CHAPTER II

THEORETICAL VIEWS
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MEANING AND NATURE OF VOCATIONALISATION OF EDUCATION

The present chapter contains theoretical views relating to Meaning and Nature of Vocationalisation of Education, Vocational Education Stream, Vocational Maturity, Job-satisfaction, Follow-up, Evaluation, Methods of Evaluation, Vocational Education in the World, Vocational Education in India, Present Status of Vocational Education and Vocational Education in Chandigarh.

Vocationalisation of Education at the plus two stage is the Corner stone of the new system of education. Vocationalisation means training in a particular vocation at the school stage. Secondary and the Higher Secondary on this vocational training may be of the terminal stage. In the second sense, vocationalization means training in some vocation at the higher secondary stage along with general education.

In this connection, the Indian Education Commission (1964-66) has observed, "We visualise the future trend of school education to be towards a fruitful mingling of general and vocational education, general education containing some elements of pre-vocational and technical education and vocational education in them, having an elements of general education."

The Federal Board for Vocational Education (1917) in U.S.A. defined Vocational Education, "the extent that it is subsidized by the Federal Government under the Smith Hughes Act, vocational training must be vocational training for the common wage earning employments. It may be given to boys and girls who, having selected a vocation, desire preparation for entering it, to boys and girls who having already taken up a wage earning employment, seek greater efficiency in that employment, or to wage earners established in their trade or occupation, who wish through increase in their efficiency and wage earning capacity to advance to positions of responsibility."
Hill (1922) stated that "Vocational Education is a phase of education wherein emphasis is laid on preparation and participation in occupations of social value. It means are both within and outside the school."

The President's Advisory Committee on Education in its report (1938) defined vocational education in the following words: "Vocational education is a very inclusive term and, viewed broadly, may cover all those experiences whereby an individual learns to carry on successfully any useful occupation. These experiences may be organized and institutionalized or unorganized and more or less haphazard. In a narrower sense, vocational education may be defined as a series of controlled and organized experiences arranged to prepare a person for socially useful employment."

The Committee on Research and publications of the American Vocational Association (1954) stated that vocational education is "designed to develop skills, abilities, understandings works habits and appreciations encompassing knowledge and information needed by workers to enter and make progress in employment on a useful and productive basis. It is an integral part of the total education programme and contributes towards the development of good citizen by developing their physical, social, civic, cultural and economic competencies."

At present, Modern India is on the way of Industrialisation, Vocationalisation perhaps is a ground for efficient workers for the fast developing country and on the other hand develops dignity of labour in the students. In vocationisation, particularly at the +2 stage the important aim is to change the educational system from the one which was oriented to knowledge's sake and clerkdom in a colonial administration to a process which specifically prepares children for a wide range or avenues in work life. The goal is not that of testing specific manpower planning needs. It is rather to orientate pupils to a range of work areas in
technical, commercial, agricultural, pre-primary teaching, home-management, para-medical and other areas to determine the range in response to local employment needs.

Recently, Shivarudrappa (1988) presented different concepts regarding vocational education.

The first concept implies that any type of education or training in which a worker participates is vocational education. It, doubtless, had its origin in early apprenticeship programmes in which all educational activities, both general and vocational, were under the supervision of the master craftsman and were included in the apprenticeship programme. Individuals who hold this concept are included to be critical of pre-employment courses and to suggest that the cost of vocational education should be paid by industry and business. The second concept had its origin in the 19th century school for underprivileged children and has resulted in the present-day practice of placing mentally and socially handicapped students in vocational courses without regard to the learner's interest or ability. The concept that practical art is vocational education, emphasizes the importance of the idea of the transfer of training by suggesting that one or two basic courses will provide the needed competencies in vocational education. This point of view had its origin in the manual training movement. Another concept is that of education for production in which vocational education is in contrast with liberal education. Vocational education is designed to make a person an efficient consumer. Other concepts of vocational education involve the use of such words as utility and practicality in which vocational education is confined within narrow limits to subject matter looked upon with less favour than that of a cultural nature.

Another concept suggests that a specified course or curriculum may be vocational to one and non-vocational to another enrolled in the same course, depending upon the purpose for which each is enrolled. This concept implies that a person to be properly
enrolled in vocational education, should have made a choice of a socially useful vocation and
be making a conscious effort to prepare for or improve in the vocation of his choice.

**Vocational Education Stream**

Vocational stream is often terminal. The vocational stream enables the
students to become more employment worthy, when they leave higher secondary school. The
vocational education stream at +2 rests on the truth that while general education cannot
produce jobs, vocationalised education makes it more likely for an individual to get a job or to
be his own master by either starting new productive activity or a service which may satisfy a
felt need of the community. By broadening the educational horizon of the individual it enables
him to reach higher levels of achievement through self-learning.

Singh (1976), in his articles on "Some clarification on vocation scheme"
clarifies that the vocational education would provide ample opportunity to a child to pursue
her inclination and still not loose the chances of attending a college. Singh points out that the
vocational education at +2 stage is to help the students become self-employment ladder. It is
also a meaningful terminal stage for those who would not go beyond the +2 and would like
either to get gainfully employed or enter self-employment.

Roy (1978), revealed that there was an increase in the mean vocational
development index with increase in educational status.

Evans (1986), concluded that vocational training in the United States involve
five areas-Secondary schools, post-secondary schools, proprietary schools, formal
apprenticeships and employee training programmes. Course areas divide into type of
institutions, race and sex. Females are represented most in office and health occupations.
Males are over-represented in agriculture, technical trades and industrial occupation training
programmes.
Schneider et al (1987), indicated that Massachusetts Vocational high schools are highly successful in preparing their students in labor force. The majority made a successful transition to the Job market and earn competitive wages. On the whole, both employee and graduates expressed positive opinion about vocational education.

Douglas (1988), revealed that groups surveyed in the Huntsville city school district held a favourable image of vocational education.

Miller (1990), revealed that vocational education must be included in order to implement programmes under new legislative guidelines concerning effective school programmes.

Vocational maturity

Vocational maturity is to be used as the goal of vocationalization and if a system approached to achieving it is to be mounted, measures of vocational maturity are needed in order (1) to assess pupil readiness to make educational and vocational decisions or to participate in particular types of vocational development experiences, (2) to serve as diagnostic instruments for determining treatment and (3) to evaluate the degree to which the strategies for aiding vocationalization are accomplishing their objectives (Westbrook and Cunningham (1970)).

In order to attain different aspects of vocational maturity, students need a comprehensive body of information which links what they are doing educationally at particular points in time to future options they will have in both education and work. They need to know what curricula will be available to them? What factors distinguish one curriculum from another? What components make up separate curricular pathways? What personal factors are relevant to success in different curricula? And how the various curricula are linked to different fields and level responsibilities in the occupational world? They need to be able to
assess these elements of the self, incorporate their meaning into self-concept, and relate this self-information to the choices and which they will be confronted with.

Baldwin (1955), identified three basic characteristics of vocationally mature behavior, i.e., cognition, selection and goal directed behavior.

Ginzberg et al. (1957), opined that a vocationally mature person progressively narrows down the alternatives available to him for vocational choice. The individual's readiness to choose, prepare and plan for future vocation could also be termed as vocational maturity with an objective index of whether an individual has grown vocationally mature or not.

Crites (1961), described vocational maturity as consisting of five specific parts: An adolescent's (a) involvement in the process of vocational choice; b) orientation towards the problem of vocational choice; c) independence in decision making; d) preferences for factors in vocational choice and e) conception of vocational choice.

