

Context and Coverage of Vocational Education

UNIT

1

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Introduction

In the Indian context vocationalization is not a new concept. As in several other countries, much thinking has gone into vocationalizing the education system. 'Vocational Education' has always been a priority in the educational scenario of India. The foremost strategy for the eradication of poverty is to give work to the hands, which is possible only when young men and women are helped to develop employable skills and competencies through vocational education.

In India, various committees and commissions on education have, for several decades, stressed the need for improving quality and relevance of education and its integration with the community's goals and expectations. Gandhiji's basic education provided a model for relating education to life, particularly economic activities, which form an important aspect of an individual's existence. It still continues to remain an important element of the educational agenda of the nation. Provision of work based education at all stages has been greatly emphasized and forms an integral part of the school curricula. The present unit focuses on the *context* and *coverage* of vocational education at different stages of education.



Learning outcomes

After going through this unit you will be to:

- examine the significance of vocational education in the Indian context;
- identify the scope, objectives and principles of vocational education;
- analyse the current status of vocational education in India; and
- list and describe various vocational courses in different areas.

Context of vocational education

The major thrust on vocationalisation of education came with the recommendations of the Education Commission, also known as Kothari Commission (1964-66). The Commission recommended development of a comprehensive system of vocational education in relation to the developmental needs of the country. Vocationalisation of Higher Secondary Education was a part of its recommendations. It suggested that a system should be designed, which promotes, through part-time and full-time courses, knowledge and skills, which could be used for improving returns from various economic activities. An integrated plan for vocational education was suggested by the Commission.

In the previous unit, you have already learnt that Commission in its report entitled '*Education and National Development*' suggested restructuring of education into a uniform 10+2+3 pattern of education all over the country, with 10 years of general undifferentiated education for all children with diversion into academic and vocational streams at +2 levels. The programme for

vocationalisation of higher secondary (10+2 stage) education was initiated in 1977-78 based on the guidelines prepared by NCERT. That was a modest beginning.

The *National Policy on Education* (1986) states that the establishment of vocational courses or institutions will 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 the society. Appropriate programmes will also be started for the disabled or deprived learners. Graduates of vocational courses will be given opportunities under the predetermined conditions for professional growth, career improvement and lateral entry into courses of general, technical and professional education through appropriate bridge courses. Its recommendations led to the development of the centrally sponsored scheme (CSS) on vocationalisation of secondary education. Centrally sponsored scheme under which assistance is given to the state governments / UT administrations and non government organizations for approved heads. Under centrally sponsored scheme of vocationalization of secondary education, vocational education at +2 stage is offered in about 6800 schools. The duration of courses is two years. The entry qualification is 10th pass. This level was considered to be appropriate for diversification, as it was at this stage that the student would decide about his/her interest and career choice. The Scheme provided guidelines for creation of the separate administrative structure at the national, regional, state, district and school level to manage VEP, identification of local need based courses on vocational survey, provision for two full time teachers per courses and honorarium for part time, experts and provision of separate fund for workshed construction and equipment procurement. After the launching of the centrally sponsored scheme (CSS) for vocationalisation of education at +2 stage, where substantial financial assistance was provided to states/UTs, vocationalisation of school education took a concrete shape and was implemented in 31 states and union territories. The *National Policy on Education* (1986) and its programme of Action (1992) have given substantial emphasis on the need for vocationalisation of school education.

