

CHAPTER IV

THE CONCEPT AND DEVELOPMENT OF VOCATIONALISATION

Contents:-

1. Concept of vocationalization
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In this Chapter, data collected (as stated in Chapter III) has been analyzed according to the Objectives of the study as mentioned in Chapter III. First objective is analyzed in this chapter.

1. CONCEPT : The term 'Vocationalisation' has not been very clear to scholars. It is confused sometimes with Vocational Education, at times as technical education or as manual training and even as General education. Thus, there has not been any clear thinking about it and discussions over the matter have been confusing. The Researcher, in the following paragraph, has tried to define the term 'Vocationalisation of Education and to distinguish it from other kinds of education and thus to make the concept clear.

General education : Education has been defined in various ways by different Educationists :-

Monroe Walters says : " General Education is such an education which prepares a youth for citizenship. "

Plato thought that " A good education consists in giving to the body and to the soul all the beauty and all the perfection of which they are capable. "

Vocational education:

According to Monroe Walters :- " Any educational activity that would prepare one to earn his living could be labeled as 'Vocational education' ."

Mays, A.B. says :- " Vocational Education is instruction of less than college grades for pupil 14 years of age or older designed to fit for useful employment or as supplemented to daily employment under public supervision and control. "

Difference in General & Vocational Education : In the light of above definitions, it can safely be concluded that the General Education is considered such education which develops mind and personality and is thus associated with the teachings of Languages, Communication, art, Basic Mathematics, Basic Sciences etc.. And the Vocational Education is that which prepares an individual mainly for specific vocation/occupation or field of occupations.

General Education means education from primary to University level which aims at academic excellence only and not related to any trade and is imparted in courses such as B.A., M.A., MSc., B.Sc., Ph.D. etc.. On the other hand **Vocational Education** is both Technical as well as Professional Education; Technical education aims training a person in a particular skill or trade and is being provided at Secondary level in I.T.I's, Polytechnics and Professional education is a higher type of education/learning in a specific vocation such as Medicine, Law, Engineering, Teachers' Training etc.

These two types of education, i.e. General and Vocational were prevalent in India in isolation with each other. While General Education is purely academic and is not fulfilling coun-

try's manpower needs, the Vocational Education lacks the element of general education and has been purely trade-based. Vocational Education is the need of the hour but it can not meet the needs if it is totally separated from the General Education. Vocational Education grows out of the general education, supplements and enhances it. It should only be considered as an integral part of the total education programme and should provide opportunities according to interest aptitude and abilities of the pupils. The aim of education is to prepare an individual to become an expert in some vocation and to develop qualities of a gentle man and a good citizen. Therefore a new scheme was evolved that is called "Vocationlisation of Education".

Definitions of Vocationalisation of Education:

In UNESCO language: "Those aspects of Educational activity-involving in addition to general education, the study of technologies and related sciences and the acquisitions of practical skills, aptitudes, understandings and knowledge related to occupations in the various sectors of economic and social life, would be a means of preparing for an occupational field and an aspect of continuing education."

According to National Document, " Vocationalised Higher Secondary Education cannot be equated with mere technical training. It is essentially a education in the broader sense of the terms It prepares and cultivates an individual to understand the social reality and to realise his own potential within the frame work of economic development to which the individual

contributes."

To quote from the report of Working Group on Vocationalisation of Education : "This education (i.e. Vocational) covers education and skill development at all levels from post primary to tertiary level, both through formal and non-formal programmes."

CONCLUSION: From the definitions given by different groups, it can safely be concluded that Vocationalisation of Education provides benefits of general education and at the same time it develops Vocational skills. This education is provided from primary to secondary level.

Main characteristics of vocationalisation of education:

According to the National Document (1976), there are four main characteristics of Vocationalisation of Education:-

1.- This education prepares and cultivates an individual to understand the social reality and to realise his own potential within the frame work of economic development to which the individual contributes.

2.- This education does not produce jobs, but Vocationalised education makes it more likely for an individual to get a job or to be his own employer by either starting a new productive activity or a service which may satisfy a felt need of community.

3:- This education broadens the educational horizons for the individual and enables him to reach higher levels of achievements through self learning.

4:- This education has the potential of enabling the students to

move towards an equitable sharing of the benefits of economic developments and towards Social Justice.

Aims of vocationalisation of education: As per National Document (1976), aims of this education are:-

1:- To avoid forcing students into the academic channel only and to offer them opportunities to choose subjects and programmes of study in much wider field of education in keeping with their aptitudes, interests, and abilities with a view to increase their employability.

2:- To provide Society with personnel having a wide spectrum of knowledge and training for its own needs and upliftment.