Laskin (1979), supports Erikson's theory that individuals who are more successful in resolving the identity crisis are more successful in coping with age-appropriate career decisions and developmental tasks.

Genrt (1990), suggested that the primary influencing agent in making career programme choice is the individual himself/herself. Exploration of various vocational opportunities helps the students in the decision making process.

Job-Satisfaction

Job-Satisfaction refers to the satisfaction of a worker in his work. It is a source of satisfaction of biological physical and social needs of an individual in his work which occupies an important place in the life of a person.

The term 'Job-satisfaction' lacks adequate definition (Herzberg et al., 1957) as well as a satisfactory theory about its meaning (Evans, 1969; Locke, 1969; Schwab and
cummings, 1970). The differences in a broad spectrum of views seem to be caused by (i) the varied nature of jobs that individuals perform (ii) the attempts to conceptualize job satisfaction in a variety of ways by different disciplines like psychology, sociology, education, and management, and (iii) the variety of methods employed by various researchers to study Job Satisfaction.

Hoppock (1935), defined Job satisfaction as "any combination of psychological, physiological and environmental circumstances that cause a person truthfully to say "I am satisfied with my job."

Uroom (1964), concluded that there are two types of conditions-economic and motivational, under which people work. Stating why people work, he has listed five properties of work roles - (1) financial remuneration (2) expenditure of energy (3) production of goods and services, (4) requirement of social interaction and (5) effecting the social status of a works. It is thus, evident that work provides many sources of satisfaction.

Rohila (1966), classified the factors affecting Job satisfaction into two parts. Factors like the physical situation, social situation, organization and occupational status are called 'Job variables' and the biographical, psychological factors are the 'person variables'. He has quoted a number of research studies to show that variables like sex, age, level of education, vocational interests, and vocational adjustment are associated with the job satisfaction of a person.

Smith (1955), suggests that Job satisfaction is the "employee's Judgement of how well his Job on the whole is satisfying his various needs."

Lofquist and Davis (1969), stated that "Job satisfaction is the individual's assessment of the degree and fulfillment of the requirement by the work environment".

Schultz (1973), too referred to Job satisfaction" as a set of attitudes that employees have about their Jobs" and describes it as the psychological dispositions of people
toward their jobs and how they feel about the work. This involves a collection of numerous attitudes or feelings.

Katzell (1980), conceptualized job satisfaction as "an employee's own evaluation of his or her job in terms of supervision, co-workers, pay, promotions and the work itself. This evaluation is actually a comparison between the employee's expectations about these job-related factors and his or her actual experiences on the job."

Job-satisfaction of an individual is significantly related to his salary. Olson's (1975) study showed a significant positive relationship between salary and job satisfaction. Goodwin (1978) revealed that most groups perceived salary to be an important factor affecting job satisfaction.

Education is another factor affecting job satisfaction. Bowling (1974) confirmed that education was positively related to job satisfaction.

**Follow-up**

Follow-up is a technique which helps in evaluating the benefits of educational programme after the completion of the course. It is concerned with what happens to pupils when they have left the school i.e., whether these vocational courses are beneficial for their further placements in the job or not.

Brewster and Zeran (1943), indicated that Follow-up activities, according to modern practice, involve acquiring a specific set of facts about every person who leaves school. One set of facts reveal the jobs which have been obtained, as well as the data about wages, further training, promotion, and similar items. The accumulation of these facts helps to give an occupational picture, both accurate and detailed, of the local community. The second set of facts is evaluative in nature. A study of the returns from properly devised questions should reveal how well the vocational courses have functioned, in the after-school life of the student. In fact, probably only through follow-up studies this kind of data can be secured.
Erickson (1947), terms follow-up as "a service intended to secure information about former pupils, and to provide continuing services for pupils after they leave school."

Roberts (1957), stated that Follow-up services are designed to help the youth make adjustments to take advantage of opportunities for advancement that may come his way. These adjustments are needed in connection with later placements, or in connection with removing causes of dissatisfaction, or for obtaining additional vocational preparation and during periods of prolonged unemployment.

Through 'follow up' investigations can be done to know the individuals who have left an institution after having completed a program, a treatment or a course of study. The study is concerned with what has happened to them and what has been the impact upon them of the institution and its program. By examining their status or seeking their opinions, one may get some idea of the adequacy or inadequacy of the institutions program (Best and Kahn (1995)).

Follow-up studies of the school leavers and their proper interpretations of the findings will help the school authorities to further improve the instructional programme. The procedure adopted are conducting surveys of the school leavers. The important tool used in follow-up is questionnaires.

Job-placement

Job-placement involves assistance in finding a suitable Job in accordance with vocational preparation, needs and interests of an individual.

Smith (1951), terms Job placement as a "process of assisting the individual to find an appropriate place in the world of work, one which appeals to his interests, challenges his abilities and which serves the interests of the individual and of the society". Robert (1957) stated that placement is a process involving (1) preparation in which the individual is conditioned for the job, (2) induction into the new situation and (3) encouragement on the
Job. This suggests that placement is not merely finding a job for an individual but is essentially an educational service concerned with making sure that youth are so placed that they will continue to develop on the job as they developed in school.

Good placement services can speed-up the matching of jobs and workers. Such services (including recruiting, testing, assessing and counselling on the basis of specific job vacancies and trained seek-workers) complete the cycle of transition from school to work (Shivarudrappa (1988)).

**Evaluation**

The term 'evaluation' as used in the present study involves judging the vocational education programme i.e., to know whether this scheme has been implemented in the school, to know the functioning of the institutions.

Hagen (1957), said that evaluation "signifies describing something in terms of selected attributes and judging the degree of acceptability or suitability of that which has been described and judged—may be any aspect of educational scene."

Knapp (1959), defined evaluation as a "comprehensive approach to understanding the changes that have taken place in the intellectual, physical, social and emotional development of children. What has happened to boys and girls through experiences provided for them in schools' environment is what is really important".

In Good's (1973), 'dictionary of education' evaluation has been defined as a process of ascertaining or judging the value or amount of something by use of standard appraisal, includes judgment in terms of internal evidence and external criteria. It is a much more comprehensive term than measurement whereas measurement has emphasized uniformity, statistical methods and external control, evaluation has emphasized both
quantitative and qualitative description of pupils' behavior plus value judgement concerning the desirability of pupil behavior.

Ruttman (1977), used the term evaluation research to describe evaluation procedure that use rigorous research methodology. To accomplish evaluation with the rigor of research usually requires that the evaluator be involved in designing the evaluation before the programme is to be evaluated and implemented.

Evaluation is concerned with the application of its findings and implies some judgement of the effectiveness, social utility, or desirability of a product, process or programme in terms of carefully defined and agreed upon objectives (Best and Kahn 1995).

Evaluation is the process which helps in finding out the strengths and weakness of the problems faced by the students, teachers and administrators.

Methods of Evaluation

Experimental Method

Experimental method is a planned attempt to study one or more groups of individuals in term of one or more variables. It generally involves (i) determination of objectives and methods of attaining these objectives, (ii) development of some ways to measure the attainment of the objectives, (iii) selection of one or more groups for experimentation, (iv) process of carrying out necessary steps for reaching the objectives and, (v) a measurement of the outcomes of experimentation.