The *National Curriculum Framework (NCF) for School Education* (NCERT, 2000) also emphasized the need for work related education at all stages of school education. It considers work education and vocational education as a part of a continuum and suggests that work education should be an essential component at all stages of education and provided through well-structured and graded programmes. The competencies to be developed in this field should include knowledge, understanding, practical skills and values through need based life skills. In continuation with work education programme, provision has been made for Pre-vocational Education Programme at the Lower secondary stage and Vocational Education Programme at the higher secondary stage. The diversification into vocational stream at the secondary stage is made to develop vocation related competencies among those children who would like to enter the world of work at an early stage. Thus, it can be seen that policy framework already exists to integrate work education and vocational education in the educational system. A network of institutions offering vocational courses also exists, like Polytechnics, Industrial Training Institutes and schools are there which offer vocational courses. There are many NGOs imparting some form of vocational training to different target groups. All these provisions however cater to only a tip of an iceberg, in view of the number of youths and adults (both men and women) who require skills and competencies to undertake productive work and contribute their share in the development of society and the nation.

Keeping school children as the target group and using the provisions of policy framework, efforts are needed to strengthen the implementation of work education, pre-vocational education and vocational education programme in schools. Various strategies and methodologies should be adopted, based on location and resources available. An integrated and comprehensive work

education and vocational education programme for the youth is essentially needed, especially when a large percentage of children are leaving the school system every year to join the work force. As per 1997-98 data, India has one of the largest educational systems in the world – more than 0.6 million primary schools, about 0.185 million upper primary schools, more than 0.1 million secondary and higher secondary schools, about 270 universities, more than 12000 colleges of general education and about 2000 professional colleges (Haider, 2001).

The demographics of India are overall remarkably diverse. India's population of approximately 1.136 billion people (estimate for September 1, 2007 based on interpolating on estimates by Census Bureau of India for March 1 of 2007 and 2008) comprises of 1/6 of the World's population. In India, the national education pattern is 10+2+3, with first 10 years devoted to general education, 2 years for diversification from general education to specialised academic or vocational courses and 3 years for degree programmes. Out of 29 million people who enter the educational system every year, only 2 millions complete higher education. Therefore our policy should be formulated to provide vocational education to the balanced 27 million per year.

Scope of vocational education

The need for meaningful linkages between the world of work and the world of education is well recognized. The essence of the recommendations made by various commissions and committees is that the vocationalisation should be the main feature of the future system of education.

Vocational education is a distinct stream intended to prepare students for identified occupations spanning several areas of activity. These courses are provided in general education institutions after the secondary stage. The selection of institutions and types of vocational courses are according to the state/nationally recommended pattern.

Objectives of vocational education

Vocational education aims at vocational development of individuals to enhance their employability through diversified courses to meet the skilled manpower requirements of the society. The main objectives of the programme of vocational education are to:

- fulfil the national goals of development and removal of unemployment and poverty;
- impart education relevant to increased production and productivity, economic development and individual prosperity;
- meet the need for skilled and middle level manpower for the growing sectors of the economy – both organized and unorganized;
- attract sizable segment of population to varied vocational courses so as to reduce the rush to general education courses of universities and institutions of higher learning; and
- reduce the mismatch between demand and supply of skilled manpower and enhance individual employability.

Certain features of vocational education programme in India

The important features of the programme of vocational education, as implemented in the country are as follows:

- i. The formal vocational education programme starts at +2 stage of secondary education, as a distinct stream of education in our country. However work education in some form is an integral element of school curriculum in all stages.
- ii. Formal vocational programme, by and large, is state delivered programme as the students pay only a fraction of the cost as tuition fee.
- iii. The country has adopted a collaborative model under which skill development is done by vocational institutions with the active cooperation and collaboration of the industry.
- iv. The vocational courses are mostly being offered in general schools. However, in some states (Andhra Pradesh, Karnataka, Maharashtra) these are being offered in junior colleges while in Haryana separate vocational institutions have been created for imparting vocational education programme.

Principles of vocational education

The principles of vocational education in the national context are presented below as mentioned in the 'Learning for Productivity' (PSSCIVE, 1997). These constitute the guiding principles and beliefs at the +2 level and provide the basis for setting the institutional goals and action.