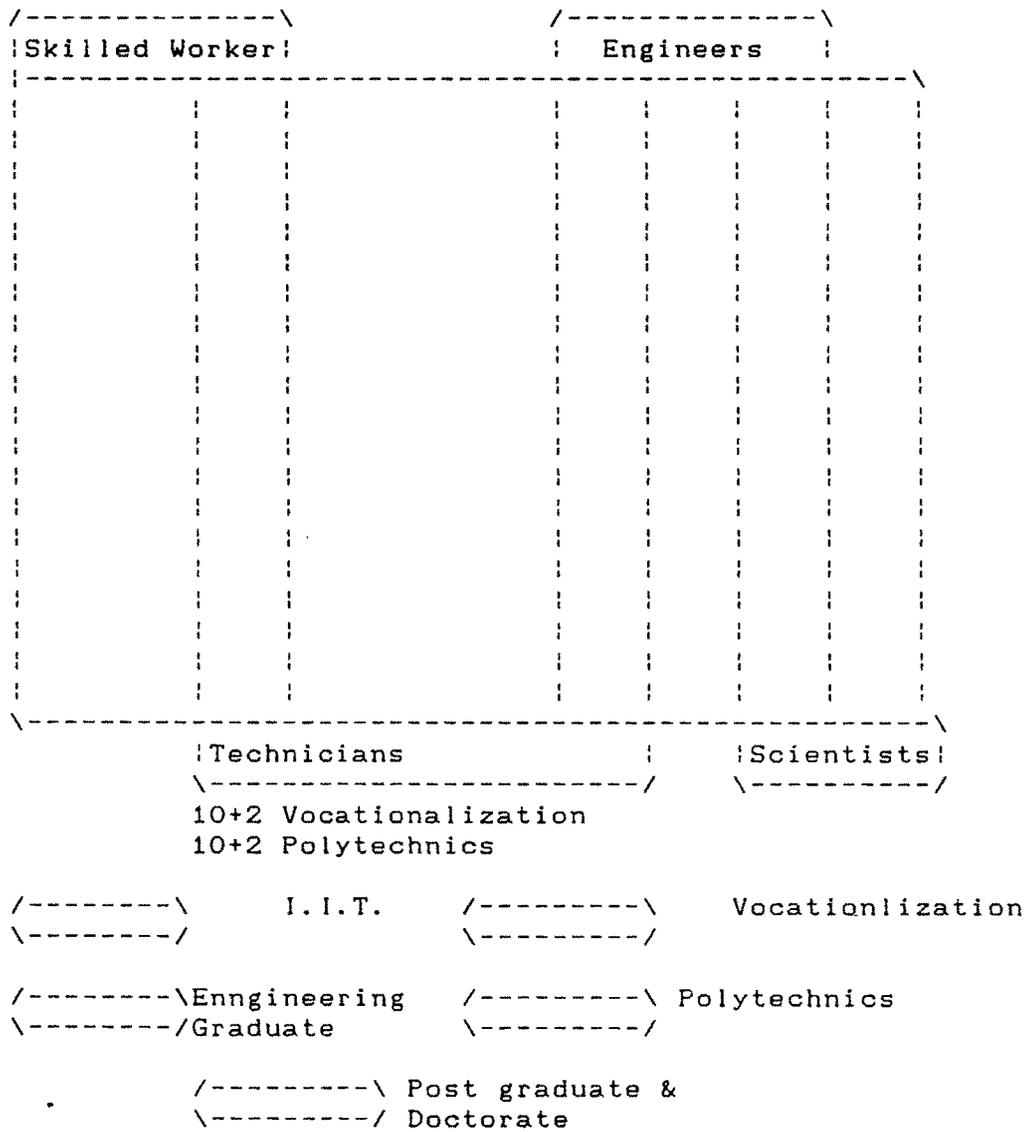
3:- To reduce frustration among the youth resulting from less productive education offered at present.

4:- To prepare people who can work with their brains as well as with their hands, who can translate ideas into hardware, who may not be merely superiors to skilled workers but can interact with them to produce new goods and services.

From the Characteristics and aims of Vocationalisation enumerated above, it can be concluded that this type of education is best suited to the economic development of Society. It helps an Individual to understand economic activities and development of his environment and helps him to adopt himself to it. It makes an individual a productive member of society and reduces unemployment. It produces such persons who are thinkers as well as skilled workers. It also equips an individual with adequate theoretical knowledge as well as practical skill. Ratio of knowl-

edge and skill can be best understood by the diagram given by M. Mukhopadhyay as shown below :-

Illustration No 4.



It is evident from the diagram that at the plus-Two stage the ratio of knowledge and skill is 50:50 . So the students are not merely the technicians or mechanics but also rational beings. Detailed discussion regarding skill and knowledge content would be given under the Heading 'Syllabus'.

CONCLUSION:- In the light of the discussion made so far, it can be said that General Education and Vocational Education were considered as two distinct streams so far. Vocationalisation of Education is a step towards bridging the gap. It is an effort to bring both the types of education closer. It is an effort to provide best of both the streams. Vocational education aims to develop skills in a particular craft or crafts or trades and general education provides basic understandings. It develops a person to adjust in the environment. Vocationalisation of Education prepares a person for a family of allied occupations rather than a specific occupation.

2. EMERGENCE OF VOCATIONALISATION OF EDUCATION:

Vocational education in different countries has followed different paths of development depending upon each Nation's environmental and historical factors. Considerable re-thinking had been going on among experts in almost all the countries about the most appropriate type of vocational education suited to contemporary economic and technological changes.

In the first place, in order to cover much larger segments of the working population than at present, the need to extend vocational education is being increasingly recognised. The case

for this rests on a number of grounds e.g. a) Economic studies have revealed the significance of residual factors among which education holds a very prominent place, in promoting economic growth. Widespread extension of vocational education, related directly to requirements of productive activities in the world of work, is thus one of the ways of enhancing the effectiveness of education as a factor in the growth process. b) The changing structure of manpower, which shows a decline in the proportion of unskilled workers accompanied by a steep rise in the proportion of skilled and semi skilled operative is another factor. c) The case is further reinforced by a gradual transformation in the nature of work itself. In modern industry the need for a very precisely segregated skill is being substituted by the requirements of a work force possessing a wide range of skills and knowledge. The identity of separate skill is getting diluted and is giving way to a widely diffused spectrum of skills. Such tasks can be more appropriately handled if a high percentage of student population, who will form the future work force, has been exposed to a vocational element in their education.

But side by side it is also being recognised that vocational education should not be too specialised and the courses not too narrow based. It is important that labour force should be versatile enough to move from one skill to another at least within a sphere of allied skills. The link between training for specific skills and occupations is becoming wider. Several empirical studies have shown that there is a fairly high proportion of workers who are ultimately found in occupation other than those for which they had received technical training.

Sometimes such trained personnels are even found among the unskilled category. This brings out the needs for imparting a type of vocational education and practical training at the school level which is broad based enough to enable workers to find suitable employment within a fairly wide range of allied occupations. More specific training and experience is better obtained in the job.

There are other reasons also which indicate the need for a fairly versatile type of vocational education. Even with the most sophisticated techniques of manpower planning it is not possible to forecast with great accuracy the precise need for specific skills. The consequent problem of imbalance between the type of skills for which training has been imparted and demand for them has bedevilled even in the countries with a long background of industrialisation. One of the best ways of insuring against such short term imbalances is to have manpower trained in a manner that it can easily switch within a group of allied occupations. Technical innovations and the parallel emergence of newer forms of skills also calls for a programme of vocational instruction and training based on the principle of versatility. A highly skill specialised manpower is thus as inadequate for the needs of a modern economy as that educated in an educational system geared mainly to traditional academic subjects without any orientation to skill requirements of the occupational world.

