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Evolution of Vocational Education: National and International Perspectives

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Abstract

In the Indian way of thinking, a human being is a positive asset and a precious national resource which needs to be cherished, nurtured and developed with tenderness and care, coupled with dynamism. The history of Indian education is testimony to the fact that the need for introduction of occupational education for students was highlighted as far back as in 1854. However, no significant breakthrough was noticeable in this regard except for a few attempts to integrate work with general education. It was only after Independence in 1947 that a comprehensive programme for the development of technical education and vocational training was launched; creating a large network of technical and vocational institutions that offered a wide variety of programmes in different areas. At present, the following broad categories of institutions offer vocational and technical education: (a) institutions for higher professional technical education, (b) institutions preparing technicians, (c) institutions preparing craftsmen / skilled workers, (d) apprenticeship training programme, (e) schools/junior colleges with vocational stream. This paper traces the evolution of vocational education in the Indian system of education and attempts to make a critical comparison with the international perspectives highlighting the trend and issues. Further, this paper provides certain viable suggestions to circumvent the inadequacy in the system and to strengthen vocational education in terms of optimum human resource development and effective utilization of material resources.

1. Introduction

Vocational education refers to educating students by means of theoretical expositions as well as appropriate practical orientations so as to prepare them to make significant contribution to industrial, agricultural and commercial efficiency. Vocational education aims at the development of proficient workers to meet the ever growing and ever changing job requirements in various sectors such as engineering, technology, agriculture, medicine, commerce etc. Vocational education trains the student directly and specifically in the thinking habits and the manipulative habits required in the occupation itself. It enables the students to bank upon their interests, aptitude and intrinsic intelligence to the highest possible degree.

2. Evolution of Vocational Education – A Glimpse

Vocational Education is not new in Indian Philosophy in general and in the educational process in particular. The system, so deep rooted in our philosophy flourished through the mode of Guru-*Sishya* or father-son tradition. Work was considered important for living and education. Education was related to the life of pupils, bringing into focus the co-existence between education and work. Education became bookish with the introduction of formal education. It prepared the student for white collar jobs. There was no provision for manual work in general education. This was pointed out in Wood's Education Despatch in 1854. The dispatch contemplated introduction of pre-vocational education at the secondary stage. Similar recommendations were made by various committees and commissions on Indian education constituted before and after independence. In the post independence period, there has been a succession of committees and commissions that went into the questions of reforms in education. The Radhakrishnan Commission (1948) emphasized the need to give vocational bias to the courses of education to meet a variety of needs of our young men and women, while retaining the emphasis on preparation for university education. The recommendations of the Mudhaliyar Commission (1952) related to diversification of education, resulted in the establishment of a chain of multipurpose schools.

The Education Commission (1966) recognizing the views of Rabindranath Tagore, Mahatma Gandhi and Zakir Hussain on the pattern/systems of education and its ineffectiveness for the majority of the school going population emphasized the need for integrating education with work, to give a strong vocational bias to secondary education. The recommendations of the commission found due acceptance in the National Policy of Education Resolution of 1968. The National Policy on Education and Programme of Action (1986, 1992) gave a new impetus to vocational education at the higher secondary stage and emphasized the need for pre-vocational education at the secondary stage of education. A Centrally Sponsored Scheme (CSS) of vacationalisation of secondary education was launched in February 1988 for providing support to vocational education programme. The scheme provided broad guidelines in respect of management of the programme at various levels, curriculum design, infrastructure, instructional materials, teachers and training, school industry linkages, vocational guidance, examination and certification and modification of recruitment

rules. A scheme of pre-vocational education at the lower secondary stage of education was also launched by the MHRD, Government of India in 1993 for funding of schools in a phased manner. Both the schemes continued till the end of the 8th Five Year Plan.

The Ninth Five Year Plan (1997-2002) identified the key issues facing secondary education as access, quality and diversification. It proposed revision and modification of secondary curricula to relate them more to work opportunities, particularly at middle level manpower, further expansion of vocational education at both lower and senior secondary level and establishment of effective links between industry and education. It claimed that this further expansion is justified in terms of both economic efficiency and social justice. Need for selecting courses on the basis of assessment of manpower needs and ensuring greater participation of all the groups within the community was considered important.

3. The Present Scenario

The growth of vocational education in India is basically a post independence phenomenon. Vocational courses at the +2 stage have been designed to impart intensive knowledge and practical experience of specific vocations in order to develop required competency for entry into various occupations in the job market. However, preliminary initiations to work ethics, good work habits and creating a distinct work culture at the earlier stages have been considered crucial.