- Vocational education is an integral component of the educational system to develop individual's vocational and related academic needs.
- Vocational orientation must be offered in the school at all stages in the form of work experience; it must lead to the development of employability amongst the students opting for vocational preparation. Diversification of educational track is called for to meet a variety of interests and aptitudes of the youth.
- Learning of a language for effective communication is an integral component of vocational curriculum.
- Entrepreneurship is recognized as vital component of vocational curriculum for ensuring greater self-employment. Along with it, understanding of environment and rural development is also important.
- Vocational education has to be offered as an organized programme of instruction both, formal and non-formal, to all those who opt for it regardless of age, sex, economic status, caste or religion but there must be a premium in respect of women, disabled and economically weaker sections of the society, and they must be given priority in Vocational Education Programme.
- Vocational education must meet the needs and aspirations of the individual as well as those of the society and the two are viewed as being complementary to each other.
- Vocational education is a major contributor to the socio economic enhancement of individual and the community and is vital to country's development.
- Vocationalization of education must be planned and implemented through co-operative participation of the Government, non-government organizations, civic bodies, legislators, business and industrial sectors and the general citizenry.
- The higher secondary vocational education programme should be large enough to show an impact on national productivity. In terms of its efficiency and magnitude it should eventually be equal to the academic streams of the higher secondary stage.

- All vocational education programmes should aim at resource generation at Production-cum-Training-cum-Service Centers managed by vocational institutions. At the same time it should enhance learning through such activities.
- The development of a sound system of management and the cadre of vocational education are precondition to success of the programme.
- Vocational education is viewed as a path for future professional as well as educational advancement.

ACTIVITY 1



How can education be considered a major contributor to socio economic development of the country. Write in about 100 words.

Coverage of vocational education programme in India

Current status

The current status of the implementation of vocational education programme in India is given as below:

- Realizing the importance of Vocational Education, almost all the states and UTs started vocational education programme at the +2 stage, i.e. of senior secondary education, by the year 1994-95.
- An amount of over Rs.698 crores was released by the Central Government to the States and UTs under the Centrally Sponsored Scheme during the VII and VIII Five Year Plans.
- Facilities for the introduction of vocational courses have been created in the 6 major areas of agriculture; business and commerce; engineering and technology; home science; health and paramedical; and humanities, science and education, in as many as 6,800 senior secondary schools in the country.

- More than 160 different vocational courses in the six major vocational areas are being offered at the +2 stage of secondary education by different vocational institutions in the implementing states and UTs in the country.
- There are about 4.5 lakh students studying different vocational courses in the above mentioned schools against created a capacity of 9.72 lakh students.
- According to the report of Operation Research Group, an independent research organization appointed by the MHRD for conducting evaluation of the scheme of vocationalisation of education in the country, about 28% of the vocational pass outs were joining the world of work-wage employment/self employment, after completing their course. This in itself speaks about the success of the scheme.
- About 40% of the pass outs of the vocational stream were joining higher studies in the academic stream.

Vocational education at different levels in school education

The vocation related education is interwoven in the entire school education system in one form or the other, that is, Work Education / SUPW at primary and upper primary stage forms an awareness component; pre-vocational education at secondary level imparts vocational readiness; vocational education component at the senior secondary level provides skills required for specific occupation (s); and Generic Vocational Course (GVC) as a part of the academic stream has been introduced to provide such skills to students which are important trans-sectionally for various different occupations. Vocational Education provided at higher secondary level, includes language and general foundation course, practical training for the development of skills required by the chosen occupation and related theory. The proportion of these components may vary considerably but the emphasis is on practical training.

Work education at primary and upper primary stage

The work education has been conceived from Classes I to VIII. The essential attribute of work education is its manual character, which means that the children are supposed to work with their hands and thereby develop a sense of dignity of labour and hard work. Manual work should be purposive and educative. It should help develop knowledge, understanding, attitudes, personal and social qualities and skills related to the world of work. The programme of work education is running in all the states. In states, work education is neither a compulsory subject of study nor of evaluation, resulting in absence of seriousness in its implementation. The facilities provided in terms of equipment, tools, workshops, trained teachers and funds are grossly inadequate. The time devoted to teaching its content and methodology is inadequate.

