosophy of liberalization as followed by India also prevented the state from investing in manufacturing and emerging industries. It tended to rely on market forces. India went into the course of disinvestment of public sector undertakings. This resulted in a slowing down of employment of youth and educated youth in the formal organized sectors. It also led to the casualization of labour employment. More youth are employed as casual workers with relatively poor service conditions and a lack of security of jobs.

CONSTANT RATE OF UNEMPLOYMENT:

The consistent rate of unemployment among the educated youth, Self-employment and Casual work with

earning below or near poverty line over the last 22 years. The scenario of general unemployment in the economy became stark after COVID-19. Scenes of the migrating labour force, employed as casual workers in Construction, became heart-rending. Liberalization has led to casualization and poor working and service conditions among youth and educated youth.

GENERAL THEORY OF EMPLOYMENT

Keynes' General Theory of employment envisages demand in economy depends on employment, income and savings. Disequilibrium arises owing to lack of employment, income and savings in the economy. Given the present status of employment/unemployment and wages in India there is and there will be a lack of demand in the economy. No amount of push for investment would work unless there is a demand in the economy. Demand can be generated by an effective policy of employment and income in the hands of workers. Government of India has miserably failed on this aspect

THE DISEQUILIBRIUM:

High rate of unemployment, high rate of sell-employment and causal workers, low earnings of workers are causes of low demand, low savings and low investment. The recent data showing decline in saving rates and lack of demand is an indicative of Keynesian "disequilibrium" in the economy as advanced in General theory of Employment. More than monetary measures to correct this disequilibrium through rate of interest and availability of loans to industry, the focus need to be on generating demand through the increase in employment and income in the hands of workers.

The policy of providing free ration to workers and small wages and 100 odd number of days of work in rural areas is not going to solve the problems of unemployment and lack of demand. These are short term essential social safety net measures. It would need more effective policy of employment of people and investment by the state in public sectors having higher multiplier effect. This approach may help solving the problem. The market forces are ill-equipped to handle this situation in a country like India.

The period of hyper liberalization point out towards the questionable model of economic development in India. In our view, this situation has its roots in the philosophy of liberalization, its myopic vision, and its misplaced perception about the functioning of PSUs by Indian leaders, policymakers, and industry leaders and the lack of investment in public sectors in particular manufacturing, and in social sector- like education and health

The rural and urban youth would have gone for employment. If the manufacturing sector and SMEs had expanded with state/public investment as was being done under the model of positive state intervention through

investment in public sector emerging industries and services under the planned process of development.

IS THE LIBERALIZATION MODEL OF DEVELOPMENT FAULTY OR ITS IMPLEMENTATION IS FAULTY?

The model of liberalization of the economy may sound good, but it has not delivered in terms of employment and particularly of educated youth. The model has also not helped restructuring of Indian economy to allow manufacturing, industrial, and Technology and Services sectors to grow. The model has also not lifted a large proportion of the population living below the poverty line. Too much dependence on FDI and market forces to address the problem of the development of the Indian economy is too naïve.

An advanced model of liberalization as followed from 2014 to 2023 with a focus on disinvestment and monetization of public services and assets is likely to further reduce employment opportunities for youth and educated youth. In our view model as conceived is faulty and the way it is implemented is faultier. We need to deliberate and revisit the model of development of India.

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Note: This paper is based on an Occasional Paper on this subject brought out by SEED. Those interested details and tables may access it on www.seededu.org

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facing society today, such as healthcare systems and climate change.

"AI could be an incredible strength for democracies to accelerate what we already do best, which is innovate and do science and discover new knowledge, including truth," said Hassabis.

Feringa cited historian Professor Yuval Noah Harari of the Hebrew University of Jerusalem, who said that while in the past, power was with people who had information - in future, power will lie with those who know how to find valuable information amidst the flood.

"And not only that, science is influencing society increasingly as generations go on, and we have to produce democratic institutions and ways of working that can accommodate and take on board the complexities of science. I'm not sure we've got there yet, but we have to do it."

Nurse said science has the power of diplomacy. "Science provides a common language across all nations. Science breaks down barriers. Even when it's difficult, it is possible to talk - particularly with discovery science, which is open and somehow beyond the politics."

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human agency. In the last chapter Ethical AI or Ethical Human? He comes back to the question posed in the first chapter. In this chapter, he says " Designing ethical technology must start by reminding ourselves and educating others about the fundamental constituent of the human person. Humane organizations must develop spaces, initiatives, and products that safeguard the essential features that make us human" He says" So, the ethics of AI is really about ethics of humans. He makes several suggestions and recommendations to ensure this aspect.