Various research designs have been suggested (Marie et al., 1951) involving experimental control like 'after only', 'before', 'after', 'Simulated before-after' and 'before after with control groups'. 'Before-after' with control group design is regarded as the best design. It permits a check on the control group to ascertain changes that have occurred through factors other than the application of experimental variable.
Case study method

Case study method involves judging the changes that occur in an individual as a result of introducing a variable. The steps followed in this method are formation of goals appropriate to the individuals, providing counselling, collecting data on the progress towards goal and, an assessment of change in the individual that can be attributed to the procedure employed. Frey (1978) pointed out that single-case investigations are serious thoughtful processes based on systematic data collection, synthesis and, interpretation strategies. He suggested three patterns of single case methods i.e., psycho-history, case study and intensive design. Though it is much time consuming method, yet it has certain advantages. It emphasis individual and personal development.

There are three methods of evaluative designs but the present investigator has used the survey method while investigating the problem.

Survey method

Survey, as an evaluative procedure is extremely flexible and may take a number of forms. The particular type of survey will depend on the kind of information to be obtained, the types of respondents and the ability and resourcefulness of the personnel in carrying out the survey.

Evaluation of vocational education programmes and practices has commonly taken the form of survey research designed to describe systematically the present situation as a basis for making improvements. The survey research has been the most popular form of vocational education study. Since the young people in a community are likely to continue to live and work in it, the natural impulse of the educator has been to find out what employment opportunities that community offers and to base the programme upon findings. So surveys have been concerned with the number of workers in each occupational field and in each type
of job, with the opportunities for advancement, with wages and houses, with working conditions, with skills required and so on (Killer 1948).

Best (1981), describes that the survey is an important type of study. It involves a clearly defined problem and definite objectives. It requires expert and imaginative planning, careful analysis and interpretation of the data gathered and logical and skillful reporting of the findings.

Smith and Glass (1987), stated that the fundamental purpose of descriptive survey research is to describe the characteristics or variables in populations by directly examining samples.

**VOCATIONAL EDUCATION IN THE WORLD**

Based on the study by Shivarudrappa (1988), a brief account of development of vocational education in some representative countries of the world has been presented here.

**THE UNITED STATES OF AMERICA**

Vocational education was an instrument of national manpower policy in the later 1960's also and it is projected to continue to be so into the 1970's. The Vocational Education Act of 1968 is significant both for its expansion of Federal Investment and its redirection of vocational education efforts. Vocational education in U.S.A. is vast in scope and is characterized by a great variety of types of units and areas for instruction.

The first federal legislation dealing with the practical education of the industrial classes was the Morrill Act of 1862 by which colleges were endowed to 'teach such branches of learning as related to agriculture and machine arts'. An important step was taken in 1914, when the Agricultural Extension Act, also known as the Smith-Lever Act, was passed. It is provided for a programme of Cooperative extension work in agriculture and home economics. It is a valuable and extensive form of vocational education.
Vocational education at the secondary school level was considered by various groups both before and shortly after the year 1900. In 1917 the Smith Hughes Act became law and on this Act the present American vocational school system was built. In 1937 the Fitzquerald or National apprenticeship Act was passed. By 'The Man Power Development and Training Act' of 1962, short, intensive forms of training preparing for direct entry to skill employment were established. The vocational Education Act was passed in 1963. The Area Redevelopment Act of 1961 also provided for adhoc training courses in occupations which will assist the economic growth of a depressed area.

JAPAN

In Japan, vocational education is provided in the upper secondary schools, special training schools and in public vocational training institutions. In present-day Japan, secondary vocational education forms the mainstay of vocational education. Vocational courses provided at this level deal with industry, agriculture, business, fishery, nursing, music, fine arts and physical education. In 1948, the total number of courses offered was 8,462 with an enrollment of 4.40 million at the upper secondary level. Of these 3,967 were vocational courses with an enrollment of 1.48 million. In 1978, the number of students enrolled in correspondence and part-time courses was 133,000 and 171,000 respectively. One hundred and forty advanced courses were available in 1979 in 100 upper Secondary schools.

In addition to the Secondary Vocational schools there are special training schools, public vocational training institutions and social correspondence education schools which also undertake vocational education and training programmes.

UNITED KINGDOM

The ideas of intensive vocational training during school years is viewed unfavorably and nearly all training for skilled occupations takes place after school leaving or after the age of 15, where trade subjects are taught in English Technical Secondary Schools as
the medium of education and not with the object of craftsman. Apprentice training in such countries follows after schooling.

The technical level national certificate a is slightly higher than a united states associate degree. The National Certificate system has been in operation in the united kingdom for over 40 years and the programme attracts many students. The system for the training of technicians in the United Kingdom is a function of the department of further education.

DENMARK

Secondary Education begins as a rule at the end of the fifth year of school work when the pupil is eleven years old. Outside the system of instruction such as the middle school for four years, the one year real courses and the four year Gymnasium there are certain other schools designed to aid the moderately schooled average citizen in his chosen vocation or trade. Particularly important are the trade or industrial schools. They number over a hundred and fifty. The courses offered include Danish, algebra, geometry, book-keeping one or two foreign languages and a considerable variety of more specialised work in masonry, Carpentry, wood-turning, blacksmith and other trades. Probably, the most outstanding individual institution of these two groups of industrial schools is the technological institute which offers short courses for mechanics and manufacturers and also gives instruction in the use of machinery for farmers.

Schools of home keeping and domestic science have shown a rapid growth. These schools are largely attended by girls.

PHILIPPINES

A Survey of the public schools in the Philippines (1960) showed that "Each day an Eighty minute period is provided for agriculture in grade five, and a similar period for shop activities in grade six. The agricultural work in grade five is usually gardening and cultivating field crops. However, some schools also give instruction in the care of swine and
poultry. The shop activities in grade six are general in nature. They introduce the students to simple hand tools and the raw materials of the region in which the school is located. Most of the children are eleven to thirteen years of age. They learn many agricultural and shop skills, benefit from the physical activity and are provided with an outlet for their native creativity. This programme is primarily pre-vocational and an extension of work experience.

"The initial specific programme of vocational training begins at the secondary level in the trade schools, the schools of agriculture, and the fishery schools. The achievement in these schools might be considered to have three levels".

In 1969, Republic Act, 5462 was passed by the Congress of Philippines which added the youth component to the programmes of the Man-Power Development Council and gave birth to a new agency, the national Man-Power and youth Council. In 1970, the Council established 174 training centres offering 49 different courses or combining of courses. A total of 72,420 unemployed adults and out-of-school youths graduated from these courses. In 1972, the whole programme of the Council was re-structured. In 1973, there were twelve training centres located in various provinces from which 4275 trainees had graduates by 1976.

The Director-General of the National Manpower and youth Council has emphasized that every effort is to be made to ensure that the graduate makes the best use of the skill acquired by him during training. Follow-up work starts three months after the graduation to determine whether or not the graduate has been reasonably placed. The restructured Manpower Training Programme guidelines provide for the appointment of a placement officer to establish a continuing link with industry.

NEW ZEALAND

Responsibility for maintaining relationships between vocational education and employment in New Zealand rests mainly with three statutory bodies, the vocational training council (VTC), the Trades Certification Board (TCB), and the Technicians Certification
Authority (TCA) and special Committees which act through them. The Department of labour through its apprenticeship Committees also plays an important role in ensuring that vocational education keeps in touch with the needs of industry. Thirty-seven national apprenticeship Committees and two hundred and fifty seven local committees administer 30,000 apprentice contracts. The Trades certification Board sets examination standards, mounts examinations nationally sets and moderates examination papers for apprentices each year and on the basis of examination results, awards certificates to the successful candidates.