Pre-vocational education

A Centrally Sponsored Scheme (CSS) on Pre-Vocational Education was launched in the year 1993-94 in selected schools to impart training in simple marketable skills to students of classes IX and X. It stressed the development of vocational interests and aptitude to allow the self-exploration of vocational preferences and to enhance productivity and participation in work. It is a desired dimension of academic education to effect a congenial work culture. The skills training imparted through a pre-vocational course would not be of the level that can be called vocational, yet it gives the students sufficient insight to explore a particular area of the world of work. It is module based and the school offers at least three to four activity-based modules, relevant to the

local needs. The pre-vocational education programme has normally been started in such institutions, where vocational stream has already been introduced at +2 level and the required infrastructure and human resources facilities are available. Well-planned and rigorously implemented pre-vocational education programme allows students to explore their talents, interests and aptitude on one hand and avail opportunities in the world of work on the other. Some states have identified and implemented some pre-vocational courses at Class IX and X. A well planned massive programme of pre-vocational education in all the schools and training institutions, with provisions of adequate funds should be launched in the country. PSSCIVE (NCERT) has developed some instructional materials for pre-vocational courses.

Generic vocational course

The Generic Vocational Course (GVC) is meant for the students of the academic stream cuts across various vocations and aims at developing employment related generic skills, needed by an educated work force, regardless of the occupation. It improves the quality of general education by developing key competencies and transferable skills for the technology oriented society.

ACTIVITY 2



Based on the discussion on the context and coverage of vocational education presented above, outline briefly the scope, main objectives, principles and current status of vocational education in India. Your answer should be in about 150 words.

THE PEOPLE
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Vocational education

A separate vocational education stream has been launched in higher secondary institutions. Vocational courses are designed as self-contained modules specifying details of the theoretical aspects or basic scientific principles and the practical operational details. Schools should assess the need, relevance and potential of the courses before offering them to students. The course duration may vary, depending upon their nature and skill requirement. These courses in the formal school system helps in enhancing the employability of the students joining the world of work.

Vocational courses

About 160 vocational courses have been introduced in the following areas :

- agriculture
- business and commerce
- engineering and technology
- health and para-medical
- home science
- humanities, science and education

After completion of the two year course, there is a provision for one-year apprenticeship training. The Apprentices Act, 1961 was amended in 1986 to include pass-outs of vocational courses at the +2 level. The number of vocational course covered under the Act is 94 and the amount of stipend paid to each student is Rs. 1090 per month. The Apprentices Act is implemented through 4 regional Boards of Apprenticeship Training (BOATs) located at Mumbai, Chennai, Kolkata and Kanpur. The Apprenticeship training is of one year duration and is not compulsory.

Vocational Courses covered under the Apprentices Act 1961 in each area, are given below:

Agriculture

1. Poultry farming; 2. Fisheries/Fish processing; 3. Dairying; 4. Crop Cultivation/Production; 5. Sericulture; 6. Apiculture; 7. Floriculture; 8. Plant Protection; 9. Agriculture Chemicals; 10. Inland Fisheries; 11. Plantation Crops and Management; 12. Seed Production Technology; 13. Swine Production; 14. Vegetable Seed Production; 15. Medicinal and Aromatic Plant Industry; 16. Sheep and Goat Husbandry; 17. Veterinary Pharmacist cum Artificial Insemination Asst; 18. Agro Based Food Industries Animal based; 19. Agro Based food Industries Crop based; 20. Agro Based Industries Feed Based; 21. Post Harvest Technology; 22. Fish Seed Production; 23. Fishing Technology; 24. Repair and Maintenance of Power Driven Farm Machinery.