The book is an important source for discussion of the ethical aspect of the development of AI tools and platforms. This should essentially be done to help explore with multiple parameters and greater speed to unravel things that are otherwise not possible individually. We recommend this book to general scholars, policymakers, and in particular techies engaged in the development of AI tools and platforms.

GD Sharma

This column brings out briefs of : Ph.D, M.Phil Researches in Education, Economics of Education, Social, Political, Psychology aspects of education/ economics conducted in University /College departments. It also brings out briefs on researches done by Research Institutions, Industry and NGOs. This column was introduced from April-June, 2016 issue of College Post. Method of reporting the researches completed and in progress was given in that issue. Interested researchers, professors and Heads of institute are requested to send their brief accordingly. Purpose of this column is to high light the researches in education conducted in university and college departments and in any other institution / industry and NGO for the benefit of policy makers, research scholars, thinkers. Readers are welcome to encourage relevant person and institute to send briefs on research done and being done in education/ economics.

This issue brings to you brief on following Researches in Education/Economics.

PH.D. THESIS
Title: Understanding economic growth in India since 1980s Role of the enclave and the state. Researcher: Thakurata, Saswata Guha. Guide: K Laxminarayana. Department: School of Economics. University of Hyderabad. Year of completion 2021.

THE PREMISES:
This thesis attempts to engage with an oft-debated political and economic question - what are the reasons behind India's impressive growth performance since the 1980s. It attempt to answer this question by deploying a class-based demand side analysis delineating the role of the enclave and the Indian State.

METHODOLOGY
The period of analysis ranges from 1980-81 to 2012-13, which I have classified into two broad periods - pre (1980-81 to 1990-91) and post-reforms (1991-92 to 2012-13). The period of 1980-81 to 1990-91 was characterized by a significant shift in terms of the role of the government in ensuring growth. Based on a demand decomposition, I have argued that both public consumption expenditure and public investment were the major drivers of growth until 1988-89, and not for the whole period because the scenario altered significantly by the late 80s. During 1988-89 to 1990-91, private investment and export became the contributors.

This was caused by an attitudinal shift on the part of the government (which actually began from the very beginning of the 1980s) towards favoring private entrepreneurs. The post reforms period (since 1991) has been classified into four sub-periods (1991-92 to 1996-97, 1997-98 to 2002-03, 2003-04 to 2007-08 and 2008-09 to 2012-13) to highlight the changing relative importance of the various components of aggregate demand. It refutes the State-market dichotomy and also explains the sources of both the growth and downturn.

Over the entire period of high growth from 1980-81 to 2012-13, and especially since 1991-92, we observe the rising importance of (private) investment and export. The importance of private consumption at the aggregate level seemed to have been declining.

A disaggregated analysis reveals that the importance of certain kinds of consumption (mostly conspicuous consumption) has gone up dramatically. Also, the importance of public spending (mainly government consumption) during the periods of downturn (late 1990s and post-2008) caused, among other things, by external shocks or crisis is undeniable. This aspect of the importance of the Indian State.

The growth of certain kinds of consumption and investment both theoretically and empirically (using "class" as the analytical category). Class-based inequality has been shown to have played a major role during the period of reforms in explaining the growth of consumption and investment.

KEY FINDINGS:
1. Extensive literature survey shows that while a relatively freer market plays a crucial role in capitalist accumulation, neither has free-market succeeded in bringing a growth upsurge in developing countries, especially in Latin American countries, nor have today's developed nations developed solely based on the market. They had strong interventionist states. The contribution of the governments to the East Asian miracle substantiates this further.

2. A small portion of the population, along with the global market, has played a key role in the sustained high growth after 1991-92. The distribution of growth leading consumption (GLC) expenditure was equalized during the 1980s. Urban inequality rose and so did inter-class gap. However, the decline in intra-class inequality outweighed them, resulting in a decline in overall inequality, especially with regard to the GLC. After the introduction of market-oriented reforms, the enclave has made impressive improvement vis-à-vis other classes, be it in terms of share in consumption or contribution to GLC. Though the intra-class inequality declined, it was dominated by the rise in inter-class inequality, unlike the decade of the 1980s.

3. Per-capita spending growth associated with the enclave contributes to a lion share of the overall per-capita spending. The rapid consumption and overall growth that India has witnessed during the era of Neoliberal development has been urban-centric and significantly contributed to by the urban elites who have been considered to form the enclave

4. Enclave formation had started well before the onset of systematic economic reforms. Note that India has

somehow avoided the ramifications of rising inequality in terms of its negative consequences on growth. But burgeoning inequality, which led to the changes in the composition of demand, has already been identified as a major reason behind sluggish industrial growth since the adoption of structural adjustment programmes (Mazumdar, 2008).

