



Sensitizing beyond the science discipline

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This article is meant for students of the +2 Science College of KIIT. The significance of this article, hopefully, will be realized much later in your career paths. Thus, I urge you to discuss this with your mentors who have been guiding you based on their own valuable experience.

The professional landscape is fast changing and the requirements of the Indian society cannot be insulated from the global winds of change. Creativity and teamwork are the necessities of the day. Teamwork does not mean all individuals have to think and act alike. Teamwork that fosters purposeful creative thinking in individuals is the requirement of the day and days ahead.

To foster creative thinking it is important for young minds not to restrict their thinking to certain pre-defined "limiting boundaries" of our Educational system. Too much importance to the limiting boundaries may force you into compartments that may stifle your creativity. The first sentence of this article itself shows that the compartmentalization process has begun. Thus, the "Science compartment" is different from the "Arts compartment". In due course you will be guided into more specific compartments. You will be choosing either engineering or medical or some other discipline as your career option to further your studies. By the time you graduate with a professional degree you will be further compartmentalized (into the various sub-disciplines of your respective fields). Some may move on to acquire post-graduate degrees and diplomas in Management. Again there will be further compartmentalization into finance, marketing, operations, systems and so on. By this time you would be so much used to defining a turf around you that you will start working towards the larger interest of your "own limited turf" at the cost of the larger interest of the larger system. When each entity gets into protecting ones own turf you may have unhealthy conflicts between sub-systems (say the operations Vs finance or marketing) within the larger system (i.e., the business as a whole). However, if the business is able to derive maximum benefits by keeping this turf battle at a healthy level of conflict, then we have a proper team in place to foster purposeful creativity. Such organizations encourage team members to look beyond their own specific domain of interest. To meet the needs of such organizations it is important for you to train yourself.

According to a web-based (<http://www.indiatogether.org/>) article titled "Science Education on slippery path" by Summiya Yasmeen our Science Educators have other worries. Their prime focus is on the neglect of the science education due to paucity of funds. According to the article "the Indian economy's investment in research and development (R&D) is too low for providing intellectual, creative and monetary satisfaction". Here is another excerpt: "*The Human Development Report 2004 indicates that only 25 percent of all students enrolled in tertiary institutions are studying maths, science and engineering programmes (cf. China's 53 percent) while the number of researchers engaged in R&D in the country is a mere 157 per million of the population (cf. China's 587). Between 1980-2000 the number of scientific papers from India included in the Science Citation Index fell from 14,987 to 12,227, whereas China's grew from 924 to 22,061.*"

While the concerns of our Science Educators are quite valid, there is another dimension in the data above. The above data also indicates that there is a vast majority who belong to disciplines other than those mentioned above. It is, therefore, important for young scientists to develop sensitivity to these other disciplines in order to meet the needs of the society. Also, the changing professional landscape is forcing organizations to develop partnerships across departments, such as, science, engineering, medicine, management and law. Thus, multidisciplinary avenues are opening up leading to opportunities in biotechnology, bio-engineering, environmental design, advanced materials and nanotechnology. At this stage of your career you can start your training by making entities (including yourself) in the "science compartment" develop a certain amount of sensitivity to the needs of the "arts compartment". Such sensitivity will also help you in translating your own ideas into commercialized outputs appropriate for the Indian socio-economic environment.

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