

Vocational Education and National Development

UNIT

3

▪ A.P. Verma

Introduction

Education has been accorded a high priority in India's development process. The report of Education Commission (1964-66) made national development the chief concern of education. Its report entitled *Education and National Development* starts with the significant sentence, "The destiny of India is now being shaped in her classroom." The Commission suggested restructuring of education into a uniform pattern called the 10+2+3 pattern all over the country implying ten years of undifferentiated education for all with diversification into academic and vocational streams at the +2 level. It gave priority to the plans of educational reconstruction to the Work Experience Programme (WEP) in general education and Vocationalization of Education Programme (VEP) at the secondary school level.

Secondary education which serves as a bridge between primary and higher education is expected to prepare young persons between the age group 14-18 in the world of work and entry into higher education. The relevant children population at the secondary and senior secondary level as projected in 1996-97 by NSSO has been estimated at 9.66 crores. Against this population the enrolment figure of 1997-98 shows that only 2.70 crores are attending schools. Thus sixty six percent of the eligible population remains out of the school system. To accommodate the children in schools at secondary level we have 1.10 lakh institutions (1998-99). With the emphasis on universalisation of elementary education and programmes like District Primary Education Programme, the enrolment is bound to increase and once this universalisation takes place we may require more than two lakh institutions at the secondary level to accommodate them.

The national goal of vocational education is to fulfil the manpower requirement for sustainable national development and social requirement for employment. It is vocationally competent persons developed through a need based, adequate and appropriate education and professionally sound training programme, which can ensure production of goods and services of the highest quality and standard to maintain economic viability in a globalized market economy. The Vocational Education Programme (VEP) must take into account the ongoing and emerging social, economic, political and environmental implications of rapid scientific and technological changes as well as other global trends in order to prepare desired manpower and contribute to national development. The unit is intended to provide a broad view of the developments in providing competencies/skills to the learners through vocational education programme and preparing middle level human resources so as to reduce the mismatch between demand and supply of human resources.



Learning outcomes

After going through this unit, you should be able to:

- underline and justify the need to diversify education and training at the secondary level so as to provide skills/competencies to learners in order to make them more employable;

- analyse the objective of vocational education;
- examine the vocational component at different stages of education.

Emerging trends

The future work force has to be developed in adequate number and of good quality primarily for three sectors of economy viz. agriculture, industry and services with the focus on the increase in agricultural growth, growth in infrastructure, and improvement in human development (primary health care and primary education)

The thrust areas according to Vision 2020 document of India are:

- Commercial agriculture
- Agro industry and agri-business
- Afforestation for pulp, fuel and power
- Retail and wholesale trade
- Tourism
- Housing
- Construction
- Garment industry
- Other small and medium industries
- IT and IT enabled services
- Education
- Financial Services
- Transport
- Communications
- Community Services

Objectives of vocational education

The objectives of Vocational Education are to:

- fulfil the national goals of development and the removal of unemployment and destitution;
- impart education relevant to productivity, economic development and individual prosperity;
- meet the needs of skilled and middle level manpower for the growing sectors of economy, both organized and unorganized;
- attract a sizeable segment of population to varied vocational courses so as to reduce the rush to tertiary level of education;
- prepare students for self-reliance and gainful employment.

Vocational component at different stages of education

Work experience

Work Experience viewed as a purposive meaningful manual work organized as an integral part of the learning process should be an essential component at all stages of education. It should be provided through well-structured and graded programmes resulting in either goods or services useful to the community. Work experience should inculcate in the learners a respect for manual work, values of self-reliance, cooperativeness, perseverance, helpfulness, work ethics, attitudes, and values related to productive work and concern for the community. It should enable the learners to know and understand the concepts and acquire skills related to various production and service processes.

Pre-vocational education

The pre-vocational education programme at the lower secondary stage in place of Work Experience Programme should facilitate the choice of vocational courses at the higher secondary stage. It should impart training in simple marketable skills to students, develop vocational interests, prepare students for participation in work, inculcate desirable values related to work, and allow for self-exploration of vocational interests. It should be offered in the form of modular courses so that pupils in general should acquire knowledge and marketable skills for direct entry into the world of work.

Vocational education

Vocational education at the +2 stage, develop competencies (knowledge, skills and attitudes) required by a specific occupation or a group of occupations, through diversified vocational courses to prepare learner for the world of work, especially for self employment.

The 11th and 12th grade students have access to around 160 vocational courses offered in about 6000 schools of 32 States/UTs of the country.

Generic vocational course

The Generic vocational course (GVC) is meant for students of general education at the +2 stage. It cuts across various vocations and aims to develop those generic skills which are required by all members of the educated work force regardless of person's occupation e.g. key boarding, communication, interpersonal skill, working in groups etc. It is a step towards improving the quality of general education by developing key competencies/transferable skills for the technology oriented society.