5. The share of profit (operating surplus) has increased significantly during the high growth phase in India (1980s onwards), though there are a few phases which show decline (mostly coinciding with the crisis periods e.g. late 1990s and post 2008). The share of wages has declined over time in the organized sectors, more so in the sectors which account for most of the aggregate growth. Across the board, the rising claim of capital shows that the capital-labour divide has become more prominent throughout the period of study, alongside increasing accumulation. A time series analysis concludes that the rising divergence between capital and labor, manifested through the increasing share of profit (i.e. falling share of wages) in the Net Domestic Product (NDP), contributes to investment growth or accumulation along with capacity utilization. A positive (long-run equilibrium) relationship between accumulation, profit share and capacity utilization has been established. Clearly, the capitalist class, which is a major part of the urban elites/enclave, have received a huge bonanza. The rising share of capital weakens the labour class by default and thus reinforces inequality.

6. Two cross-sectional regression analyses comparing two points in time (1993-94 and 2009-10) conclude that in the beginning of the 1990s decade, when India had just initiated market-oriented economic reforms, no statistically significant association between the two variables was found. But after about two decades of neoliberal reforms, it is clearly discernible that higher inequality has a significantly positive impact on per-capita consumption. It is found that the most unequal regions are also mostly the ones which have a higher per-capita consumption. The empirical evidences substantiate a theoretical explanation of the positive link between inequality and consumption growth under free market capitalism. Secondly, based on regression-based decomposition of inequality,

7. Among the various socio-economic identities, "class" turns out to be the most important as a determinant of inequality159. Interestingly, in rural areas, the contribution of "class" to the total inequality diminished during the period of reforms. However, in the urban sector where most of the consumption boom is located and where disparity has skyrocketed, class divide matters the most.

8. That during the free market regime when consumption growth has been a key source of domestic demand growth, divergence among the classes has been the main driver of inequality, which in turn boosts consumption growth.

9. The Indian State used to be a significant spender, investor, producer and employer prior to the introduction of neoliberal reforms. In the free market regime, it continues to be a significant spender and producer. But it has left considerable space for private capital and has also significantly curtailed its role as an employer. During the post-reforms period, however, its focus on capital formation has made a comeback over the decade of the 2000s. From all possible perspectives, the Indian State has put its effort into sustaining the growth momentum during crisis situations which reflects its political commitment to capitalist accumulation and growth. It is imperative to appreciate this counter-cyclical intervention in the backdrop of the growth-inequality nexus which fundamentally drives India's growth. This indicates that there is a continuity with change with respect to the significance of the Indian State during the Neoliberal Era. The narrative of "state vs market" should therefore be replaced by that of the "state and market" i.e. a state-market synergy.

10. The Indian State contributed significantly to the overall accumulation in the decade of the 1980s, its role altered in the neoliberal regime whose official inception in India was 1991, though it had started to creep in since the mid to the late 1980s. During the period of reforms, the relative contribution of the Indian State to the accumulation (i.e. public sector capital formation) declined significantly while that of the private corporates soared. However, during the periods of downturn in particular, public sector capital formation grew at a relatively faster rate and its contribution increased. Also, during the smaller phases of unprecedented growth between 2003-04 and 2007-08, public sector capital formation growth was again considerably high. During the same period, the growth of investment by private corporations was at its historical peak.

An effective State is required to ensure rapid urbanization. The Indian State has been proactive in this regard and have also promoted private accumulation by adopting public private partnerships for infrastructural development, which is fundamental to the process of urbanization. The State could promote this process of the creation of enclaves and its increasing importance directly through its tax policies, pay commission policies, etc. as well as indirectly via its impact upon accumulation and creation of urban spaces. As a part of the process of urbanization, the State (local governments) may often use its machineries to convert public property into private or relax environmental laws etc. in order to ease the production of exclusive spaces of residence for the enclave. The Indian State is evidently enclave-biased and poor-aware.

11. India's high growth should not be analysed using a framework relying upon the State-Market dichotomy. Rather, a more careful approach should be taken which emphasizes on the State-Business nexus or State-market synergy.

NOBLE LAUREATE ON USE OF AI AT THE BRUSSELS DIALOGUE

A report by Keran Mcgragor in World University has brought out a very interesting report on Nobel Laureate Brussels Dialogue on AI, Science and Society. We bring to readers some of the aspects of this dialogue.

THE EVENT

The two-hour event was held on 5 March 2024 at the Palais des Beaux-Arts in Brussels and online, and was produced by the Nobel Prize Outreach in partnership with the European Research Council (ERC), under the auspices of the Belgian Presidency of the European Union Its premises included that understanding science is key to understanding the world, and that AI-generated misinformation affects democracies, which rely on fact-based world views and science as well as on narratives that can bring together large and diverse communities.