An outcome of the above two lines of thinking has been the growing realisation of the need for treating vocational education

programme not independently of the general education system but as closely allied to it. Once Vocational education is viewed not as being directed merely to highly specific forms of skill training and the imperatives of its widespread extension at the school stage as a means of achieving greater effectiveness of different categories of manpower in their occupational roles are recognised, the interdependence of vocational and general education become self evident. An adequate element of general education in vocational education programme is desirable not only for imparting the essential minimum of cultural values but also to help in keeping vocational education from becoming too narrowly focused on training for specific skills. Of course, mere inclusion of general education course as a part of vocational education is not sufficient to create versatility of skills. For that purpose the vocational courses themselves have to be appropriately structured. But a supporting programme of general education provides an essential base for creating a versatile vocationally educated man-power.

It is also felt that by bringing vocational and general education closer and together under the same umbrella upto the school stage, it would be possible to ward off the danger of treating vocational education as being second rate education- a tendency which has been observed even in industrially developed countries where the two types of education are imparted independently. It is this type of reasoning which underlies the recent emergent trends in thinking and focussing of attention on the need for an adequately integrated programme of general and vocational education in which vocational education in an elementary

form starts at a fairly early stage, while towards the later stages of school education, vocational courses meant to equip students for middle level skilled jobs in various occupations are introduced. The actual mix of general and vocational courses which a particular student takes towards the finishing stages of school education would have to depend upon individual abilities, aptitudes, career aspirations and career counseling in the light of the type of job opportunities becoming available.

CONCLUSION: Skilled Man-power contributes significantly in the economic development of the country. Changing Modern Industry needs wide range of skills besides the specialised education. Therefore , there is a great need for multi-skill education and such type of vocational education where an individual can move from one skill to another. Manpower should also be so versatile that it can change and adopt itself according to new demands, since even with highly accurate predictive measures, it is not possible to predict manpower trends accurately.

Due to these reasons, need was felt for such education which is not merely inclusion of skill training but provides base for skill development. This makes vocational and general education interdependent and result is "Vocationalisation of Education."

3. HISTORICAL VIEW OF VOCATIONALISATION

Researcher has tried to study 'Vocationalisation' from historical point of view in order to understand it's need and concept in present day context.

In Vedic period, Education meant the study of four Vedas, and it was mainly confined to Brahmins. Brahmins and Kshatriyas used to receive education in Gurukuls for the occupation of Priests, Warriors and Administrators etc. Vocational training in terms of preparation for jobs such as Agriculture, trade, cattle rearing and other service occupations such as Carpenter, Iron Smith etc. was imparted by father to son and not through formal education.

In Buddhist period, Monks were supposed to know Sewing, Spinning, Knitting etc. They were also acquainted with the science of house building. A Buddhist, who led household life, was given education in other useful vocation and crafts which could help him to earn his livelihood.

In ancient India there were Guilds. The local industrial guilds were known as 'Srenis' (Chaube, 1965, p.69). There were also associations like Dyers association, Blacksmiths associations etc. These associations and guilds are mentioned in Kautilya's Arth-Shastra also. There were 'Mahajani Schools' in towns where the Mahajans and traders used to pay for the education of their wards. (Keay, 1938, p.71).

Industrial education was imparted in the traditional family manner. The old experienced man in the family used to teach and impart instructions to the younger members of the family. The planning of industries, construction, production, distribution etc. was generally managed by industrial guilds.

University of Takshila was famous for Medical studies. Charak - known as father of the Indian Medicine, and Sushrat had written books on medicine and Surgery.

Many of the Muslim Rulers continued the tradition of patronising able craftsmen. Sultans of Delhi had to maintain a number of workshop to meet the needs of the royal house-hold and the government departments. Feroz Shah Tuglak maintained a regular department of industries under his own personal supervision and took keen interest to get his slaves technically trained. During his reign (1351-1388) some of the workshops were converted into institutions of vocational training. This type of education, in those times, though scarce, was not altogether absent.

From the very beginning, the British pursued a policy of indifference to education in India. British Government in India was not interested to spend on education either general or vocational. The education, aimed by Britishers in India, was to provide competent clerks who can be loyal to them and was to propagate western knowledge. It was in 1854 for the first time that 'Wood Despatch' mentioned the need for Vocational Education.

Wood Despatch (1854) highlighted the need for introduction of occupational education for a sizable student population. But this report did not make any noticeable impact until **Hunter Commission** was set up in 1882 to examine the problems of education as a whole especially of technical and vocational education. It recommended that at the high school stage there ought to be two distinctive streams first for preparing the students for

entrance examination to University and the second for practical occupations. These recommendations of Hunter Commission were not implemented. Thirty year later the Calcutta University Commission recommended that " the intermediate colleges must be regarded as fulfilling a double purpose. In the first place, they must provide for training such as will qualify the students for admission to University Courses in different faculties or in other institutions of higher learning or technological training. In the second place it must provide training suitable for those students, who after completing the courses will proceed directly into various practical occupations. As the system develops we should expect to find an increasing number of students entering upon the intermediate courses solely with a view to preparing them for various practical courses.

The Hartog Committee (1929) and Sapru Committee (1934): Both emphasized the vital role of vocational education in the country's economic development. The Hartog Committee recommended diversified courses in the schools to enable students to prepare for industrial and commercial careers at the end of middle school stage, preparatory to special instructions in technical and industrial schools. The Sapru Committee recommended 11 years of schools education (5 years primary, 3 years for lower secondary and 3 years for higher secondary) with vocational studies commencing after 11 years of education. The main purpose of Sapru Committee was to find ways and means of solving unemployment problem through diversified courses at the secondary stage. But it too made little impact on the educational administration.

In 1936 Wood - Abbot Commission examined certain problems of education, specifically the vocational problems, and it was on the basis of this report that a network of polytechnics was created in the country. The duration of polytechnic courses was two to three years depending upon the courses offered in such institutions. These courses were offered in Engineering or Technical Schools.

Again in 1936, Gandhiji established the idea of 'Nai Taleem'. It was based on the theory that it was the activity of the 'thinking hand' which had more than anything else guided the evolution of man and society and therefore the whole education of man can be imparted through the medium of a basic handicrafts. This idea was implemented after independence, according to Mudaliar Commission recommendations in the form of Multi-purpose schools.