Various systems and approaches of vocational education

The technical vocational education and training is multisectoral in nature. Each ministry/department at the Centre as well as in State Governments is responsible for human resources development in that sector.

The present status of the main formal technical and vocational education and training system is given as follows:

ITI System

Vocational training facilities are available in 4591 MCVT approved ITIs with an enrolment capacity

of 6.5 lakh students per year. The Vocational training covers 43 engineering and 24 non-engineering trades. In addition to these there are advanced training centers (ATC), which provide training in specialized areas.

Community polytechnic

The community polytechnics are the part of polytechnic devoted to rural development with a major activity of manpower planning. At present there are 700 community polytechnics providing training to about 4.5 lakh youth every year. No entry-level qualifications are prescribed and courses are flexible and non-formal.

Senior secondary schools

Under centrally sponsored scheme of vocationalisation of secondary education, vocational courses of two years duration are offered at +2 stages in major areas of (i) agriculture (ii) business and commerce (iii) engineering and technology (iv) health and paramedical (v) home science and (vi) humanities. The entry qualification is 10th pass. PSS Central institute of Vocational Education (PSSCIVE), which is a constituent unit of National Council of Educational Research and Training has developed 94 competency based curricula in all the major areas mentioned above. The enrolment capacity is about 10 lakh students per year in about 6800 senior secondary schools.

Jan shikshan sansthan

There are 108 jan shikshan sansthan spread all over the country offering need based/non-formal vocational courses to youth. This is a centrally sponsored scheme.

Accredited vocation institutes (AVI) of national institute of open schooling (NIOS)

Vocational courses develop by NIOS are delivered through AVIs. The AVIs have linkages with the enterprise for providing practical/hands on experience to the learners. The courses are of varying durations (from 6 months to 2 years) and the prescribed entry level is also different as per the need of the courses. The courses offered are mainly in the areas of:

- Agriculture
- Business and Commerce
- Health and Para-medical
- Home Science and Hospitality Management
- Computers and IT related
- Engineering

ACTIVITY 5



Based on the discussion on the need to diversify at the secondary level and offer of competency-based vocational courses in thrust areas, discuss the suitability of open vocational education for delivery of such programmes. What are the key points that need to be taken care of to maintain quality in VEP and meet the requirements of the economic sector? This will facilitate you to

vicinity and on the job training cannot be arranged. In such cases the infrastructure at the institution becomes extremely important.

School-industry/dual model

A significantly large number of vocational courses require networking and intensive collaboration with industries and other professional and semi-professional institutions and establishments in imparting day to day instructions especially in organizing practical training. Majority of these courses belong to health, engineering and agriculture areas. This model is in operation in some states. A good example of its success is the one followed in Chandigarh.

General school model

Vocational courses at the +2 level have been started in more than 6000 schools. However, the selection of courses was done without conducting district vocational surveys in advance, although 11 out of 27 states have organized such surveys. The courses need to be selected on the basis of demand, job potential and linkage with industry. The courses from the area of commerce, home-science, information technology and service sector may be more suitable for introduction and transaction in schools.

Non-formal vocational education

The policy in respect of non-formal vocational education programmes has stated that non-formal, flexible and need based vocational programmes will also be made available to neo-literates, youth who have completed primary education, school dropouts, persons engaged in work and unemployed or partially employed persons. Special attention in this regard will be given to "women".

PSSCIVE published a book entitled "Skilled Manpower in Agriculture: Prospects and Modalities" which highlights that there are millions of jobs in the agriculture sector including fisheries. Similarly there are jobs in all other sectors of economy. These jobs would require skilled manpower. Large number of skills could be provided through short-term vocational courses of varying duration.

Since the manpower requirement is extremely large and spread all over the country, it is obvious, that no single system would be able to meet the requirement. For this purpose, besides formal education and training institutions like schools, vocational schools, industrial training institutes and polytechnics, there is a need of large number of NGOs who may offer need based short duration vocational courses.

The PSSCIVE has developed about 60 pre-vocational exemplar modules, which could be used as training modules. Each module has number of skills in it. There is no accreditation mechanism for NGOs and their programmes. NIOS is, however, offering short and stand alone vocational courses, conducting examinations and issuing certificates for them. In future, greater collaboration between NGOs and NIOS can be seen as an effective way to improve quality of courses and provide certification.