The Brussels dialogue is part of a series being held around the world, said Anna SjöströmDouagi, acting CEO of the Nobel Foundation and executive director of the Nobel Prize Summit, last convened in May 2023 in Washington DC in partnership with the United States National Academy of Sciences with the theme "Truth, Trust and Hope

AI IS ACCELERATING RESEARCH

For a session on AI, science and society, Nobel prize winners Feringa and Nurse and Google DeepMind CEO Hassabis were joined by Vera Jourová, vice-president for values and transparency at the European Commission, with Leptin moderating.

"I've spent my whole life working on AI because I always regarded it as potentially the ultimate tool for helping us to do science and accelerate scientific discovery," said Hassabis. "If you think about AI at an abstract level, it's a system or a tool that can make sense of a lot of data - find patterns, insights and structure in data."

Hassabis is the developer of AlphaFold, a deep learning-based algorithm for accurately predicting protein structure. AlphaFold is solving the problem of protein folding, trying to find the 3D structure of proteins just from their amino acid sequence.

"That has all sorts of implications in drug discovery and disease understanding. Over the last couple of years, we've predicted the structures of over 200 million proteins, pretty much every protein known to science, which would have taken many, many - actually millions -of years of experimental work," Hassabis told the dialogue.

"So we're seeing a revolution in biology. It's going to apply to other areas too, like chemistry, material science, physics and mathematics. All these scientific disciplines will benefit from AI."

AI AS RESEARCH ASSISTANT

Jourová, a Czech politician and lawyer, joined the scientists in saying that while currently flawed, generative AI will improve to become a very useful tool. "I would really like ChatGPT to contain wisdom." Feringa said the way around the generative AI flaw of 'garbage in, garbage out' is to train AI models on quality data. For his part, Nurse wants "ChatGPT with spark. Something more lively and imaginative."

While "everyone's gone crazy" over chatbots, the most interesting AI systems are specialised for scientific endeavours - such as AlphaFold, said Hassabis. "We're going to see a lot more of those types of systems."

At the same time, there is also a lot of work being done on chatbots. "A core problem we have to solve with AI systems in general is to make sure they don't hallucinate and they stick to facts. Then they could be quite useful at a research assistant level, in terms of summarising an area or a series of papers, and then senior scientists can help make connections."

Feringa is positive about AI and other technologies, but stressed: "A critical attitude is crucial." A primary job of university scientists is to train students to be critical. "To think, what does this mean? On what data sets is this analysis based, and what is the quality of its output." Opportunity is what Nurse sees. "Because in the past, if you wanted to look at a topic, you would go to the library, you would trawl through the journals, you would take days, maybe weeks, to put things together that [new] methods can produce in minutes. Now, frankly, that was rather dull. So reducing this work to minutes is a good thing."

He agreed that the next step required is critical thinking. "So the time we liberate from trawling through the library is then applied to critical thinking that has educational consequences."

Academics must ensure that data used to generate analysis is good. Further, it is crucial to ensure that algorithms used perform in the ways that researchers want. Finally, scientists must understand what is going on: "We can't be stupid and just press the button on the computer."

HOPE, SCIENCE AND DEMOCRACY

Regarding AI and democracy, Hassabis said that if used cleverly, AI could be part of a solution. Actions such as watermarking, and synthetic IDs, which use AI to watermark material so that governments, journalists and others can detect it. "It can be flagged automatically, and it's hard for a hacker or a bad actor to remove."

AI can also be used defensively in cybersecurity and other areas. "I think AI is going to be a very important tool for our democracies to defend themselves," he said.

Used responsibly, AI could accelerate creativity and innovation, and could help tackle many of the challenges

NEET

National Eligibility Entrance Test for admission to MBBS course has dominated the discourse during this quarter. In fact NEET has been in controversy since its adoption. College Post as early as on April-June, 2016 Vol.16 No.2 had published in its columns on and recently when a controversy was raised and Tamil Nadu Government set up a committee of Justice A.K. Rajan (published in CP-September, 2021 Vol.20 No. 3-4) to look into working of NEET examination and state asking for medical test back to state list (published in CP April-September, 2023 Vol.22 No. 2-3). Recent news reports have centred around paper leak and assigning centres near the coaching Centre Towns, News have also come about the proxy appearing in the test. Supreme Court raised various issues,, but it has not concelled the test sighting lack avidence to show a large scale paper leak. The real issue is Centralized Vs Decentralised processes of testing and admission in MBBS courses which highly scares in supply. For about 1.3 lakh seats more the 24 lakh students appear for the test. And a single fit test screens out students for admission to above number of seats. Since seats are limited completion also becomes fierce. Hence more than focus on their studies start focusing on test. Coaching Centres make a roaring business out of the scarcity of supply and centralised single fit test. This all is in the name of facilitating students. Medical Colleges are located in different states and are also funded by the state government. There are private medical colleges. But the gap of tuition cost between government and public is very huge. Hence pressure seek high marks get in government medical colleges. Tamil Nadu state government study also shown that after introduction of NEET seats available to local and marginalized community has declined. It also does not cater for diversified need of the states. Tamil Nadu has proposed to withdraw from this centralized examination system. SEED has conducted a study on Coaching Centres as early as and has pointed out that many aspirants whose performance is below distancing marks at higher secondary level hardly get through such examination even after attending coaching. Those who are good at studies they go to coaching classes just to know the trends in testing. But a large number spent time and resource and some having disappointed commit the suicide. We all talk of reforms in testing, regulating the paper leak, but we refuse to look roots of the problem. Those who do not get admission they search for avenues in other countries China, Russia, Ukraine and central asision countries.