The Vocational Training Council establishes training needs and priorities, evaluates training schemes and recommends training incentives through its 26 Industrial Training Boards, and is concerned with encouraging training in enterprises from operative to management level. The Council has helped many New Zealand enterprises as both large and small, to systematize on-the-job training.

It is beyond doubt that vocational world is going to face tremendous changes in the coming years and this would necessitate changes in the profile of vocations (UNESCO, 1992).

AUSTRALIA

The changing vocational environment as it affects Australia has necessitated a period of structural adjustment and micro-economic reform in the Australian economy. The need to become international competitive and to make advantage of the globalisation of trade, requires that Australia increases the skill base of its workforce.

The federal Government has initiated a number of reforms at the national level in the area of vocational education and training which taken together are termed the 'Training Reform Agenda' (TRA). Major steps have been taken, through the strategies outlined here in the Training Reform Agenda, to develop a national system of vocational education and training which will meet the need of the Australian context more efficiently and effectively,
and respond to the changing vocational environment now and well into the next century. It is recognised that many aspects of the reform agenda are yet to be put into place. Recognition of prior learning, the teaching and assessment of vocational and generic competencies, articulation between systems of provision, and accreditation will require skillful implementation strategies.

In Australia, there is general agreement on the need for changes and the direction to these changes should take. There is now also general agreement that a staged approach is necessary and that it is desirable to have as much involvement by all interested parties in reform.

**IRAN**

Everything is changing, so does the economy and vocational world. Factors behind changes in vocational world are numerous. All these changes introduce challenges for vocational education for even in developing countries. Courses are not planned and programmed in co-ordination with the vocational needs of the economy. Indeed the world of vocation provides ongoing challenges for better and more effective education.

There has been a major effort to renovate and revitalize the country's economy since the Islamic Revolution and the end of the war with Iraq. This has brought very big changes in every aspect of country's economy as well as in vocational world. However, it was the ever growing number of students applying to enter the universities, that challenged the government to adopt a new system of education. The huge number of secondary school graduates still did not acquire minimum knowledge and skills to find a reasonable job. In a new system which is going to be implemented gradually, 10 per cent of the secondary schools in the country will introduce a new system of education known as KAR DANESH (work-knowledge). A number of flexibilities are accepted in order to make talented students more interested in choosing the system. It is anticipated that upon completion, they could more
readily find jobs. Iran has also introduced the 'Open University' and the 'Distance University' as a result of challenges to education arising from the changing vocational world.

MALAYSIA

The Technical and Vocational Education Division (TAVED) for the Ministry of Education was established in 1964 with the responsibility of promoting technical and vocational education in the country. The main function of the Division is the planning, implementation, evaluation and supervision of technical and vocational education and training in Malaysia.

Institutions of Technical and Vocational Education are Secondary Vocational Schools, Secondary Technical Schools and Polytechnics. Secondary vocational schools provide vocational education to students who have completed their lower Secondary education. Students are given a choice to enter either the vocational stream or the skills stream in forms. Secondary Vocational schools offer two-year courses in Engineering Trades, Commerce, Home Science, and Agricultural Science for the vocational stream. As at 30 June 1992 there were 8,773 students graduating from the vocational Education stream and 4,121 students graduating from the skills training stream in the country.

Secondary Technical schools are upper Secondary schools specially equipped to teach technical subjects. They cater for students who passed the lower certificate of Education Examination with good results and with an inclusion for technical subjects. Four technical courses offered by the Secondary Technical Schools are Mechanical Engineering, Civil Engineering Commerce and agriculture. As on 30 June 1992 there were a total of 5,434 students in technical schools throughout the country. As on 30 June 1992 there were a total of 13,398 students enrolled at all the polytechnics in the country.
THAILAND

The Thai economy has been able to grow during the period of the Sixth National Economics and Social Development plan (1987-1991) with a respectable degree of stability and security, providing a generally better standard of living for the people. The effects of rapid economic development has brought in several changes which are rapid growth of economics, and increase of internationalization, doubling of per capita income, greater employment opportunities for higher wages. Income disparity among different socioeconomic groups and between rural and urban areas, infrastructure bottlenecks have become more severe. Thai society has more difficulty in adjusting to the rapid economic changes. Deterioration of natural resources and the environment, the demand of workers skills and experiences now are diversified by size of industry.

VIETNAM

In Vietnam there is a demand for renovation of education so that it adapts itself to the new and changing situations. This demand stems from the open door policy and the techno-scientific progress of the country leading to socio-economic development. The unified educational system of Vietnam has 15,386 schools of general education with 12.03 million pupils, 234 vocational schools and 204 training centres with 242,000 trainees, 270 technical secondary schools with 138,000 students and 103 universities and colleges with 126,025 students 12 per cent of the population require entry into the schools annually. Vocational training is to be provided for half a million school leavers in occupations which are fast changing and diversifying.

Since 1979 agriculture in Vietnam has moved from collective to household. Some of the emerging vocations in Vietnam are repairing and operating of computers, production of rare chemical elements, petroleum processing, motorcycle repairing and tourism. Few expanding traditional trades are lacquer painting, pearl work, stone cutting,
garment making, embroidering and aquaculture. Following an open door policy the country is likely to import many foreign trades like advertisement, cooking of European and Asian dishes, garment making etc.

**VOCATIONAL EDUCATION IN INDIA**

History of vocationalisation of education in India dates back to 1854 when Wood's Dispatch highlighted occupational education for a large segment of student population. The idea of vocationalisation was conceived at a critical juncture when there was mad rush to universities for higher education and that too leading to unemployment. It led the Kothari Commission feel the dire necessity of vocational courses so as to provide for enough manpower required for technical sector.

The National Policy of Education Resolution (1968) also agreed with these recommendations of the Commission on vocational education. Provision of facilities of this technical and vocational education at 10+2 stage was emphasised so as to confirm to the needs of developing economy and to promote the real employment opportunities. These facilities should be suitably diversified to cover a large number of fields such as agriculture, industry, trade and commerce, medicine and public health, home management, art and craft, secretarial training etc.

The Central Advisory Board of Education (1975), the highest policy making body in the nation in the field of education, at its 38th meeting held in November 1975, endorsed the 10+2+3 pattern, stressing the importance of 2+ year stage after the 10 years schooling and 3+ year university education and reiterated that the stages should be regarded not merely as college preparatory but as a period for preparing an increasingly large number of school leavers for different vocations in life.

In 1976, the National Council of Education Research and Training (NCERT) document under the title of "Higher Secondary Education and its Vocationalisation" was
presented to the country setting out a model conceptual framework for implementation. The
document asserts that "vocationalization is a major transformation in education and cannot be
achieved without important structural and functional changes in the whole set up". The
document recommended many vital issues such as flexibility, in the courses, nature of courses,
admission and streaming choice of vocations, time allocation, teacher orientation etc.

The National Review Committee (1978) reviewed the NCERT document,
studied the syllabi and courses of the CBSE and a few State Boards and gave detailed
concrete recommendations for introduction of vocational courses at the higher secondary
stage.

The National Working Group on vocationalization of Education, Ministry of
Education, led by Swamy (1985) reviewed the vocational education in the country and
provided guidelines for the development of the programme. It formulated the concept of
vocationalization at different levels and recommended the linkages required among different
agencies running vocational programmes, setting up of a well knit management system, an
action plan for promotion of vocationalization in the country and liberal central financial
assistance for achievement of the target fixed.