National institute of open schooling (NIOS) vocational model

National institute of open schooling has introduced vocational education programme at the school level, for students belonging to any age above 14 years, through distance education mode. It caters to a variety of target groups viz. the farmers, cobblers, carpenters, construction workers, dressmakers, service sector workers etc., those who are looking for some opportunity to obtain latest job skills and also for those for whom certain vocational activities are like hobbies. These

courses are offered through accredited vocational institutions (AVIs). The learning material prepared by NIOS is given to the learners through AVIs. The AVIs arrange contact programme for giving practical/hands on experience. Students can also take one vocational course as stand alone course and get certified.

NIOS also offers credit transfer scheme in which one can choose a course in combination with other non-skill academic subjects. However, if someone wishes to take all vocational subjects he/she can do so in combination with one language course. The NIOS vocational model through open learning has lot of flexibilities and can cover large area of economic activity.

Curricular patterns

Before NPE 86 there were extreme variations in the curricular design from state to state and within the same state from course to course. But all the states which have received central assistance after 1987 have broadly conformed to a common curricular framework with only minor variations. This includes the study of one or two languages, a vocational course with seventy percent of the total time and a foundation course. Within this framework there may be variations with regard to the languages taught, the existence or otherwise of general foundation courses and related subjects. It is important to mention that many of the older variants of curricular pattern still exist on large scales. This includes Tamil Nadu pattern (vocational course –40% of the total time), the Maharashtra pattern (vocational course 33% of the total time) and the Uttar Pradesh and Assam pattern (undefined and variable mix of elective). Some effort has been noticed on the part of these states to phase out the earlier patterns and to have desirable flexibility within a broad national pattern.

Collaborative arrangements for teaching learning

In order to provide practical experience/on the job training to the vocational students a collaborative arrangement with the enterprises is most efficient and cost effective model. Although industrial collaboration is vital element of teaching learning of vocational courses, its extent and modalities vary from state to state and from one vocational area to another. For example, the vocational courses pertaining to health area are all invariably taught through collaboration with hospitals. Similarly agriculture, home science and engineering courses are taught through farm/factory/hotel/enterprise collaboration. Some courses in business and commerce, home science can be taught mostly through arrangements within school. There are several examples where such industrial linkages have been successfully implemented. Within any given state one may see a wide diversity in the extent and nature of such collaborative arrangements.

ACTIVITY 6



Study a collaborative institutional/organisational arrangement for imparting practical training and suggest how this can be made more efficient. Do you think that giving some benefits to the industry in the form of tax benefit or legislation could help in this task? Write your views in about 150 words?

organizations for the establishment of model schools for the blind, deaf and mentally retarded.

The Government set up the National Library for the Blind, the Central Braille Press and employment exchanges for the blind. It also made provision for scholarships, prevention and early identification of disabling conditions, developing functional skills and for aids and appliances.

In India a learner with SEN is defined variously in different documents. For example a child with SEN in DPEP documents is defined as a child with disability namely visual, hearing, loco motor and intellectual. The county report of India, however, in the NCERT-UNESCO regional workshop report (2000) states that special needs education (SEN) goes beyond physical disability. It also refers to the large proportion of the children in the school age belonging to the group of child labour, street children, victims of natural catastrophies and social conflicts and those in extreme social and economic deprivation. These children constitute the bulk of dropouts from the school system. However the draft Inclusive Education Scheme (MHRD) addresses the need of learners with disabilities and focuses on the following category of disability:

Visual disability, speech and hearing disability, locomotors disability, neuromusculoskeletal and neuro-developmental disorders including cerebral palsy, autism, mental retardation, multiple disability and learning disabilities.

National Curriculum Framework for School Education (NCFSE, 2000) brought out by NCERT recommended inclusive schools for all without specific reference to pupils with SEN as a way to provide quality education to all learners.

Work education provides an opportunity to students with SEN studying at secondary level to understand the world of work and prepare for possible future careers. The pre-vocational skills include acquisition of work skills.

Vocational courses for children with special abilities is offered through accredited centres by NIOS. Rehabilitation Council of India is also a statutory body and working for children with SEN and developing vocational courses.

R&D support

PSS Central Institute of Vocational Education, a constituent unit of NCERT has been established as an apex body for research and development in the field of vocational education.

The curricula and instructional materials are also developed by the R & D Institutions concerned with each sector. For the higher secondary courses, the NCERT prepares exemplar instructional materials and the states also prepare their own instructional packages. The courses developed by NCERT are based on an analysis of job requirements, and have been grouped under a common title of "Competency Based Curriculum". Both curricula and instructional materials are developed in workshops in which the employment sector personnel, curriculum experts, subject experts and classroom teachers participate. So far, these materials have been prepared on the basis of annual papers rather than modules or units suited for instruction in a semester system. The semester system, though accepted in principle for implementation, is yet to become a reality in the school sector. However, the NCERT has initiated course organization in the form of flexible modules so as to suit the semester system, and this would lead to the development of multi skill competencies to meet employment requirements in the rural areas. All instructional materials, both print and non-print, though owned by NCERT, are freely available for duplication and dissemination by the states. Copyright permission is invariably granted for this purpose.