CUET

Our obsession with centralized testing is so high that even for graduate studies in science, Social Science, Arts and other course we have introduced CUET. The concept CUET to test other than domain knowledge was good, but that has been given go by. Most of the test are based on MCQs which hardly tests several abilities or attitude of professional education. The best course would be to have through analysis of pros and cons of centralized vs decentralised testing for admission to instiutions of higher education. India is very diversified nation in terms of culture, climate and economic endowment and wellbeing. Centralized invariably tend get biased towards more endowed. Thus leaving deserved students keeping view diversity without opportunity to progress.

UPSC

Another Centralized system of Examination for recruitment to Union Public Services. Hear also coaching centres make a hue. For limited number seats in services hundreds of thousand students spent enormous resources and time to appear for the test. The civil serives test was devised by colonial rules to recruit those who would essentially promote and follow the rulers. When Indian became Independent it adopted and made Indian Administrative Services from Indian Civil Services. This past colonial system was perfectly adopted in practice the centralised controlled system of governance. Although we have constitutionally mandated federal structure of governance with clarly defined state list and central list. But those execute the policy and programmes are governed centrally. State administrative officer invariably subordinates the central cervices. Department of personnel at central level is cadre governing office. Some reform has been done by introduce promotion of state administrive officer to central administrative officer, but that is sort of tokening to given some benefit to serving officers. Puja Khedkar case has exposed this impacable system of centralised examination.

Instead of centralized recruitment can we not think of decentralised recruitment. Instead of central services officers being asked to choose state cadre, state officer are asked to choose central level cadre and deputed to centre, but for some core staff needed for central level offices. District Magistrate, Collector from state governed system rather than centrally governed system. Focus should be recruit persons for development of state and centre, development of specific and professional establishments based professional qualification and merit rather than any administrative officer doing any executive function. The root cause of problem is not able to think a fresh rom colonial system of governance. Recently development of taking person laterally in the system has given rise not professionalism but to political space in central administration. Centralised system is fraught with several limitations, but we are not prepared to think a fresh.

There is need to engage in centralised vs decentralised system of governance and execution of development of state and India.

UNIVERSITIES AND ROLE OF GOVERNORS AS CHANCELLOR OF STATE UNIVERSITIES'

Another item in education news analysis is the role of Governor as Chancellor of state Universities. Almost all state universities Acts had provision that the Governor of

the State will act as Chancellor of universities of the state. System was Chancellor of was basically a ceremonial head, and executive function as Chancellor was carried out amicably in consultation with the state government. State government elected by the people of the state was responsible for its omissions' and commission to the people of state. But the role and functions as Chancellor become contentious, if the governor assumes the role of executive and start imposing his/her will or function as central representive of paty in power. Most of the governors are politically appointed to accommodate their party persons. Hence in that sense they sometime, although holding a constitution position, start acting as central representative. The institution of governor as adopted from colonial system, but constitution made it an institution serve as check and balance rather than governance. But overtime the character of this institution has changed drastically. There are several cases about the conlict between state government and governor in many states. Some of the cases have reached to Supreme Court of India, This well thought out institution in the constitution seems to have changed practice. A report published published on August 4 in Indian Express by Sanath Prasad on address by SC Justice B.V. Nagarathna titled

as Some Governors are playing a role where the should not. The report said " Governors in India were playing a role where they ought not to and were inactive when they should be playing an active role. Calling the case against Governors before the top cour a "said story" Justice Nagarathna further said to deepen constitutionalism the national should emphasize "federalism, fraternity, fundamental rights and principled governance",With confrontations between Centre and Opposition-ruled states, Justice Nagarathna said states should not be presumed "incapable or subordinate" and the mantra should be of constitutional statesmanship. "It needs to be borne in mind that the Union and the state have the mandate to at tend to subjects of national and regional import respectively. The subjects under the state's jurisdiction are not insignificant nor should states be presumed incapable or subordinate. The spirit of constitutional statesmanship and not partisan brinkmanship should be the mantra.