**Vocationalization and National policy of Education (1986)**

The National policy of Education (NPE 1986) accorded a very high **priority**
to the programme of **Vocationalization of Education**. It has clearly stipulated that a
minimum of 10 percent of students at this stage should be diverted to vocational stream by
1990 and 25 percent by 1995. The National policy of Education is regarded as the
introduction of systematic, well-planned and rigorously implement programmes of vocational
education is crucial in the proposed educational reorganisation. An emphasis in vocational
education will be on development of attitudes, knowledge and skills for entrepreneurship and
self-employment.
Programme of Action (1986) on vocationalization

In spite of all the efforts, the scheme of vocationalization of education has not been yet picked up. There have been many factors responsible for the slow progress, such as, absence of a well coordinated system, unemployability of vocational pass outs, mis-match between demand and supply, reluctance in accepting the concept by the society, absence of proper provisions for professional growth and career advancement for the vocational pass outs etc. Renewed efforts are being made in many states to accelerate the progress. Urgent steps to strengthen the vocational education system is therefore, imperative.

At National level, the post secondary vocational education (vocationalization) and vocational education for out of-school population are being looked after by many organisations under different Ministries (like Agriculture, Health, Rural Development, Human Resource Development etc.) without having proper coordination and linkages. Vocational programmes cover a wide range of disciplines. These include agriculture, business and commerce, engineering and technology, health and paramedical services, science, humanities and others.

At State level, the system is still fragmented and inadequate. A few states have a full time Directorate, the others have a middle level official looking after the vocationalization programme in addition to his other responsibilities. No mechanism is available to coordinate vocational programme at district levels and to undertake activities like, district level need surveys for identification of manpower requirements, for developing need based vocational courses etc.

Keeping in view the variety of functions to be performed in planning and implementing programmes of vocational education and the scale of operations commensurate with the desired changes at post-primary, post-secondary and post-higher secondary stages, it
is necessary to organise an effective management system. Vocational Education programmes according to Programme of Action is as follows:

At the *primary* stage (Class 1 to 5) of education, socially useful productive works (SUPW)/Work experience (WE) forms an integral part of the curriculum in many states.

At the *Middle* School stage, (class 6 to 8) SUPW/WE programmes aim at developing confidence and sufficient psychomotor skills to students to enter the world of work directly or through certain occupational training courses.

At the *secondary* stage, (class ninth and tenth) the SUPW/WE programmes are viewed as a linear expansion of that for the middle stage. These activities at secondary stage are also expected to enable students to opt for vocational programmes at the +2 level with better appreciation and undertaking. A significant number of students also drop out after this stage. Hence the programme of SUPW/WE are expected to ensure to modest preparation for students before they leave the school, to enable them to choose an occupation. These programmes also need proper resources within the school.

At *higher Secondary* stage (class eleventh and twelfth) vocational courses are to be regarded not as a preparation for the college, but as a period for preparing an increasingly large number of school leavers for different vocations in life. The need for vocationalization of higher secondary education has been conceded by all, but the problems in its implementation may be appreciated by the fact that only a small percentage of students population by the fact that only a small percentage of students has been covered by vocationalization in the past nine years (1976-85). The estimated number of students seeking admission to +2 in 1985 is about 25 lakhs. Even of 10% of this population was to be diverted for vocational courses, the number should have been over 2.50 lakhs, against the present intake of 0.72 lakhs.
The country has developed over the years, a network of vocational schools, vocational institutes and polytechnics. Nearly 2 per cent to 3 per cent of the school going children enter such institutions-like Industrial Training Institutes (ITI's), Junior Technical schools etc. These institutions handle essentially full time students who meet the need of organised sector. The annual intake is of the order of 5 lakhs.

At present opportunities for students of vocational stream in +2 are almost non-existent. Hence suitable strategies are to be evolved for providing opportunities for vocational products to enter appropriate 'Tertiary level' programmes.

**Seventh Five Year plan on vocationalization (1985-90)**

Government of India, Ministry of Education has been providing all necessary guidance and financial help to the State governments in making vocationalization of education a success. Steering group on education for Seventh five year plan (1985-90) in its meeting held on February 26, 1984 has made the following important recommendations:

(I) It was stressed that secondary stage education should begin from class IX in all states.

(ii) Recommendations for improving the content and coverage of vocationalization were also made.

(iii) The need to improve the quality of teaching and qualification of teachers has been reviewed. In this content, the role of the government of India has also been emphasized especially in the areas of vocationalization of education, introduction of 10+2+3 system, introduction of SUPW, introduction of three languages formula.

Thus, vocationalization of education is an important programme in the Seventh. The Seventh five year plan can be utilised to strengthen the programmes to provide employment to youth on the one hand and at the same time to help in the national growth.
Scheme of Vocationalization of Secondary Education (1989)

Scheme of Vocationalization of Secondary Education is a centrally sponsored scheme under which assistance will be given to the State governments/UT administrations and non-government organisations for approved purposes. The main objectives of the scheme of vocationalization of secondary education are to provide diversification of educational opportunities so as to enhance individual employability, reduce the mismatch between demand and supply of skilled manpower and to provide an alternative for those pursuing higher education.

The State government/Union Territory Administration would be expected to set up vocational education wing in their Directorates of Education which would be the implementing agency for this scheme in schools. The scheme also envisages involvement of voluntary or other non-government organisations in the programme who would be given financial assistance for specific innovative projects for conducting vocational education programme.

Under the scheme, it is proposed to set up a Joint Council of Vocational Education at the national level with counterpart organisations at the state level for laying down policy guidelines, planning and co-ordination of vocational programmes conducted by different agencies/organisations. Area vocational surveys would be carried out in the districts not surveyed earlier and updated in others. Curriculum and textbooks, workbooks, curriculum guides and training manuals would be prepared for various types of vocational courses. Teacher training programmes would be organised for the full time vocational teachers. The technical support system for research development training and evaluation would be strengthened and the NCERT and its Regional colleges will design and offer a variety of pre-service and inservice programmes for teachers. The selected schools would be assisted for conducting vocational courses at the +2 stage. The role of TTTI's would be diversified to include preparation of resource materials for vocational courses and the
functions of Regional Boards of apprenticeship expanded to training include training of vocational apprentices also. SCERTs will be strengthened to cater to the needs of vocational programme. The examination and certification bodies at State and institutional levels would also be suitably strengthened.

The Joint council for vocational education (JCVE) will be an umbrella body under the Ministry of Human Resource Development which will incorporate representation from all existing vocational authorities/councils and some State governments. A Bureau of Vocational Education, will be established in the Department of Education to provide secretariat support to the JCVE particularly in regard to planning, programme development laying down guidelines and co-ordination implementation of the programme of vocational education etc.

**Vocationalisation and National policy of Education (1992)**

The introduction of systematic, well planned and rigorously implemented programmes of vocational education is crucial in the proposed educational reorganisation. These elements are meant to develop a healthy attitude amongst students towards work and life, to enhance individual employability, to reduce the mis-match between the demand and supply of skilled manpower, and to provide an alternative for those intending to pursue higher education with particular interest or purpose. Efforts would be made to provide children at the higher Secondary level with generic vocational courses which cut across several occupational fields and which are not occupation specific.

Vocational Education would also be a distinct stream, intended to prepare students for identified occupations spanning several areas of activity. These courses would ordinarily be provided after the secondary stage, but keeping the scheme flexible, they may also be made available after class VIII.
Health planning and health service management should optimally interlock with the education and training of appropriate categories of health manpower through health-related vocational courses. Health education at the primary and middle levels will ensure the commitment of the individual to family and community health, and lead to health-related vocational courses at the +2 stage of higher secondary education. Efforts would be made to devise similar vocational courses based on Agriculture, Marketing, Social Services etc. An emphasis in vocational education would also be on development of attitudes, knowledge, and skills for entrepreneurship and self-employment.

