

# ESSENTIAL SKILLS AND SCIENTIFIC TEMPER

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**Abstract:** The term “Scientific temper” was first used by the first Prime Minister of Independent India in his book ‘Discovery of India’ in 1946, emphasizing on Indian perspective for human growth and national development. Since then, many initiatives by the educational committees and commissions have been taken up.

In 1986, Rajiv Gandhi proclaimed or announced a new education policy, the National Policy on Education (NPE), envisioned to prepare India’s future i.e. for the 21st century. According to the policy, it is stated that “science education should be strengthened so as to develop in the child well defined abilities and values such as the spirit of inquiry or questioning, creativity, objectivity, the courage to question, and an aesthetic sensibility”.

Today, in a progressive modern society, the progress in the field of science and technology have changed traditional fields of work like agriculture and industry, has directed to the advent of exclusively new fields of work which requires an individual demand over essential skills. What these essential skills are? They are skills which are often termed as soft skills like creativity, objectivity, communication, work ethics, grit, critical thinking, time management, confidence and collaboration. With the advancement and growth of the society it is now high time when we should not label all these skills as soft skills but essential skills.

It is very important to foster the development of these essential skills to our students. This paper reflects on how the educators can adopt certain scientific ways which will help them to develop all these essential skills.

**Index Terms:** Essential Skills, Soft Skills, National Policy on Education, Scientific temper

## I. INTRODUCTION

Soft skills are defined in many ways and are called by many other names including transferable skills, Twenty first century skills, life skills and essential skills. Abbot (2014) Robles (2012) captured their essence quite well when they described them as Character Traits: attitudes and behavior rather than technical aptitude or knowledge. These are the attributes that help an individual to sustain in this competitive Scenario. It helps them overcome various obstacles, develop healthy relationship with their Peers, Subordinates and Bosses and thrive in the workplace

Most Colleges do not deliver what they actually promise”, says lozlo Bock Senior Vice President at Google, in an interview with New York Times.

It is generally a misconception academic excellence was just the depiction of marks, Grades, scored by a Student, but as an academician I have noticed that students who were excellent in academics, failed in real world, while some of the average, less intellectual students often exceeded my expectations. Even in The top Global Companies like Google, the H.R.Manager do not care whether a candidate is a university Topper or has received excellent grades. What really matters is the Essential Skills possessed by an individual.

## II. WHAT IS SCIENTIFIC TEMPER?

Scientific Temper is a term first used by Jawaharlal Nehru in 1946, is a way of life which uses the scientific method to question, observe physical reality, test, analyses and communicate. He evoked a scientific temper in the circumstances of making science and technology a key input in National Development. Scientific temper encompasses Rationality, Rights, and Responsibility in equal measure.

In 1976, India became the first Country to include in its constitution “Scientific Temper with Humanism” as a Fundamental duty of all Citizens of the Country (Article 51-A(H)). It is the Scientific Temper that helps in developing Secularism, Humanism & Spirit of Enquiry and reform.

## III. NURTURING ESSENTIAL SKILLS AMONG CENTENNIALS, (GENERATION Z):

In India, where a large section of the society is still caught in the Swamp of superstitions and obscurantist practices, inculcating Scientific Temper among the future Businessmen, Entrepreneurs, social reformers and Change makers is of paramount importance for development of the nation.

Knowledge involves two strongly connected or Interlinked but different Components: content and skills. Content includes Facts, Ideas, Principles, Evidence and Descriptions of Processes and Procedures. Almost all Academicians, at least in Universities, are

well trained in Content and have an in-depth Understanding of the Subject they are teaching. The issue here is how an instructor can help the Student audience Develop Certain Essential Skills to have a Future Proof Career.

In most jobs Technical skills alone are not sufficient, all careers requires minimum amount of soft skills to make the job more worthy. In near future, Automation and Artificial Intelligence will result in greater proportion of their jobs

Here are some ways in which a Teacher can inculcate Essential Skills among students:

- **Develop Spirit of inquiry** - (Encourage them to ask Question) Often, Students Hesitate to ask Questions, either they are uncomfortable, or Due to fear of the Unknown. Thus, it is a duty of a teacher to create a conducive and Secure Environment in a classroom by valuing and Respecting each and every questions, Practicing Active Listening, etc. .This will lead to more Participation and Enhanced Motivation.
- **Develop Communication Skills**-Good Communication skills and team spirit give rise to efficient Collaborative Skills. It leads to building trust among peers learning due to variety of skills, passion, and knowledge possessed by different members of a team. It can be done in a class room setting via assigning those Projects, Presentations, Group Work, and Organizing Debates etc. These Skills will boost Students Confidence and Precision thus their intent will become Crystal Clear.
- **Better Information Management**-Now- a –days, GEN-Z is more influenced by various Social Media Platforms. If used constructively, it not only helps them to Develop Networking Skills, but also aid them help share their innovative ideas with millions of Experts in the field, who in turn provide them efficient feedback thus enhancing Learning.
- **Make them understand Concepts of Copyright and Plagiarism**- As part of Fulfillment of various degree programs, Many educational Institutes, undergo a Subject called Project Research. Generally, being exposed to massive online content, they just copy-paste someone, else’s work as their own. Thus, Academicians shall made them aware about the problem they may suffer.
- **Adopt Demonstration method of Teaching**-Many a times, the teachers emphasize on “Learning by Doing” in their classes but fail to implement it in their Teaching method. so, the demonstrator(teacher) must possess the Technical know-how. Thus Activity Based Learning, involving Case-Study, on the spot team task etc. These methods involve various senses that make learning permanent and help achieve psychomotor objectives.
- **Develop Analytical Skills**-This enables the Students to Explore answer on their own and not via spoon-feeding. It also helps them gain better insights of an all-round view of the problem at hand for better strategizing.
- **Inculcate Creative Thinking**-Creativity is the most difficult skill to acquire, and also the most sought after. While designing learning experiences, the and provide tools that give students options, voice, and choice, in order to enable them to be creative. Imagination and Creativity are the traits that fuel the future *.Thus Teaching Students how to think is more important than teaching them what to think.*
- **Adopt Digital Learning**- The digital world is increasingly penetrating all sectors. Education is No exception to it. In the Knowledgebase-economy, Digital Skills are highly valued; in the Future Digital Skills will be vital.GEN Z being digital natives can turn out self-educators. This Generation always feel that they are more Techno-Savvy than their Parents and Grand Parents. This kind of Perception may prevail in a Class-room setting too. Thus, to avoid such situations a teacher must adapt to Innovative ways of teaching .Rather t of the Subject than sticking just to Conventional Chalk and Duster Teaching. This will enable more active Participation and Keeness of the subject being taught.
- **Use learning beyond the Classroom**.-By Using what they are learning in a creative and Interesting way, Students find it easier to understand and retain what they learnt in Classroom. For instance, while teaching my students Group Development Process, A concept of Organizational Behaviour.I explained the 5 stages of the process.i.e. Forming, Storming .Norming. Performing and Adjourning with the help of Bollywood songs. The session was really engaging and immensely enjoyed by student audience.

We all now live in an altogether different world than 2 months before. The Whole World is under the Disruptive Rupture of the Global Pandemic COVID-19Besides Above Skills, Certain Emotional Intelligence skills are utmost necessary to develop and sustain in this VUCA Environment. These Skills are:

- Self-Compassion
- Self-Control
- Mindset Management
- Change the What if’s to How Can I do the Best
- Managing Anxiety

- Emotional Self Awareness.

With clear vivid imagination and consistent effort, the forces of the universe can be made to work for an ignited mind (Kalam, 2005). Today's Dynamic society needs new generation of creative scientists. For that, an environment for research and challenging mission is essential. Thus Academician need to shift from: Individual Excellence to Collective Excellence -By sharing with fellow colleagues and getting them acquaint to new ways of Teaching. Time Orientation to Result Orientation Craving for certificates and Recognition. Rather become Connoisseur.

#### IV. CONCLUSION

Scientific Temper is a mental and Cultural Tradition that helps to Understand Why's and How's of Life. Definitely, Besides Parents Teachers have a greater responsibility in moulding students with scientific mindset. So, in order to Promote Scientific Temper and Develop Essential Skills among Students Specific and clear Goal oriented Curriculum is essential. Moreover Teacher and Academicians need to be needs to be patient as its not an overnight activity Nevertheless, in a world of Full of Uncertainty, Misinformation, a student needs to be Undoubtedly be Self-Reliant on his/her own skill set. This Unique Strength will definitely equip him/her to be an Invaluable Citizen of this Dynamic Ever-Changing World, Regardless of the Career Path, She/he will embark upon.

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