The Sargent Report (1944) re-stated more or less what the Sapru Committee had recommended. It further recommended that the first year of the intermediate should be transferred to the high school and the second year to the university and also to introduce two streams- (a) academic and (b) technical with the objective "to provide good all-round education combined with some preparation in the later stages for careers which pupils will pursue on leaving the schools."

Radha Krishan Commission (1948) recommended that in order to direct the students to vocations at the end of Class Xth, a large

number of intermediate colleges should be opened. "The aim of these colleges would be to meet a variety of needs of our young men and women by giving vocational basis to their courses by retaining at the same time their value in a system of general education as preparation for university courses". Here again the stress was on preparation for higher studies rather than making some of them terminal.

The Mudaliar Committee (1952) re-iterated that "The secondary education is a complete unit and not merely a preparatory stage, that at the end of this period the student should be in a position, if he wished to enter into responsibilities of life and take up some vocations." It also resulted in the creation of multi-purpose schools. Unfortunately, for various reasons including lack of proper appreciation of the scheme, inadequate preparation in terms of infrastructure and teaching staff and over-emphasis on preparation for university courses, the multi purpose schools were reduced to shadows of what were intended to develop.

Again in 1955, The All India Council of Technical Education was set up to advise the Union Government on all aspects of technical education at the diploma as well as degree levels. It was about the same time that a net work of industrial Training Institutes was started to train the base level industrial workers . To bridge the gap between the I.I.Ts and polytechnics, Junior or technical schools were started with a view to continuing education with technical training for certain types of operational jobs in industries. This scheme also gradually suffered neglect and at present only 200 schools are in existence.

Some basic academic consideration again compelled the government to appoint the Education Commission of 1964 under the Chairmanship of Dr. D.S. Kothari to re-examine the entire educational system of the country keeping in view the national goals, improvement of quality and standard of education. The Kothari Commission considered the undesirable effects of uncontrolled admission to the universities on the one hand and the resulting un-employment problem of the graduates on the other. It came to the firm conclusion that for majority of the occupations which university graduates seek, the university degrees are not necessary and those jobs can be competently performed by well trained higher secondary students. Therefore, the Commission suggested that at the higher secondary stage, there need to be two distinctive streams, one preparing students for advanced education in Universities and professional colleges, and the other preparing for a variety of occupations immediately after completion of vocational studied which fit them to those vocations. In keeping with this recommendation, the commission suggested that for college preparatory general education courses the duration may be two years and the duration of studies and training for the vocational stream may range from one to three years or more, Given the proper planning co-operation, co-ordination and implementation of the scheme, the commission felt, it should be possible to divert at least 50 percent of the students who successfully complete 10 years education to the vocational stream thus reducing the pressure on the universities on the one hand and preparing the students for employment including the self-employment on the other. For a majority of vocational higher secondary students

it would be a terminal stage in the sense although further educational facilities should be made available on a large scale so that those in jobs may benefit through part time or evening studies.

The National Policy of Education Resolution (1968) agrees with these recommendation of the Education Commission on Vocational Education .To quote:

"There is need to increase facilities for technical and Vocational education at secondary stage, provisions of facilities for secondary and vocational education should conform particularly to requirements of the developing economy and real employment opportunities. Such linkage is necessary to make technical and vocational education at the secondary stage effectively terminal. The facilities for the technical and vocational education should be suitably diversified to cover a large number of fields such as agriculture, industry, trade and commerce, medicine and public health, home management, arts and crafts and secretarial training."

The Central Advisory Board of Education: which is the highest body concerned with education policy in the country, has also been exercised about this problem. While deliberating at 37th session held in Nov.1974, the Board observed that the amount of Rs.10 Crores, provided in the draft-central plan for the introduction of vocational courses at the higher secondary stage, was inadequate and recommended that the provision should be substantially increased. The Board also observed that the new courses should be started after taking into account the existing facili-

ties to meet the demand for middle level persons in the concerned district/states. They also suggested that the N.C.E.R.T. may work out model curricula and syllabus for such courses and provide guidelines to the state government.

C.A.B.E. at its 38th session held in November 1975, while noting with satisfaction the adoption of the educational pattern of 10+2+3 by most of the state Governments, deemed it necessary to stress the crucial importance of the 2 years stage between the school and university stages of education. It re-iterated that this stage should be regarded not merely as college preparatory but as a period for preparing an increasingly larger number of school leavers for different vocations in life. The Board was also of the view that guidance and financial assistance by Central Government would enable state governments to take quick and effective action in this direction and recommended the same.

The Conference of Ministers of Education of the States and Union Territory held at New Delhi in August 1977 recommended that the new pattern (10+2) be implemented all over the country before the end of Sixth plan. It also urged organisation of higher secondary education, especially its Vocationalisation, by providing for suitable internal restructuring and modification of content and by development departments such as industry, and commerce, agriculture, health and community development.

In 1976, a National document entitled 'Higher Secondary Education and Its Vocationalisation' was presented to the country by NCERT setting out a model scheme for implementation. It was

hoped that the document would provide a practical guide to the state in restructuring their higher secondary education. Meanwhile, the Government of India appointed a Review Committee under the Chairmanship of Dr. Malcom Adiseshiah to re-examine the recommendations of the National Document. In its recommendations, the committee confirmed the main recommendations of the National Document that vocationalisation should be the main feature of the future system of education at the higher secondary stage, where in a sizable proportion of students should be diverted to vocational studies.

As a result of these recommendations West Bengal, Karnataka, Gujrat, Tamil Nadu, Andhra Pradesh and Maharashtra and Union Territory of Delhi and Pondicherry implemented the scheme of vocationalisation in 1977.

CONCLUSION:

It is observed from the above discussions that vocational education was prevalent in Ancient India. Society was divided according to occupations and trades. However learning and teaching of Vedas was given more importance and respect as compared to other occupations. Consequently progress of vocations was impaired. In India systematic education of Vocational education was recommended for the first time in 1854 by Wood Despatch. However the scheme was not implemented and it remained on paper only. Teaching of vocational education was formally started in 1936 by opening Polytechnics. In the same year, Gandhiji recommended that crafts and arts should form part of basic education. It was only in the year 1952, after independence that this scheme

of Gandhiji was implemented. Unfortunately this did prove to be successful. In 1964, Education Commission recommended vocationalisation of Education which was accepted four years later in national education policy and implemented in 1977.