The establishment of vocational courses or institutions would be the responsibility of the Government as well as employers in the public and private sectors, the government will, however, take special steps to cater to the needs of women, rural and tribal students and the deprived sections of society. Appropriate programme will also be started for the handicapped.

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. Non-formal flexible and need-based vocational programmes will also be made available to neoliterate youths who have completed primary education, school drop-outs persons engaged in work and unemployed or partially employed persons. special attention in this regard will be given to women. Tertiary level courses will be organised for the young who graduate from the higher secondary courses of the academic stream and may also require vocational courses.

It is proposed that vocational courses cover 10 percent of higher secondary students by 1995 and 25 percent by 2000. Steps will be taken to see that a substantial majority of the products of vocational courses are employed or become self-employed.
Review of the courses offered would be regularly undertaken. Government will also review its recruitment policy to encourage diversification at the Secondary level.

Programme of Action (1992) on Vocationalisation, a substantially funded centrally sponsored scheme for vocationalisation of Secondary Education was started with effect from February 1988. The scheme was taken for implementation in all States and Union Territories excepting Tripura, Daman and Diu, Dadra and Nagar Haveli and Lakshdweep. At the end of 1991-92, 12,543 vocational sections were approved in 4400 schools, thereby creating facilities for diversion of about 6.27 lakh students at the +2 stage, i.e., 25 students per vocational section in classes XI and XII) which accounts for 9.3 per cent of students enrolled at the +2 stage (6.27 lakh students).

A computerisation Management Information System (MIS) has been developed so that necessary information on different aspects of the programme implementation are available at different levels from the district to the central government. It has been consistently felt that students of the vocational courses at +2 level should be provided facilities for apprenticeship training under the apprentice Act as an important catalyst for promoting vocational education. Efforts should be made by the boards to cover a much larger number of students passing out of +2 vocational stream in the 60 courses presently covered under the Apprentices Act (Technical Vocational Apprentices).

Successful implementation of the programme of vocationalisation of education would be facilitated by the implementing agencies at the centre and State by developing linkages with government departments, industry and institutions in the field of agriculture, medicine, health etc. The NPE (1986) has envisaged that pre-vocational programmes would be provided at the lower secondary stage to facilitate the choice of vocational courses at the higher secondary stage. A few states have taken the initiative in implementing this provision. Pre-vocational education would be offered in a phased manner in all secondary schools to
students in class IX and X. From 1993-94 onwards, the programmes will be gradually implemented.

Under the scheme Generic vocational courses would aim to develop those employment related skills which cut across various vocations and are needed by all members of the educated work force regardless of the person's vocation. Vocational education programmes for special groups and out of school population will be provided. Efforts should be made by the State/UTs to consciously encourage the vocational education programmes for girls under the centrally sponsored scheme. This centrally sponsored schemes also envisages the role of voluntary agencies for conducting innovative programmes in the field of vocational education, special areas for vocational education and vocational education through open learning.

**Scheme of vocationalisation of Secondary Education (1993)**

NCERT through the Central Institute of vocational Education (CIVE) known as Pt Sunder Lal Sharma Central Institute of Vocational Education (PSSCIVE) will function as the apex level research and development Institution. At the Regional level, the Boards of Apprenticeship training would be suitably augmented to cater to the needs of vocational student. The TTTI's would also be involved in preparation of resource material for vocational courses and teacher-training. The Regional Colleges of Education under NCERT (RCE's) would function as Regional Vocational Teachers-Training Institutes in addition to performing research and development functions.

A State Council for vocational Education (SCVE) should be established as the State-level counter part of the JCVE and will function as the overall policy-formulating and co-ordinating Body for vocational education and training at the State level. The Directorate of Education should provide the administrative leadership to the vocational Education programme at the state level. A separate wing should be set up within the Directorate of
Education. Separate organisations also exist in some states and these may continue but should be encouraged to develop functional linkages with the educational administration. A separate wing would be established in the SCERTs (State Institute of vocational Education) to provide research and development support to the programme at the state level.

A district vocational education committee (DVEC) would be constituted which could be amalgamated as a sub-committee of the District Board of Education (DBE) after these come into existence. The DVECs will be composed of all concerned district level officers or their nominees and representatives of employers organisations professional institutions, voluntary organisations, and parent teacher associations along with heads of vocational institutions.

Every Selected school would offer 3-4 vocational courses in selected areas so that the vocational wing in school is a viable unit in order to provide desired flexibility for choice to students in keeping with their aptitudes, interests and abilities. In order to bring about improvement in job opportunities for vocational students, it is essential to make a reasonably accurate assessment of locally available and emerging occupations and the employment potential in the area/district. District vocational surveys will therefore have to be conducted. Area vocational surveys, however, are sophisticated exercises which require a great deal of technical expertise. A team of experts would therefore, be identified in the SIVE/SCERT at the State level who will organise these District Vocational Surveys. The curriculum especially in the case of the vocational education should be need based, socially relevant and lead to meaningful self or wage employment. The vocational courses to be introduced are grouped under the following major areas:

- Agriculture,
- Business and commerce,
- Engineering and Technology,
Health and Para-medical Services:
- Home Science,
- Services and others

PSSCIVE has developed minimum vocational competencies based curricula for 82 vocational courses. These curricula list job opportunities, job description, Specific competencies on the basis of job analysis, marking scheme, objectives, syllabus content-theory and practice, list of equipment, etc and practice list of equipment etc and reference books. For most of the vocational courses, suitable instructional materials are not readily available and a variety of textual materials such as teachers guides, textbooks, instructional-cum-practical manuals, charts etc. would be required. In addition softwares for audio-visual support to instruction would also be needed on a large scale. Vocational courses will be conducted with the help of full time as well as part-time teachers, pre-service programmes for fresh entrants, training programmes and periodic refresher courses for in-service teachers and package training programme for part-time teachers will be a regular feature to meet the requirement of vocational teachers for scheme of vocationalization. To meet the requirement of training, a centrally co-ordinated programme of short-term teacher's training will be organised using the available infrastructure in that organisation. The PSSCIVE will act as the principal coordinating agency for the training programme. Practical work and training are very important components of vocational education and sufficient time would be allotted to this aspect in the course design.

Strategy for Development of vocational Education in Eighth plan

There has been a philosophical change in the planning process in the Eighth plan i.e., transition from centrally planned economy to market-led economy to harmonize with the international, political, social and economic restructuring. Human development forms the core of all development efforts, people's involvement and participation is essential for
development process and special attention to employment in the rural areas. Vocational programme has to play a major role in meeting the requirements of economy and industry. Besides, the system has also to provide suitable support for the realization of the national goal of employment i.e, reducing unemployment to negligible level within the next ten years.

Vocational Education programme is identified as a priority area in the Eighth Five year plan. An outlay of Rs.410.00 crores has been earmarked and the amount is expected to be utilised primarily for expenditure on the vocational education at +2 level, pre-vocational education at secondary stage and funding of PSSCIVE at Bhopal. The revised policy formulation and the POA (92) retain the policy framework laid by NPE 1986 but for two significant modifications. Firstly, by the target for coverage under vocational courses has been revised by 10 per cent of the higher secondary students by 1995 and 25 per cent by 2000. And secondly, imparting of the generic vocational course is stressed. Certain financial provisions under the scheme have been revised. The targets for the 8th FYP are,

(i) Consolidation and strengthening of the existing programme at the +2 level with a modest addition of 3500 new vocational sections during the period.