National curriculum framework 2005 (NCF 2005)

NCF 2005, brought out by NCERT has emphasized work and education as integral components of school curriculum from the primary to senior secondary stage. While emphasizing the pedagogic potential of work in knowledge acquisition, developing values and multiple skill formation, it says that a work centred pedagogy can be pursued with increasing complexity. A set of work related generic competencies (basic, interpersonal, and systemic) could be pursued at all stages of education. This includes critical thinking, creativity, communication skills, aesthetics, work motivation, work ethic of collaborative functioning and entrepreneurship-cum social accountability.

NCF 2005 perceives the VET programme to be implemented in a mission mode, involving the establishment of separate VET centers and institutions, integrating with and expanding the scope of existing institutions such as ITIs, polytechnics, Krishi Vigyan kendras, primary health centers, engineering, medical, agricultural colleges and cooperative etc. Some significant points are mentioned below:

- VET is to serve as a dignified rather than terminal or last resort option.
- Stress on programme for career psychology and counselling as a development tool for children in secondary and higher secondary stages to enable children to plan their career.
- To offer flexible modular certificate or diploma courses of varying durations in vocational area.
- Vocational courses to have multiple entry/exit points.
- Vocational courses to have vertical and horizontal linkages with academic and professional programmes.
- Curriculum should be upto date and flexible.
- Private and Public sector industries to provide 'work benches' and mentoring support on the training site.

International meet on TVET and its recommendations

The significant recommendations/suggestions from the second international congress on TVET organized by UNCESCO are listed below.

The changing demands of 21st century: Challenges to technical and vocational education

- (i) TVE system must adapt to these key features which include globalization an ever-changing technological scenario, the revolution in information and communication and consequent rapid pace of social change.
- (ii) TVE system must therefore be reformed to given life to this new paradigm by achieving flexibility, innovation and productivity, imparting the skills required, addressing the implications of changing labour markers, training and retraining the employed, unemployed and the marginalized with the objective of achieving quality of opportunity for all in both the formal and informal sectors of the economy.
- (iii) There must be a new partnership between education and the world of work to address the

need to develop a synergy between the sectors of education and industry and the various other economic sectors to foster the development of generic competencies, the work ethic, technological and entrepreneurial skills, and for imparting human values and standards for responsible citizenship.

Improving system providing education and training through life

- (i) To make the maximum contribution to life long learning TVE systems need to be open, flexible and learner-oriented.
- (ii) The emphasis must be on articulation, accreditation, accreditation and recognition of prior learning to enhance their opportunities.
- (iii) Perhaps the biggest challenge that TVE faces is to coordinate the needs of a general and vocational education through curriculum, pedagogy and delivery.
- (iv) Career guidance and counseling services are of the utmost importance for all clients of education and training systems, which need to be significantly strengthened.
- (v) Quality assurance is essential to ensure a new higher status for TVE.

Innovation in the education and training process

The new technologies must be harnessed to provide wide spread access to TVET. They have the potential to offer flexibility in time and location to TVE delivery.

Technical and vocational education for all

- (i) TVE programme both formal and non-formal must be made available in varying modes of accessible delivery to the unemployed, early school leavers, out of school youths, disadvantaged by distance and location, rural population etc.
- (ii) The commitment to “TVE for all” requires well designed policies and strategies, increased resources, flexible and appropriate delivery modes etc.

Summary

We discussed in this unit the importance of vocational education and training programme being offered at different levels of the school system. We discussed a variety of vocational models in both formal as well as non-formal systems. The prevalent curriculum patterns for VET and its components were also discussed. Research and Development support in the field of vocational education was discussed. The needs of specially abled children was discussed. The course offering for SEN children through NIOS was also presented. The recommendations of National Curriculum Framework 2005 with regard to work education and vocational education was mentioned. The recommendations of UNESCO regarding TVET is given in the final section.

Suggested readings



NCERT (2005). *National curriculum framework*. New Delhi: NCERT.

NCERT (1998) *Vocational education programme – issues and imperatives for future planning*. New Delhi: NCERT.



Questions for critical reflection

1. Do you think that the provision of VET will contribute to national development by making people multi-skilled and imparting competence so that they become more employable and productive? What steps/linkages would you suggest to make this VET programme more successful and meaningful to the community?
 2. With the advent of ICT, do you visualize a greater emphasis on e-learning, educational programmes beamed through EduSat, and CD-ROM in interactive mode to play a significant role in reaching the unreached? What limitations or barriers do you see in the context of VET?
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