Subjects covered under vocational stream

Area – I – Agriculture	**Area – IV – Engineering & Technology**
1. Crop Production 2. Plant Protection 3. Small Farm Management 4. Dairying 5. Fisheries 6. Farm Mechanics 7. Poultry 8. Sericulture and Apiculture 9. Spices and Plantation Crops 10. Vegetables and Fruits.	1. Domestic Electronics & Projection Equipment 2. Electrical Domestic Appliances* 3. Electrical Motor Rewinding 4. General Machinist 5. Radio and Television* 6. Building Maintenance 7. Textile Technology 8. Textile Machinery* 9. Auto Mechanic 10. Draughts Man(Civil) 11. Refrigeration and Air-conditioning* 12. Welding 13. Fitting 14. Letter Press Printing 15. Computer Programming 16. Printing Technology Note: * Repair and Maintenance
Area – II – Home Science	
1. Child Care and Nutrition 2. Dress Designing and Making 3. Food Preservation 4. Dietetics, Nutrition, Food Preparation 5. Textile and Design 6. Baking and Confectionary	
Area – III – Commerce and Business	**Area – V- Health**
1. Accountancy and Auditing 2. Banking Assistance 3. Co-operative Management 4. Marketing and Salesmanship 5. Office Secretaryship/Office Management 6. Insurance 7. Composing and Printing	1. Medical Lab Assistant 2. Nursing Course **Area – VI – Miscellaneous** 1. Photography 2. Technical Assistant Course(Sports & Games)

The factors behind these changes are varied. Some of the factors significant in the present contexts are: (a) the economy becoming global and competitive, (b) the changing profile of the learners, (c) technology becoming all pervasive, (d) changing expectations of employers, (e) expansion in the service sector, (f) harnessing of renewable and non conventional sources of energy. These factors have far reaching educational implications while preparing the youth for tomorrow's work force.

Now vocational education is an integral part of higher secondary education. In almost all the schools there is at least one group under vocational stream. There are schools which have more than one vocational group. The vocational subjects are classified as shown in the following table.

The above table reveals how adequately the vocational subjects have encompassed the vital sectors that require people with vocational competency and technical skill to render best possible service to the community and nation as a whole.

4. National and International Perspectives

Vocational education is going through a period of intensive change and reorientation. A multiplicity of national models forms and structures have emerged in an effort to cope with the rapid technological advances and the changing needs of the labour market (UNESCO 1993).

Rapid strides in the sphere of technology and maintenance of a high pace of economic growth require a qualitative transformation in the work force towards a manpower equipped with a high degree of skills in widely diversified vocational fields.

Whereas a trend towards more widespread vocational education is common to a good many countries, vocational education has followed different paths of development depending upon each country's environmental and historical factors. Considerable rethinking has been going on in almost all the countries to either redesign or evolve the most appropriate type of vocational education suited to contemporary economic and technological changes.

America 2000: *An Education Strategy* declares that education is the key to America's international competitiveness. The British Government has also resolved that people of all ages must acquire the skill necessary to maintain Britain's position as a leading industrial and trading nation. Australia also acknowledges the need to build an enterprise culture in order to find a respectable place in an extremely competitive world. The neighbouring major country, China, is also converting itself into a greater global exporter. In Japan, the National Council of Education Reform (1986) suggested that vocational courses should be flexibly organized to cope with the progress of society and the changes in the times. Technical-Vocational Education and Industrial Training, again, is one of the fastest growing areas in Malaysia which is experiencing a need for a broad-based approach in vocational and industrial training.

Kairamo. K (1989) maintains that in Europe, particularly in Belgium, Italy, France, the Netherlands and Sweden, a trend towards vocationalisation of secondary education is pretty clear. "The share of school-based technical and/or vocational streams in total enrolments has been increasing gradually over the past 20 years." In countries like France, Italy and the Netherlands apprenticeship has been revitalized. It has become

the dominant mode of training for 16-19 years old in West Germany. More recently "alternate training" combining school and work-based learning has developed in continental Europe.

In India, the programme of vocationalisation of education draws its inspiration from the recommendations of the UNESCO (1974) which defined it as a "comprehensive term embracing those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupation in the various sectors of economic and social life. Such an education would be an integral part of general education and a means of preparing for an occupational field and an aspect of continuing education. Technical and vocational education should further contribute to the achievement of society's goals of greater democratization and social, cultural and economic development.