(ii) Continue the programme of assistance to voluntary organisations for innovative projects in the areas of vocational education.

(iii) Implementation of new scheme of pre-vocational education at secondary level for classes IX and X in 1000 schools.

(iv) Operationalising fully the PSSCIVE at Bhopal.

(v) Conducting of evaluation studies.

The planning Commission is recommending the state Governments to earmark at least 10 per cent of the plan budget of secondary education for the development of the programme. The budget provision under the central sector for 1994-95 is Rs 88.46 crores and
the target set is to sanction 1000 sections. The mid-term plan review is under process and it is
time for the institutions to delve the future course of action.

**The Joint Council for the Vocational Education (1994)**

The need for establishing linkages at all levels was emphasised. Such linkages
could be facilitated through the SCVEs and the District vocational committees. The need for
taking immediate action on various issues has been repeatedly impressed upon the states. It
was emphasised that curricula, syllabi, and instructional material should be standardised
allowing for local or regional variations. Textbooks and instructional material should be
available in all the schools. It was felt that training of teachers was one of the most critical
areas. Hence, the implementing authorities need to strictly monitor the progress in this area,
tap local agencies for institutionalising teachers training, and to re-train and re-orient the
teachers.

The central Institute of Vocational Education (CIVE) has evolved guidelines
for teachers training and has also conducted a number of in-service and pre-service training
programmes. It has been observed that a number of states are appointing part-time teachers
on a regular basis. This should not be allowed as the intention is to involve working
professionals as part-time teachers (on an hourly or weekly basis) for imparting practical skills
to the students. This will also help to build local linkages. It was felt that the State
Governments should undertake a comprehensive evaluation of the programme through an
external agency. The Ministry of Human Resource and Development has set up a group
comprising of six members and two MPs to undertake an on-the-spot evaluation of the
Vocational Education Programme. The CIVE has also developed guidelines for evaluation
which has been circulated to all the major implementing states.

The JCVE has also emphasised the setting up of production units in the
schools with vocational stream. It has supported the setting up of separate schools for
vocational education. Basically a scheme for a separate vocational school implies the establishment of a school catering only to vocational students involving, therefore construction of entire infrastructure including residential facilities for a limited number of students with emphasis on girl students.

The core Committee set up by UGC in 1991, submitted its report on "vocationalisation of first degree Education on September 24, 1993. The Committee has identified 35 vocational courses and developed the curricula alongwith infrastructural requirement and the implementation strategy. The UGC proposes to introduce these courses in a few selected universities/colleges from the next academic year, subject to availability of funds.

PRESENT STATUS OF VOCATIONAL EDUCATION

Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE) has been operationalised from July 5, 1993 at Bhopal. Prior to this, the institute existed as Department of Vocationalisation of Education (DVE) in NCERT, New Delhi. The institute plays a vital role in the development and implementation of Pre-Vocational Education programme and Vocational Education Programmes for secondary and higher secondary level respectively. This institute is a National Research and Development organisation in the field of Vocational Education and also organises the programmes in development, extension, research, training and evaluation to achieve the national objective of vocational education.

Status Report of implementation of vocational Education programme

The implementation of the scheme of vocationalisation of secondary education has so far been extended to 25 states and 6 union Territories. 15,579 vocational sections in 5451 schools have so far been sanctioned creating capacity of diversion of 7.79 lakh students to the vocational stream. An amount of Rs.402.00 crore has been released to the States/UT's
for this purpose. A sum of Rs.410.60 crore has been earmarked for the eighth plan and Rs.85.00 crore each of 1993-94 and 1994-95.

Ministry of health and welfare has also set up a committee to work out the modalities for starting more health related courses in the trades i.e., Medical Laboratory Technician, X-ray technician, ophthalmic Technician and auxiliary Nursing Midwifery. 60 vocational subject fields were covered under the Apprenticeship Act. Steps have been taken to include more subject fields under the Apprenticeship Act.

Director General of Employment and Training, Ministry of labour has instructed all the Employment Exchanges to register separately the vocational pass-outs and maintain statistics of registration of 10 + 2 pass outs. 14 voluntary organisations have so far been assisted for taking up experimental/innovative non-formal programmes for promotion of vocational education.

82 competency based curricula in six major areas, i.e. Agriculture, business and commerce, science and Technology, Health and Paramedical, Home Science and others have been developed by PSSCIVE. Over 1600 teachers have been trained in theory and practice of different vocational courses. Popularisation folders of 62 vocational courses have been prepared by PSSCIVE. 14 instructional video programmes have also been developed by them in collaboration with the Central Institute of Educational Technology. PSSCIVE has also organised national Seminar on status and prospects of Vocational Education programme in the area of Engineering and Technology.

The scheme at +2 stage is implemented through the state governments/UT administration. So far all the states/ UTS, except lakshadweep have joined the programme. Up to the end of 1994-95, 18055 vocational sections had been approved in 6280 schools, creating capacity for diversion of 9 lakhs students to the vocational stream at the +2 stage. The actual enrolment, is however, likely to be less, as optimum utilization of facilities created may not be
achieved. During the current year i.e. 1995-96 main emphasis is, therefore on consolidation an qualitative improvement of programme.

The success of the vocational education programme would depend upon the placement of vocational students in government jobs or self employment. With this in view, the department of personnel and training has impressed upon the ministries the need to amend recruitment rules to enable vocational pass-outs to be eligible for government jobs. States/UT administrations have been suitably advised in this direction. The department of education has also set up an inter-ministerial committee to review the position department-wise above the posts available in various departments and organisations under them, in respect of which preference can be given to persons with relevant vocational training. Efforts have been made to introduced need based course to ensure ready employment for the vocational students. Collaborative arrangement have been worked out with the ministry of railways, ministry of health, handicraft board etc. A large number of industrial enterprises, in both public and private sector, were also addressed by the ministry with a view to involve them in the vocational education programme. From the responses received, it was felt that some linkages could be forged for providing on-the-job training facilities to vocational students and in devising curricula and learning material. To pursue the matter further, a workshop was organised by the PSSCIVE in October, 1994. A computerised management information system has been developed for vocational education to obtain necessary information on different aspects of programme implementation.

With the view to evaluate the performance of the vocational education programme, 4 external agencies/institutions have been awarded the work of conducting region-wise evaluation in August, 1995. An initiative was also taken to setup a Synergy Group on vocational education involving representatives from government institutions/industry experts, to look into all aspects of implementation of the current
vocational education programme including ways and means of involving the industry in a more meaningful manner. The group has submitted its report in December, 1995. An international workshop on "Organisational and Management alternatives for vocational education within the educational system" was organised in Bhopal in February 1995, by the department of education in collaboration with PSSCIVE under the UNESCO's participation programme. Experts from Australia, Bangladesh, China, German, Israel, Japan, Norway, Philippines, Sri Lanka United Kingdom and UNESCO-Bangkok were invited to participate in the workshop. In addition national experts, officers from central and state government and representatives from industry as well as NGOs attended the workshop.

