

**Revitalizing Technical Education  
(Diagnosis and Remedies)**

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**Publisher :** Virsa Sambhal Publications, Durgi Road, Ludhiana.  
(Pages 180, Price Rs. 180, Jan 2007)

*Reviewed by: H. S. Virk for IAPT Bulletin (India)*

Dr. Major Singh is a physicist by training and he is well versed with problems of Science education in India. I always appreciated his contributed articles to IAPT Bulletin. The book under review is based on his personal experience of working in a Government Polytechnic for more than a decade. The author has consulted all the documents pertaining to Higher Education, Science Education and Technical Education prepared by various commissions set up by Govt. of India after 1947. He is fully conversant with the successes and failures of the Govt. policies in promoting technical education in India. I consider this book as a masterpiece document on Technical Education, perhaps the best in the market till date. The focus of this book is Technical Education scenario in Punjab state but I am fully convinced that its diagnosis and remedies are equally applicable to Technical Education in other states of Indian union.

The book consists of two chapters only. The author introduces concept of autonomy and impact of globalization on technical education in the first chapter. He is against autonomy for Polytechnics as this concept was introduced for institutes of higher education, namely Universities, as one of the recommendations of University Education Commission in 1948. However, the author is highly critical of corrupt practices prevalent in institutes of higher education at all levels. At page 15, the author laments : "It is the moral duty of all the scientists and teachers to devote full time to their work. Some of the teachers have the liberty not to take classes and engage in politics. Thus corruption of money, time, absenteeism, ignorance of latest developments in the field, engaging in private business during office hours and all other corrupts practices are in vogue."

The author refers (p.23) to the U.R. Rao committee report 'Revitalizing Technical Education', on which the title of this book is based, as the panacea for all the maladies. I agree with the remarks of the author : "Reckless commercialization by the so called self-financing institutions, has turned the higher learning into an education bazaar in India". The author vehemently criticizes the loot by private institutes/agencies in name of Information Technology (IT) related courses of short duration for making a fast buck. The society, especially the weaker sections, are looted by these sharks under the very nose of state and



central agencies, e.g. technical boards and AICTE. The author quotes at page 36, Article 46 of the Indian constitution, which deals with education of weaker sections of society: "The state shall promote the education and economic interests of weaker sections and shall protect them from the social injustice and all kinds of exploitation."

Chapter 2 "Falling Standards of Technical Education : Causes, Concerns and Realities" is the core chapter of this book, spread over 104 pages. Almost all the problems of technical education are enumerated in this Chapter; critical review of the role of Government, teachers, students and society is discussed and some remedies are suggested to invigorate the decaying system. On page 61, the author laments: "The first blunder of the Government is that it does not know how many polytechnics should be opened. There is hardly any consideration for demand projection and supply, and the future forecasting. Private colleges are interested only in their personal gain. They are not concerned about the trained manpower requirements of the state or the country".

The author stresses the importance of teaching basic science courses to all engineering students from polytechnics to IITs. He has quoted from various sources in support of his suggestion. The best section of this chapter (Art. 2.10, pages 114-117) is devoted to revival of laboratory work in polytechnics. I must say, India is going to be a bankrupt nation morally, politically economically and technically because we have ignored the practical training at school, college and professional institutes' level, laying too much stress on theory and rote learning at school level. As past President of IAPT, I was involved in promotion of Physics Education in India and our Vice President, Prof. Ved Ratna at the age of 80 is still engaged in innovations of school laboratory practicals at his residence. I agree with conclusions of the author: "Neglect of practical work in technical institution results in producing technical manpower of less than required competence. By awarding 80 percent or more marks to students in practical examination on the basis of false records in polytechnics, we are training students in unethical values through practical work. And we are contributing to the environment of corruption in our society".

Some of the quotes of the author deserve special mention, e.g. on page 118 while highlighting the role of library, the author remarks: "The attendance in the library is related to the crime graph of that place". How true it is for Panjab! Punjab Police may find it convenient to prepare a statistical graph of crime rate in the state by recording roll call in the libraries.

The author has recommended the establishment of a 'Placement Cell' in each polytechnic as already in vogue in NITs and some other professional colleges. He advocates the spirit of entrepreneurship for all type of students coming out polytechnics and professional institutes. This should be a part and parcel of their training. The problem of unemployment in India is

the main concern of all state governments but precious little has been done to inculcate the spirit of entrepreneurship among our educated youth.

The author is well versed with maladies of technical education in Punjab and suggested some remedies to overhaul the system. He is right, Punjab government has promoted agriculture in the state but ignored technical and higher education. In the age of globalization, Punjab needs to come abreast with innovations in health, education and agriculture through re-structuring of curriculum at all levels. Appendix II and III are about Examination reforms and Curriculum development in polytechnics. However, the most amusing part of the book is Appendix IV "Punjab : No. 1 state". It is written in a highly satirical style by the author. Punjab is number one in many fields, to name a few, female foeticide, alcohol consumption, imperialistic attitude of the government, rampant corruption, suicide rate of farmers, violation of human rights and last but not the least, collapse of education system. The author personally feels that bureaucrats and politicians of Punjab must read the summary of the book given in the Chapter 3.

The author quotes extensively from reports and newspapers to support his view point. It is desirable but only upto a certain limit. The book is free from howlers and grammatical mistakes but some mistakes do occur. For example, at page 133 (i) 'Enticement' should be replaced by 'enhancement', at page 138, 'California' by 'Berkeley' and at page 145, 'expended' by 'expanded'. The book is a unique contribution by the learned author in the field of technical education and I hope the academic world will appreciate the labour of love of Dr. Major Singh.