"There is a need to have serious debate in the academia, judiciary, and parliament to reclaim it as a constitutional position of check and balance rather than governance. Can we think of a political person for this position. Are we ready to burn our fingers?

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all 1168 University level institutions. Of this 473 are private un-aided universities. Over the period 2014-15 to 2021-22 nearly 341 university level institutions were added. Of this 213 were private un-aided universities and 128 public sectors institutions. There were 45,473 Colleges as on 2021-22. Of this number 65.5% were private colleges. Over the period 2014-15 to 2021-22, nearly 6975 colleges were added. Of this 5335 were in private sector and 1640 in public sector. Thus during the last decade or so movement is towards private sector. Over the period GER has increased from 24.3 to 27 percent (18-23 eligible age Population) In terms of enrolment private sector accounts relatively less than the proportion of institutions under this sector.

This change provided opportunities for higher education to much larger number of students, yet many more students are left out on account of non-affordability or non-availability of seats with the low fees charging public institutions. This is because state did not expand institutions of higher education in response to meeting the aspirations of students.

The private entities are also not able to meet the aspirations of students for professional courses like medicine and engineering particularly in branches of high demand. Hence many are compelled to leave the country for studies abroad. One estimates show that as on 2022 about 1.32 million students from India are enrolled in universities/college in 79 countries. A RBI estimates show $8.4 Billion was sent abroad in the year 2022. In Rupee terms it is Rs. 672 billion. Which is higher than the amount allocated on Higher Education in 2023 that is Rs. 440.95 billion.

It is said almost half of the GDP of Australia is from earning from students studying in Australia. Indian students studying abroad are very significant and their contribution to other countries resources is more than what India spends on higher education. And it is likely to increase further in the coming years.

There is a clear and loud message for our economic and education policymakers in the country. India is fundamentally missing the point of rationality in education and economic policy and practices. The hope that liberalization of the economy will transform the Indian economy to benefit a larger number and provide opportunities for higher education to students within India at an affordable cost has railed. The advantage of having demographic dividend in terms of a relatively large proportion of youth population by providing quality higher education has not been realized. Youth are going abroad for studies and employment.

Yet another dimension is employment of educated youth. The latest ILO-IHD India Employment Report 2024 has revealed that unemployment in educated youth has been consistently higher for the last two decades. Education level of the labour force has significantly increased over the last 22 years. But unemployment among graduate degree holders has also increased. This is in contrast to Europe and America, where unemployment among degree holders is the least.

The situation calls for a serious debate and discussion about economic analysis of education and educated youth employment in India. This is particularly in the light of policy of liberalization of economy and education.

CELEBRATION OF WORLD QUANTUM DAY - 14TH APRIL, 2024

Open AI - a language training model has made a lot of news in the world. Chat GPT -3 and 4 versions and Chat Gpt Edu. is being used by students, teachers, and scholars. There are a few more namely, Perplexity, Copilot, and so on. This is one side of digital technology development the other side is Quantum Computers and the revolution in Solar Energy. Michio Kaku's book Quantum Supremacy made a huge revelation of Quantum Computer use in solving problems of mankind so far unresolved. A review paper of this book was published in the previous issue of this journal. Many of these developments remain confined to select academics. But these need to reach to masses and particularly future academics, scholars, and techno-actors. Such an effort is normally made by those in government and positions of authority. But is future looking academic /trust on its attempts to reach out to masses and future scholars should be viewed as a great contribution to the cause of science, technology, and Society. This step was taken by Professor MM Pant and his LMP Trust to hold a one-day meeting of scholars, teachers, Heads of Schools, Teachers, Students, parents, and media persons at Habitat Centre, New Delhi on Quantum Computers and Quantum Technology with any charges.

The inaugural session was led by a brief mention by Professor Pant and a detailed presentation by Dr. Ratan Datta who was responsible for setting up Super Computer in India in the early 1980s. He shared the development of Supercomputers and stages of development in quantum computing. His sharing of experience was very live and coming from his rich experience in the field of technology. Shri Kartik Verma a student of the school shared developments in Indian National Quantum Mission. He highlighted how things will unfold in the future. Shri Kapil Murdia shared his deep understanding of quantum disruption and the future of work very passionately with audio and video presentations. The Session was chaired by Dr. GD Sharma. In his remarks, he said three revolutions are likely to change the future of mankind. He said the AI revolution is taking place at a breathtaking speed. Quantum Computing is moving very fast to address many of the problems so far unresolved and finally, the solar energy revolution will help move the world on a path of progress not seen in human history. Therefore, this quantum day celebration will help people to keep looking forward to future technology revolutions. He thanked Professor Pant for taking the initiative to bring together experts, young students, and family persons to celebrate the day.