Instructional materials in Textile designing, Auto Engineering Technology, Poultry Production, Commercial government designing and making, Maintenance and repair of Radio and T.V. receivers, Horticulture and Dairying are being developed. Short term training programme in the fields of Auto Engineering Technology, Dairying, Textile Designing, Bee keeping, Maintenance and Repair of Radio and T.V., Food preservation and Processing and GEC were conducted, Seven orientation programmes were organised for key functionaries of Assam, Rajasthan, Madhya Pradesh, Maharashtra, Karnataka, Delhi and Tamil Nadu. A national meet on the status and prospects of Home-Science vocational education programme in India was organised. A national seminar on Apprenticeship Training, Placement and Self-Employment support of vocational students will also be organised.

The board has introduced pre-vocational courses from the session 1995-96 in the class IX in some selected schools of Directorate of Education Delhi and Chandigarh. These courses have been provided in place of work experience and will be subject of internal assessment at the school level. On the recommendation of the standing committee on vocational education (SCOVE) and its sub-committee/regional committees constituted for the purpose, the UGC identified 209 institutions (19 Universities and 190 Colleges) in the first
instance, for starting vocational courses at the first degree level during 1994-95. The institutions could introduce one to three vocational courses in 35 subjects identified by the core committee. Funds to the tune of Rs. 26 crore were provided by the Ministry of Human Resource Development for implementation of the programme.

All India workshop on Vocational Education programme held from Jan 18-20, 1993 presented some state Reports as follows,

**Gujarat-State Report**

Surveys were carried out in the State in 1978. Subsequently in 1987, the Employment and Training Department had conducted surveys. So far the diversion of students to the vocational stream is only about 5 per cent. 40 days are allotted to "on-the-job training" to students who go to factories for practical work. The state has recruited only full time teachers. From 1993-94 every ten schools will have a counselling Centre.

**Karnataka-State report**

In Karnataka, it was reported that there is so much demand for vocational courses that institutions are exerting pressure for sanction of vocational courses. The Hindustan Machine Tools (HMT) found the vocational students who had gone there for "on-the-job training" so useful that they have been demanding more students. All the students of the clock and watch repair courses have found employment very easily. The state government have also taken action for the modification of recruitment rules and these have already been amended by various departments, in favour of the vocational pass-outs.

**Madhya Pradesh-State Report**

In this state there 74 vice-principals, 181 full-time teachers and 800 part-time teachers in position. One additional Director has recently joined to look after the vocational education programme. So far equipment and instructional materials have not been fully supplied to the students. Although the diversion of students to the vocational stream was only
25 per cent-30 per cent. Out of 1112 workshops sanctioned only 413 were completed. It was stated by the State government representative that they have developed and finalised 134 text books and 13 teacher training programmes had been conducted.

**Tamil Nadu-State Report**

It was reported that the Joint Director (Higher Secondary) is looking after vocational education. There are no Principals for vocational education in schools. The District Vocational Education Committees is operational only in one District Vocational survey work has been done four years back. The courses designed and being followed, do not confirm to the national pattern.

**Rajasthan-State Report**

In this state 30 district vocational education committees have been set up. The state has constructed 153 worksheds and 280 are under construction. Out of these, 124 worksheds have been equipped. 17 curricula and 17 textbooks have so far been developed, of which 6 books have been printed and supplied to students.

All India Workshop on Vocational Education Programme, held at Bubnheshwar from Feb 15-17, 1993 have presented various state-reports.

**Maharashtra-State Report**

It was reported that 23 out of 30 courses offered had been covered under the Apprentices Act. District vocational surveys had been completed and surveys were on at micro-level for indentifying organisations for on-the-job training and placement of apprentices.

**Orissa-State Report**

The state had introduced the programme in 1988-89 by upgrading the High Schools to Higher Secondary status. 22 vocational courses were being offered in these institutions.
Bihar State Report
The state had introduced vocational education programme in 1987-88 on a modest scale. Presently it was offering 27 courses in 151 schools, workshops were under construction in 40 schools. The entire programme was being run with the help of part-time teachers.

Kerala State Report
It was reported that the state had established the management structure and taken steps to construct workshops and to supply equipment. The curriculum has also been modified as per the national pattern.

Andhra Pradesh State Report
Till 1987-88, the state was running 22 vocational courses in 120 colleges. However, now with the availability of central assistance under the centrally sponsored scheme, the state was offering 26 courses in 979 vocational sections.

Assam State Report
It was reported that the state was facing co-ordination problems. No vocational wing had been created in the SCERT and at the district level. The course structure was also not in conformity with the national pattern and suitable teachers had not been appointed.

Uttar Pradesh-State Report
The State was implementing 31 vocational courses in 460 intermediate colleges with an enrollment of about 20,000 students. This constituted 3 percent of the student population at the +2 stage. The pass percentage in final examination was about 80. The programme was being run with part-time teachers.
Himachal Pradesh-State Report

The state had introduced six courses for which instructional material had been developed. Posts of full-time teachers had also been created and filled up. Some seats had also been reserved in B.Sc horticulture in the State Horticulture University at Solan, for food processing and technology students.

Delhi-State Report

Delhi offered 26 courses in 160 Senior Secondary schools. Some of the commerce based courses are to be modified as per national framework. Regular teachers had not yet been appointed. Modification of recruitment rules had not yet been undertaken.

Haryana: State Report

The State had set up 64 separate vocational education institutions costing Rs.15 lakhs each and offering 29 vocational courses in 436 units through its own financing. All universities in Haryana allowed vertical mobility to vocational students in the Arts and Commerce stream. The state had no problem relating to management or curricula design.

Punjab: State Report

The state was implementing the programme in 160 schools with 575 sections offering 20 vocational courses. There were 635 full-time teachers including 285 under the Centrally Sponsored Scheme 302 laboratory assistants were also in position. Each vocational student underwent on-the-job training for three weeks. 13 per cent of the vocational graduates had undertaken self-employment. 9 per cent wage employment and 43 per cent students had gone for higher education. The major problem faced by the State was about placement of students under apprenticeship training.

Vocational Education in Chandigarh

Chandigarh Administration introduced streams of vocationalisation at 10+2 stage of schools education in the year 1987 in the Government senior secondary schools.
State Institute of Education is the co-ordinating agency of Vocational Education Programmes in Chandigarh. At present, there are 20 vocational courses which are being offered in 11 Government Senior Secondary schools. These are Engineering based Health and para-medical based, and Commerce based. All schools are equipped with professionally trained teachers. Vocational and General education is imparted in the same schools. Chandigarh is a uni-district and due to this reason management structure as proposed under centrally sponsored scheme has not been created. Vocational wing under the control of D.P.Is has been set up to provide academic and administrative support to the programme. This wing is named by mixed of Academicians and Administrators.

At present there are 2 full-time and 2 part-time teachers per course. Part-teachers are appointed afresh every year. The intake capacity of each vocational course is 25 students. Quarterly visits are made by subject experts to schools. Inspection is carried out by DPs. The UT schools are affiliated to Central Board of Secondary Education. The certificates issued by the Central Board of Secondary Education (CBSE) indicate vocational competencies acquired by the students which enhance their employment prospects. In conformity with the National Policy on Education minimum 10 percent of the student population at the +2 stage should be diverted to vocational courses by 1992-97. Towards this end UT administration had introduced vocational education in 3 senior secondary school providing the courses-i) Fishing technology,ii) Office management and secretarial practice,iii) Stenography-type writing Hindi. At present there are 23 centres which are providing courses of Health and Paramedical, Commerce, Technology and Home Science in Union Territory. There are about 1150 students enrolled under the scheme. Pre-vocational courses as downwardsexension of vocational educational has been introduced at lower secondary stage from the current session. 15 courses and 5 secondary schools have been started.