Business and commerce

1. Accountancy and Auditing, 2. Banking, 3. Marketing and Salesmanship, 4. Office Secretary ship/Stenography, 5. Cooperation, 6. Export-Import Practices and Documentation, 7. Insurance, 8. Purchasing and Storekeeping, 9. Taxation Practices/Taxation Laws/Tax-Assistant, 10. Tourism and Travel Techniques.

1. *Civil*: Construction/Maintenance, 2. Mechanical Services, 3. Audio Visual Technician, 4. Maintenance of Electrical Domestic.

- ## Home science

- ### Science and humanities

- ### ACTIVITY 3



THE PEOPLE
UNIVERSITY

In this unit, we discussed the context and coverage of vocational education through identifying the scope, objectives and principles of vocational education. We highlighted the centrally sponsored scheme for vocationalization of education in school. Vocational education at different level in the school can be categorized as: work education at primary and upper primary stage, pre-vocational education which involves to impart training in simple marketable skills to students of Class IX and X and Generic Vocational courses meant for the students of academic stream cut across various vocations and aims at developing employment related generic skills.

Vocational education provided at +2 level, includes language and general foundation course, practical training for the development of skills required by the chosen occupation and related theory. The proportion of these components may vary considerably but the emphasis on the practical training. We have also described about the different courses in the following areas as Agriculture, Business and Commerce, Engineering and Technology, Home Science, Science and Humanities.

Suggested readings



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Questions for critical reflection

- 1) Justify the introduction of vocational stream at senior secondary level as recommended in the NPE, 1986.
- 2) Analyse why did vocational stream become unpopular among parents and students alike.
- 3) Differentiate between vocational and pre-vocational education. Highlight the relevance of work education at primary and upper primary level.

Introduction

In Unit 1 of this block you have already studied the context and coverage of vocational education which aims at fulfilling the national goal of manpower human resources requirement for sustainable development. The central and state governments have made concerted efforts to fulfill this national goal. The Education Commission (1964-66) recommended vocationalisation of school education as a first step in the direction and the NPE-1986 made specific recommendation via its subsequent Programme of Action (1992) in regard to launching of need-based, skill-based specific vocational programmes aiming at developing generic skills and competencies, and to make the passouts of vocational stream employable.

However, despite such efforts, the results of the programme of vocationalization of education as a part of school programme as well as special institutes are not very encouraging. Most parents and students consider vocational education as inferior, and not at par with the general education or professional education. In fact, the subject of vocationalization of education or vocational education is infested with many problems, issues and concerns which require serious considerations. There are certain inherent bottlenecks in the different aspects of vocational education. The present unit aims at looking into the etiology of such problems and issues and suggest remedial measures to overcome the same so that it gains the same popularity as other academic or professional courses.



Learning outcomes

This unit in a way is a continuation of what we discussed in Unit 1 (about principles and features of vocationalisation), with focus on major issues and concerns faced by vocational education in the country. After going through this unit, you should be able to:

- explain the need for vertical and horizontal mobility for students of vocational streams;
- analyse the areas that require flexibility in implementation;
- identify the role of teachers in vocational education;
- examine the issues involved in maintaining quality, equity and relevance; and
- frame a comprehensive and sustainable structure for vocational education.

Implementation mode of vocational education programmes in different states

The overall implementation of the vocational programme rests with the state governments, which, in most cases, work through the state departments of education. In some states such as Karnataka and Orissa separate Directorates of Vocational Education have been created. In

the states of Maharashtra and Haryana, the implementation of the programme is through the Directorate of Industrial Training. The academic support for the implementation of the programme is provided by PSSCIVE, NCERT through its various activities such as development of curriculum, instructional materials, guidelines for implementations, research and evaluation programmes and training programmes for various functionaries, concerned with the implementation of the programme. Most of the vocational courses are covered under Apprenticeship Training for a duration of one year during which a stipend of Rs. 1,090 is paid to the students, which is shared equally by the Central Government and the collaborating institutions. There are about 4.5 lakh students studying more than 160 different vocational courses of two years duration, in six major vocational areas. Formal vocational programme, by and large, is a state delivered programme as the students pay only a fraction of the cost as tuition fee. The country has adopted a collaborative model under which skills development is done by vocational institutions with the active cooperation and collaboration of the industry. The vocational courses are mostly being offered in general schools. However, in some states (viz. Andhra Pradesh, Karnataka, Maharashtra) these are being offered in junior colleges while in Haryana separate vocational institutions have been created for launching vocational education programme.