The First Technical Session dealt with the issue of 2nd Quantum Revolution. The session was Chaired by Professor Suresh Chader who invited Professor MM Pant to give an overview of Quantum Technologies. Professor Pant in his interactive style brought out changes and developments in quantum technologies over the last decades. This was followed by a presentation from Professor PV Suresh on quantum artificial intelligence. He attempted to explain the interface between quantum technology and artificial intelligence. The discussion on the aspects of Quantum Biology was led by Dr. RC Sharma. He elaborated with a video presentation on how quantum biology helps solve some of the very intricate problems that are not possible on normal computers because of billions of cell data.

The second technical Session was on raising the Quantum Ready Work Force, The session was chaired by Mr. Kartik Sharma, He invited Shri Rahul Agarwal to speak on quantum readiness at the university stage. Shri Agarwal brought out in detail the training and research work being under by universities. This was followed by a very interesting and practical way demonstration by Dr. Bhawan Chibber. Who invited students to experience how things change from 0 and 1 to simultaneously 0 and 1 by tossing a coin? Students, Teachers, and the audience enjoyed the session. Dr. Sunil Kumar Pandey very effectively spoke about quantum readiness for Computer Science Students at BCS, MCA, and B.Tech students. Sh. Pamdeu very passionately shared how things unfolded about courses and programs of studies and shared the setting of Quantum Computer Mission in India. His chronological narrative keenly engaged the audience

The third Technical session was unique in itself as it dealt with parental awareness of Quantum Readiness. The session was chaired by Ms. Meenu Arora who happens to advise parents about their wards. It was a very lively session to see how parents can be involved in understanding this big revolution of the future. Ms. Rich Malviya spoke about preschool Children's Parents' readiness. And Ms. Ritika Subhas spoke about parents of children 6-14 years and Dr. Vandan Bulia spoke about parents of children aged 15 to 18 years. This covers all age groups of children. It was very interesting to note that all the speakers to imaginatively linking quantum technology computing with the need for parental awareness. Enthusiasm of parents particularly mothers deliberating on various possible dimention of quamtum com[iters was worth watching. There was sort of lateral thinking on the very intense technology issues in the life of family and people.

To conclude: Teachers and students very enthusiastically shared the basic and advanced aspects and possibilities of quantum computing affecting future education and the course of several developments in science and technology.

The excitement and enthusiasm displayed by the Professionals, Scholars, and teachers. Students and parents in particular mothers of students about the possibilities of this emerging technology was unparalleled. Thanks to the visionary approach of Professor MM Pant and Dr. RC Sharma - the coordinator of the program gets wider sections on a single platform to discuss the possible impact of Quantum Technology Quantum Computers on the life of people at large.

MACHINE LEARNING - AN ENGINEERING ARTEFACT DEVELOPED BY HUMAN. The Ethics of AI - Facts, Fictions, and Forecats by Alberto Chierici. New Degree Press (NDP) © 2021 Alberto Chierici PP223

Huge interest has been developed about the possible impact of AI on human lives. A recent controversy between AI developer Sam Altman and the board members raised a great deal of debate about the possibility of AI impacting human lives beyond the intention of its developers. World over concern was voiced about the regulation of the development of AI products. European Union even came up with some rules. Many countries thought of putting regulations to prevent possible negative impacts of AI. In this global environment, a book titled above by Alberto Chierici tries to sort out chef from seed or fiction from realism.

In Chapters 1-4 he attempts to clearly explain the Origin of AI, What is Artificial Intelligence, and the machine and human Learning and Limitations of AI While elaborating on the origin he goes through various historical moments and explanations given by YN Harari and others, he finally says " let us start appreciating where AI comes from by showing how AI is developed on crossroads of many disciplines. The fundamental disciplines and processes that culminated into AI include philosophy, mathematics, economics, neuroscience, psychology, computer engineering, control theory, cybernetics, and linguistics." Under the sub-title AI meets Capital he says, " like many technological breakthroughs, AI was initially a philosophical and scientific endeavor until it became an economic propellant between the 1980s and early twenty-first century." He further states that " AI not only cut costs and increased productivity - this technology was directly responsible for her growing user numbers, revenues and companies valuations. This was an ideal type of business for venture capital firms to target: companies that can grow ten or twenty times in less than ten years" Here he raises the issue of morality- profit vs human concern. He says if the economic objective is not moral itself, then the technology enables the objectives can not be blamed. It is the Goal that should change. He discusses the view of Gotti Tedeschi. Gotti suggests we shall reconsider the meaning of financial profit, how and what we define as success, and how to develop a more humane economy. He doubts the possibility of happening so. He ends the chapter by stating "It is time to learn what AI is and what real-world applications are behind the hype. " In the chapter What is ArtificialIntelligence, the author goes through various aspects and the origin of the word artificial intelligence. And attempts to define AI. He concludes "AI is an engineering artifact that solves problems and completes

tasks rationally with a high degree of autonomy and adaptability" This limits the possibility of AI taking over human intelligence.