Thus we see that

- a) In India, Education has been neglected for a long time.
- b) Progress of education has been rather slow. It took more than 80 years for the principles of Wood Despatch to materialize.
- c) School Curriculum was mainly confined to general education. It is only since the year 1952 that vocational education has got some place in the school curriculum.
- d) Efforts to combine general education with vocational education to be taught jointly under formal school set up have been made only since the year 1977.

4. DIFFERENT MODES OF VOCATIONAL EDUCATION I

Vocational Education has been evolving along different paths in different parts of the world. One can discern three distinct models of imparting vocational education. Systems prevalent in different countries are based essentially on one or the other combination of these.

MODEL 1 : The most ancient form of acquiring vocational skills is based on apprenticeship. The method of passing on occupational skills from father to son was the oldest, simplest and an informal variant of the present model of vocational instruction. But after the advent of industrial revolution and with the increase and diversification of the skills required, this got formalised

in the form of 'on the job training' imparted to prospective skilled workers by the more experienced and senior workers in business, firms and other productive establishments. The distinctive features of this form of vocational education is that it is based essentially on imparting intensive and specialised practical training in some specific skill, usually, though not necessarily, of a manual kind. No formal instruction in any theoretical basis, underlying the technology requiring that skill or regarding the social environment in which the skill would be used, is imparted. The essential method is that of observing, followed by practicing what is observed or imbibed by the apprentice from his more experienced seniors.

MODEL II. The second approach to vocational education centers around separate schools or technical institutions devoted specifically for imparting vocational instruction. These institutions have workshops attached to them in which the knowledge and art of actual performance of skills is imparted.

The above two models of vocational education are not mutually exclusive. Quite often apprentices attached to firms are given facilities to attend technical institutes. On the other side vocational education in a technical school does not exclude 'on the job' training in a firm or in other working environments, which is generally organised in vocations or in a block of time set apart for this purpose. It is not uncommon to find a blend of these two models in the form of staff training schools set up by large concerns to equip adequately their prospective employers in

the skills and functions they would be called upon to perform in their future career.

Basic difference between the two models is that the second model is not devoted merely to transmission of competence in skills (though that is an important and basic objective), it is backed by some theoretical instruction needed to understand the technology and environment for which the skills are being imparted. The magnitude of this component generally depends upon the stage and age group of students for which a particular act of vocational courses is meant and the level of manpower for which the vocational courses are meant to be terminal education.

MODEL III: In contrast to the two models discussed above, we have third model which was generated in the U.S.A. In both above models, vocational instruction and training is supposed to be imparted separately from general education, be it in the form of apprenticeship or in vocational schools. Secondary schools for general education concern themselves primarily with basic academic subjects while the vocational schools devote themselves primarily to prepare their students for skills required on various occupations in the world of work.

The approach underlying this model stems from the philosophy that vocational education should concern itself with the broadest possible knowledge about occupations and not merely about training in specific and narrow skills associated with different occupations. To put it in the words of one of the educational expert in this area : " Function of vocational education at

the secondary levelshould be related to what an occupational area is all about rather than all about an occupational area. Our concern for entry, employment should not be with skills for a specific job, but skills that can be generalised to a life style. "

Vocational Education provided only in the form of training for narrow skills after the students leave schools stage, is not considered to be adequate for meeting the needs of a technologically fast advancing society. The preparation of an individual for initial entry employment and the base for a mere specialised 'on the job' training in skills, it is felt must be laid in vocational courses at the general secondary school education level.

CONCLUSION : It can be concluded that three types of Models emerge from the Study of history of Vocational Education so far. Model I is oldest where skills are learned in actual work place by the professionals. Model II is of recent origin where skills are taught in a Special Vocational School in a attached labor workshop. Model III is the latest where vocational training is provided in general academic schools along with general education.

5. EXISTING PATTERNS OF VOCATIONAL EDUCATION :

Having had a broad look at the main types of vocational education system, the researcher will now examine the existing patter of vocational education in India with special reference to

Union Territory of Delhi.

Growth of vocational education in India is basically a post independence phenomenon and has primarily centered around Model II. This is a system based on separate institutions of various types for imparting vocational and technological instruction. Since 1961, Model I has also been in operation. Its foundations were laid in 1961 when apprenticeship training by establishments above a certain size, both in the public and private sectors was made obligatory under law through enactment of the Apprenticeship Act. Vocational courses, based on Model III started in higher secondary schools in 1977. Thus the system of vocational education in India is of mixed type though predominately based on Model II.

Types of institution: There are various types of institutions of vocational education in India. The researcher will try to analyse all the institutions with reference to their philosophy, number, course structure, teacher preparation, management etc.

(i) Technical Institutes (Polytechnics) As per UNESCO document of 1962, "The term Technician applies to persons working in occupations requiring a knowledge of technology and related science between that of a skilled worker and that of an engineer or technologist. Occupations at technicians' level may call for inspection and maintenance, detailed development plans, supervision of production work, detail construction. Collaboration with the engineer is an essential part of the work of the technician."

In India technicians are educated and trained in polytechnics. At the time of independence, there were 53 polytechnics in

the country whereas today there are more than 340 polytechnics out of which 39 are exclusively for women.

The technician diploma courses range in duration from 2 years to 4 years; 3 years being the most common. The entry qualification is 10 years of schooling. At the national level all India Council for technical education is responsible for this education. Teachers for polytechnics are trained in four Technical Teachers training Institutes (TTTIs). Institute of Applied Manpower Research conducts surveys to estimate manpower needs of the country in near future. Some efforts have been made to provide for vertical advancement of personnel from one level of technical education to the next higher one. Employment Exchanges help applicants and youth in planning their courses.