5. Issues to be Resolved

There are some major issues to be resolved on priority basis in the area of vocational and technical education. Some such significant issues are:

- Issues Related to Policy Management and Planning
- Issues Related to Curriculum and Instructional Material
- Issues Related to School Industry Linkage
- Issues Related to Vertical Mobility
- Issues Related to Teachers
- Issues Related to Employability

5.1 Issues Related to Policy Management and Planning

The present model of technical education is institutional whereas that of vocational education is a collaborative one. Further, polytechnics and ITIs are run in separate self-contained institutions while vocational courses have been introduced in the existing general education +2 institutions. There is a need to study the relative effectiveness of each in terms of quality of training, cost and viability. Also we have to see what type of vocational institution is suitable for remote, hilly and rural areas where the number of students per course may be very less? Do we require separate residential vocational schools to attract more girls to the vocational stream? Is there a possibility of levying educational cess or giving rebate in taxes to industrial houses to obtain positive support from them in terms of expertise and facilities for practical/on-the-job training? These issues are to addressed properly.

5.2 Issues Related to Curriculum and Instructional Material

Most of the implementing states and Union Territories have generally followed the nationally recommended curriculum design with certain modifications as per their local or regional requirements. Only eight states have developed instructional materials and that too in a much smaller number of areas than needed. A modest programme since 1984 yielded about eighty titles of instructional materials which would partly

meet the requirements of fourteen vocational courses in the form of reference books, teacher guides, practical manuals, etc. Though we have developed adequate instructional materials of late, they are to be enriched and updated.

5.3 Issues Related to School Industry Linkage

Curricula now emphasize multiskilled, interfacing education and productive enterprises, entrepreneurship and continuing education. Further, courses need to be adjusted frequently to cater to innovations and changes in work requirements. Effective liaison with industry, agriculture and business enterprises need to be further developed. Therefore, the school-industry linkage is yet another area which requires investigation to suggest ways and means of establishing functional and effective collaboration with industry, business, health and other service organizations and utilizing optimally the available facilities.

5.4 Issues Related to Vertical Mobility

The National Policy on Education, 1986 stipulates that "graduates of vocational courses will be given opportunities, under predetermined conditions for professional growth, career improvement and lateral entry into courses of general, technical and professional education through appropriate bridge courses." But suitable vertical and horizontal linkages on a long-term basis have not yet been established although there have been *ad-hoc* arrangements to circumvent the problem.

5.5 Issues Related to Teachers

The CSS envisages that "vocational courses will be conducted with the help of full - time as well as part-time teachers". Shortage of competent vocational teachers is a phenomenon common to every implementing state which is posing a serious hurdle in the way of imparting quality vocational education.

5.6 Issues Related to Employability

In some institutions vocational education is imparted without due importance to practical experience. In order to avoid expenditure incurring on materials and machinery they make the teaching learning process merely theoretical. This type of vocational education is of no use. This jeopardizes the employability of the students pursuing vocational education. The vocational competency of the students alone can ensure better employability. So the institutions concerned should take all possible efforts to provide the students with adequate practical experience so that the students can develop the competency required for the job.

6. Suggestions

*It requires thorough pre-planning and preparation in terms of curriculum, instructional material, teacher training, and mode for providing work experience and required linkage between industry and institution. These will largely account for the success of the vocational education.

* The outreach of vocational courses should be extended to SC/ST/OBC girls, physically challenged and other deprived groups in a planned manner so as to promote the empowerment of the above categories.

* Steps must be taken to provide pre-service and in-service training for producing competent vocational teachers. Also appropriate training must be provided to vocational students to update their knowledge and skill to meet the changing and emerging skill needs of the job market.

* Course design should be oriented more towards a combination of core and elective components as well as competency based training so that they are more responsive to the needs of rapidly transforming economics.

* Training should be provided not only to suit specific job but also for job clusters as well as for the transfer to jobs from related area in business and industry.

Conclusion

Technocrats, engineers, scientist etc. play a key role in the development of science and technology but their success largely depends on the skilled technicians, machinist and skilled labour force who come from the vocational stream. The brain conceives and designs and the fingers perform. The dexterous fingers in the field of science and technology, medicine, agriculture, bio-tech etc are supplied by the vocational institutions. Our nation has, of late, made a mark in the field of science and technology especially in IT and Bio-Tech fields. Now the present scenario is much encouraging. We can find more number of students opting for vocational education at higher secondary level. With a little enrichment and updating in content, process and practice we can view with any developed country in terms of academic excellence and technical expertise.

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