In the machine and human learning chapter he makes a distinction between classical computer programming and machine learning. The classical program first takes data and then follows rules and the classical program then answers. In the case of machine learning, it is data and answers then machine learning programs, and then rules. He makes a distinction between how humans learn and how a machine learns. He says " All the machine "Knows" and can update the numbers - the parameters or sophisticated mathematical equations. As a result, a machine can accomplish a new task (we can call this gaining a skill) …. Human learning is a far richer experience than machine learning." He quotes Price et all (2017) " Human learns by authority, rationalism, empiricism, and scientific method." He discusses several language models Replika and BERT. The data required for Large Language modeling are huge. He says, "The data used to train models like BERT is the whole of Wikipedia, Reddit, or other massive text data on the internet." He further says " Data is always going to be a limitation for AI systems. It does not matter how "good " the data is and how much of it we give to algorithms as far as data is a limited view of reality, the algorithms will always see and will always use a limited version of the world."

In Chapter 5 AI, from Fiction to Behavioral Science he discusses various examples and gives a reference film Ex- Machina. Under Power, Choice, and Free will he makes the following observations." Perhaps, the difference between humans and machines is the power to make a choice. Humans have free will machines do not." He goes on to discuss if we train machines to have free will. He says "This looks like offloading our free will to computers." He ends this chapter by raising a larger question. He says "Hollywood's imaginations and science fiction's authors help us think about freedom, choice, purpose, what intelligence is and ultimately, the most crucial question who are we as human beings?" This reminds me of Jean Pa Sartre's book Being and Nothingness. In Chapter 6 he gives Case Studies on the use of AI in Automotive, government service policing, and courtrooms. In the next chapter, he deals with What should ethics focus on? He also dwells on issues of What is human in two parts. In these chapters he discusses defining humanity as is no easy feat, He deals with certain abilities of humans as the ability to make narrative Cogito Ergo Sum, homo economicus, caring for truth, and Humans Care, In part II he deals with why do you care, aspects of reasonable, morality in action.. He also discusses the views of several scholar philosophers focussing on

seed...

CHEST

CERTIFICATE COURSES ON
VALUES & LIFE COPING SKILLS

MODULE 01 - 2 CREDITS

THIS MODULE IS DIVIDED INTO THREE BROAD UNITS NAMELY:

(1) Value Orientation   - Definition, Norms and Values, and Perennial Values-

    i. Sincerity
    ii. Concern
    iii. Seeking to do the best
    iv. Sense of thought and action which can harm the individual and the society.
    v. Sense of duty
    vi. Sense of character

(2) Values in Modern Society   - (i) Modernization and Modernity, (ii) Rationalist and liberal model, (iii) Revivalist and Orthodox Model, (iv) Radical and Revolutionary model.

(3) Types of Contemporary Societies   - (i) Traditional, (ii) Transitional, (iii) Modern Societies - Ethics and moral foundation and Culture (iv) Post-Modern Society.

- Each of the units has assignments. These will be supplemented with the latest ideas while interacting with specialists.

MODULE 02 - 2 CREDITS

THIS MODULE IS DIVIDED INTO THIRTEEN UNITS NAMELY:

1. Emotional Intelligence
2. Self Esteem
3. Yoga
4. Skills for Quality Life
5. True North Principle
6. Potential for Four Human Endowments
7. Work
8. Sense of Duty
9. Habits of Thrift
10. Environment Protection Policy of India
11. Fundamental Rights and Duties
12. National Security
13. Personal Security with its several sub-aspects.

- Each unit and sub-unit have assignments to be attempted by the participants.

IMPORTANT NOTE-

Courses will be offered in collaboration with the institutions. Also, students can directly enroll for the Certificate Courses.

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SOCIETY FOR EDUCATION AND ECONOMIC DEVELOPMENT NEW DELHI

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Society for Education and Economic Development,
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CHEST

Centre for Higher Education Studies and Training

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COLLEGE POST

College Post - The higher education journal

WWS

Centre for Economic Analysis and Development

International Centre for WTO and WIPO Studies

Women Empowerment through Micro Enterprise
(WEME)

Other Centers
- **Centre for Assessment of Standards in Education**
- **Centre for Public Policy and People**
- **Centre for International Cooperation and Peace**

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