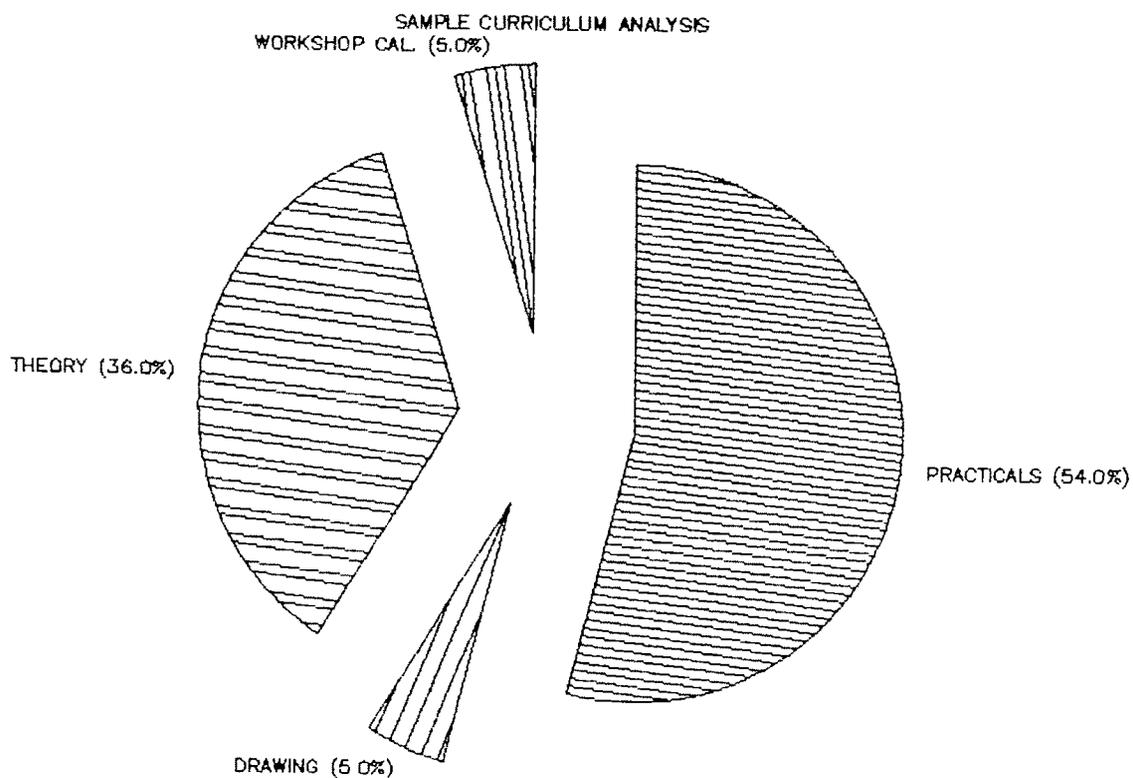
Curriculum of technicians' education programme has the following components :-

(1) Language	5%
(2) Basic Science	10%
(3) Applied Science	10%
(4) Technical Skills	15%
(5) Specialisation	50%
(6) Humanities & Management	10%

A List of institutions and courses offered therein is in Annexure No. VIII.

(ii) Industrial Training Institutes (ITIs) : These institutions train crafts men/skilled workers. Today, there are 439 government

POLYTECHNIC'S CURRICULUM



I.T.Is spread all over India. They are permanently affiliated to the National Council for Vocational Training (NCVT) and have an annual intake capacity of over ... lakhs. They train skilled workers in 32 Engineering and 24 non-engineering trades. In recent years 175 more Government I.T.Is have been given provisional affiliation to the NCVT. In addition, there are 356 private I.T.Is, most of which are provisionally affiliate to NCVT.

The non-engineering trades are usually of one year duration. Certain Engineering trades are of 2 years duration and some of one year duration. The educational qualifications for admission to these trades/courses varies from two classes below matriculation (i.e. Class 8 pass) to a pass in matriculation or equivalent.

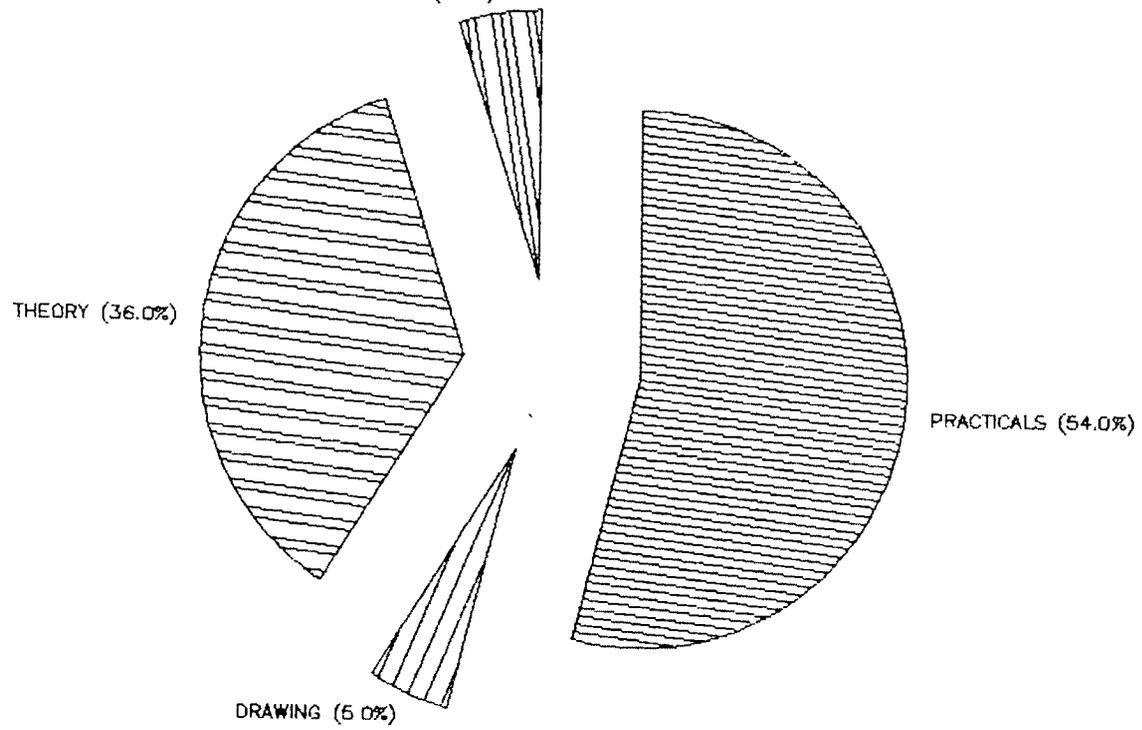
Six Central Training Institutes have been established for instructors of I.T.Is.

The objectives of the craftsmen training courses are :-

- (1) To ensure a steady flow of skilled workers in different trades of industry.
- (2) To raise the quality and quantity of industrial production by systematic training of workers.
- (3) To reduce un-employment among the educated youth by equipping them for suitable industrial employment.

COMPONENTS OF CURRICULAM

INDUSTRIAL TRAINING INSTITUTES
WORKSHOP CAL (5.0%)



Curriculum component of ITI courses is given below.

Practicals	54
Theory	36
Drawing	05
Workshop Calculation & Science.	05

A sample list of institutions and courses offered in the Union Territory of Delhi, is given in Annexure - IX.

(iii) Apprenticeship Training Scheme : Under the Apprenticeship Act 1961, it is obligatory on all employers in the specified industries to engage apprentices as per the prescribed ratio in the designed trades. The 136 trades, designed under the Act, follow the National Classification of Occupations and cover 217 industries. Ratio of apprentice to workers have been fixed for each trade. The period of apprenticeship training ranges from 6 months to four years according to the skill requirement of the trade, 3 years being the most common. The entry qualification ranges from 5 years to 11 years of schooling, depending upon the trade. The industry is responsible for planning and executing the training programmes for the apprentices. The training consists of basic education followed by on the job or shop floor training in related occupation. About 1,23,000 trade apprentices are undergoing training in 15,230 Industrial Establishments. In 1973, the Apprenticeship Act was amended to cover graduate engineers and technician diploma holder also. So far about 71 subject fields in engineering/technology have been designated and at present about 12,300 graduate/technician apprentices are undergoing training.

(iv) Advance Vocational Training System (AVTS) : This project,

introduced in 1977 in 16 selected ITIs and 6 CTIs, envisages training of highly skilled workers and technicians in a variety of advanced and sophisticated skills such as process control, instrumentation, metrology and inspection, tool design, heat treatment etc., which are not available under the craftsmen and apprenticeship training programmes. This is a step further towards the completion of a comprehensive and integrated pattern of training for industry.

(v) Vocational Training Programme for Women : Although the programme for training in ITIs and in industrial establishment are for men and women, the latter are usually do not fully utilise these opportunities for various reasons. With a view to providing special facilities to girls for vocational training, a chain of training institutions exclusively for women has been set up recently at National, Regional and State level. These institutions train girls in dress-making, needle-work, hosiery, secretarial practice etc.

(vi) Vocational Training for the Handicapped : Training programmes for the handicapped and mentally retarded persons are administered by a large number of Government agencies, private charitable societies and trusts. The Ministry of Labour - Government of India is running 10 Vocational Rehabilitation Centers. These centers evaluate the deaf and dumb, the blind and the orthopaedically handicapped persons to assess their fitness and residual abilities, Adjustment training is then provided. Efforts are made to help them in the getting on the job training or self employment. The ministry of Defence has established a number of

rehabilitation units and training centers for the disabled persons from the Armed Forces. The Department of Social Welfare at the Center and in the States have a number of special institutes to rehabilitate the physically and mentally handicapped children.

(vii) Schools with Vocational Stream : India has recently introduced some major structural and functional changes in the pattern of school education in order to make it an effective instrument of National Development and Social Change. Under the present 10 + 2 National Pattern of School Education, the first 10 years are devoted to general education, with a good social learning. The main purpose is to develop proper attitudes towards work, indicate dignity of labour, banish status and class distinction and to stress the principle of productivity. The scheme enables the children to take care of simple functions such as repair and maintenance of domestic appliances and vehicles, care of garments, raising vegetables, rendering social services etc. These are not only productive but in a sense also inspires self confidence and self dependence among children. They may also gain some special proficiency in a particular skill.

At the plus-2, higher secondary stage of school education two distinct stream of courses are offered; one is the academic stream to prepare them for higher education in universities etc. and the other is the vocational, stream to prepare them for a variety of occupations through vocational studies and training list of schools of offering Vocational stream in Delhi is Annexure 10.

CONCLUSION : Vocational Education in India is based on all the

three models discussed earlier.

Model I Apprenticeship :- Under this, we have apprenticeship scheme which is compulsory for every vocational graduate.

Model II covers Polytechnics, I.T.Is, Vocational Schools for handicapped, Vocational training Programmes for women, and Advance Vocational Training Programme.

Vocationalisation of Education : As a distinct stream has been started in India and it is the major focus of the present study. It is based on Model III.

6. VOCATIONAL EDUCATION IN OTHER COUNTRIES :

Agreeing that the Vocational education should be designed on a broader range of basic skills instead of confining to a few specialized skills, many European countries are working on grouping of skills or job-families, in order to enable individuals to adapt themselves to jobs with similar technical contents. Competency based education is being advocated as an alternative to specific skills in order to prepare individuals for transferable skills so that he can apply the same under differing environmental conditions. Adaptability to new work contents is considered as an explicit learning objective since this is more important than skill for entering a new job. These new learning objectives entail a change of focus for vocational education and will save individuals from 'strenuous and restraining procedure whenever a change occurs in the work environment.' Most advanced countries are now engaged in new directions and working out integrated

systems of education with a view to offer coherent sequences of opportunities for all, starting with basic education and continuing through life-long education.

Since more sophisticated and labour saving technologies are spreading to many human endeavours and apply to a large range of activities, both vocational as well as social, technology may be considered as a cultural background for education. Opportunities for technological education should therefore be provided in all the sequences of the educational systems and not be limited to vocational or professional courses only, so as to enable people to move easily in and out of different occupations, educational institutions and labour markets. This implies linking up of separate systems of education and training and considering vocational, technical, general and further education as a part of an integrated system.

Structural changes are now taking place in most of the countries, since education is being considered a major priority in the rising economic and technological competition between countries. More countries are adopting a 10 year general basic education which may now be considered as a first step for life long competency based education. Basic preparations for WORKING LIFE should be included in schools' curriculum as compulsory education and improved with the develop of functional competencies, that is, capacity to apply knowledge to real life-situations, besides academic knowledge.

Initial Vocational Education is being shifted into secondary

schools in some of the countries, whereas some first year vocational training is being shifted from enterprises into vocational institution. In others, while schools are providing for broader education and better preparation for work, employers are encouraged to consider the development of human resources as a major investment for the application of new technologies and to take their share of responsibility in designing high quality work and career patterns, as well as in providing training for a specific job related skills.

Now learning technologies are helping Vocational Education to re-organise and to fit into a life long education process.

In the United Kingdom, vocational education was the sole responsibility of employers. until the INDUSTRIAL TRAINING ACT of 1964 gave impetus to expand further education and provide for part time general technological education along with enterprise from three to five years, apprentices may be given leave by their employers to follow weakly courses or full time sessions in a college of further education managed by local educational authorities. Twenty four Industrial Training Boards corresponding to industrial sectors with consortia of employers, unions and educational authorities were created to help employers develop their training programmes. They were also responsible for sharing levies and subsidies. In 1973, The Employment Training Act added State Responsibility by setting up a Manpower Services Commission on a similar tripartite basis. The commission is responsible for strengthening co-operation between education systems and training services in non-industrial as well as in industrial sectors.

Since the Vocational Training Act of 1969, Vocational Education in **Federal Republic of Germany** has become a public responsibility on the same lines as general education. The development of Vocational Education which was formerly Industry's responsibility has become consonant with the reforms being introduced in the schools. The same vocational, political and pedagogic principles are applicable to students, apprentices and trainees alike, This implies new orientation for vocational education and co-ordination between firms and vocational schools. Co-ordination is ensured by the Federal Training Committee with representatives of employers, unions and regions and by Vocational Training Committees whose membership includes Vocational School teacher. The schools works as a dual system. In addition to the teaching the trainees receive a three years training contract with a particular firm and a certificate at the end of their contract. Most of the training given in the firm is in industrial, trade or craft skills along with part time education in a local or regional vocational school. Part time education ranges from one day a week in most industrial trades to two days a week in some trades.

Originally a training contract would give a trainee a fair chance of being employed after completion of training by the firm where training was undertaken. Subsequently employment opportunities became scarce. With recession and unemployment, training places began to outnumber job opportunities. In order to escape narrow specialisation inherent in the above system, public authorities are now introducing a year of basic vocational education in schools to enable a trainee to become familiar with a wide range of trades (seven or eight) during their first year of

training and to adopt to a broad range of jobs.

In **France**, two different systems are prevalent :-

- (a) Apprenticeship under contract with an employer, and
- (b) Full time vocational education in schools.

Apprenticeship under the Astier Law of 1919 provides for compulsory Vocational Education Courses for apprentices under contract, Since 1971 apprentices receive part time general and technological education as Apprenticeship Centers. Apprentices are hired under a Special Worker's Contract and employers have to provide for gradual training on the job. In 1959, full time vocational education was integrated in the general education system. Colleges for vocational education have subsequently changed to Vocational High Schools and provide vocational education for industrial as well as for trade and office skills. In 1980 students were given few period of instruction in the firm to enable them to learn practical implementation of the skill.

In the **United States**, the educational philosophy, inspired initially by the work of John Dewey, had been against having specialised schools of vocational education imparting instruction and training only for specific occupational skill. Such Vocational Schools do exist, but are limited in number. In the American tradition, going back to the last decade of the nineteenth century, vocational subjects are taught in the Secondary high schools, alongwith the general education. The foundation of the present system were laid in the Smitt-Hughes Act of 1917 which provided for Federal aid to vocational education in the secondary

schools.

The approach underlying this model stems from the philosophy that vocational education should concern itself with the broadest possible knowledge about occupations and not merely about training in specific and narrow skills associated with different occupations. Given this view of vocational education, it has been felt that this type of orientation to the American Society can be better imparted within a set up of Secondary Schools in which vocational courses are also taught side by side with general education. Vocational education which was provided only in the form of training for narrow skills after the students leave school stage, is not considered to be adequate for meeting the needs of a technology in a fast advancing society. The preparation of an individual of initial entry employment and the base for a more specialised on-the-job training in skills, it is felt, must be laid in vocational courses at the general secondary school education level. It is for this reason that the school leaving age of students of secondary schools in America, at about 17-18 years, has been comparatively higher than in many other countries.

In USSR, Vocational and general secondary schools are complementary components on an integrated system of education, while general education gives only secondary education, the vocational school in addition to secondary education equip these students with adequate proficiency in a trade.

Another very significant feature of vocational education in the U.S.S.R. is that the vocational schools are clearly connected

with the industries. Each institution is run in close co-operation with base enterprise i.e. Railways, metro, farms etc. During the period of Industrial practice, base enterprise provides the students with working cloth and food. The system of vocational training in the USSR is a component part of public education comprising 3 independent elements. Institutions of general education and pre-school establishments which come under the Ministry of Public Education of the USSR and the ministries of public Education of Republics; higher and specialised secondary educational establishments which come under Ministry of Higher and specialised Secondary Education of USSR for vocational training which has over all authority over the vocational training in various types of vocational schools.

CONCLUSION : The aforesaid discussion show that most of the other countries believe in grouping of skills. Education is considered to be comprehensive programme consisting of vocational, technical, general and further education. In England, vocational education was under the employment themselves. It was in the year 1973 that to strengthen co-operation between education and training, a man power commission was set up. In Germany, one year in school is devoted to vocational education, after which one can choose one's field and get the training in that trade or industry. In France, vocational education is provided in both the manners i.e. through apprenticeship and also through schools. In America, vocational education is combined with general education in schools. However, there are a few schools exclusively meant for vocational training in America. While in Russia general education and vocational education is closely associated with

actual industry. It can be said that like India, other countries are also have 10 years of basic general education but in most of countries, unlike India, vocational education is part and parcel of general education and is closely associated with Industries. This purpose of the Vocational education is yet to be achieved in India.