Some positive aspects and problems of vocational education

Positive aspects

The vocational education programmes are so prepared that while they help students develop specific work oriented skills to enable them seek employment or help them in self employment, they do not at the same time hinder their academic career for higher studies. The following are some positive aspects of these programmes

- i) The presence of two languages and three elective subjects in vocational courses enables students to opt for higher studies at degree level, if scope for higher education is extended to them.
- ii) More weightage given to vocational areas alongwith entrepreneurship skills enables the students to apply their knowledge direct in self-employment areas in their own disciplines.
- iii) In the existing socio-economic structure, the choice of vocational areas will have immense social impact because of the close proximity of the subject and the society, if the curriculum is updated at a regular interval of time.
- iv) Vocational education has comparatively better scope for self-employment and for employment in un-organised sector.

Some problems and bottlenecks

In North-eastern states however for implementing the vocational programme, there are some bottlenecks and problems faced. For example, there is lack of competent faculty teaching inputs, inadequate funds, unavailability of infrastructure facilities in terms of laboratory, library, classrooms and equipments, poor faculty management and non-flexibility in bureaucratic decisions affecting academics and administrations, course duration, lateral entry and vertical mobility. In some of states like Gujarat and Maharashtra, there are full time permanent teachers; hence vocational education programmes in these states are running successfully. But in states like U.P., Bihar and others, implementation of vocational education

programme is facing difficulties and problems because of these states, in most cases, have not appointed full time permanent teachers.

Models of vocational education and training, and associated problems

Different models of vocational education and training such as school based model, industry based model, collaborative model, and multi-channel model have been adopted for effective implementation of vocational education programme in different states. The modus operandi of these models is briefly explained as under.

School-based model – Theoretical and practical instructions are imparted using fully equipped laboratories, workshops and production-cum-service centre in the school. In India, the Union Territory of Chandigarh and Haryana state have adopted this model.

Industry based model – Theoretical and practical instructions are imparted in the actual workshop or industry and training may be imparted through apprenticeship programme. This model has been adopted for medical courses in Chandigarh.

Multi-channel model – This model is based on the delivery of theoretical instructions through open and distance learning using self-learning materials multimedia, teleconferencing and interactive T.V.

Collaborative model – Most of the states / UTs adopted the collaborative model for vocational education at +2 level. Theoretical knowledge and basic skills of the trade are imparted in the school using its laboratory and workshop facilities. Additional skills are imparted through on-the-job training at the work place, industry.

Important features of collaborative models are as follows:

- In degree of collaboration, there may be variation from course to course between educational institutions and industries, mainly depending on the skills development and the extent of cooperation extended by the industry.
- There may be variation in duration of specialized training in industry.
- On-the-job training at work place in an industry, brings students close to real work situation.
- The students acquire knowledge and skills in laboratory and apply the same in industrial situations.

There is a problem in implementing collaborative model. The on-the-job training in many cases is not effective. As such students lack in this area and do not fulfill the requirement of the industry. In this context the following points are worthy of consideration.

- Vocational courses have been introduced in the schools without assessing the needs of the community and demands of industries.
- Appointment of untrained and inexperienced teachers on the part-time basis.
- Infrastructure facilities are not according to the need of the course.
- Lack of separate and decentralized management system.

- Absence of vocational guidance and counselling facilities in schools.
- Inadequate skills training.
- Non-availability of placements in industries.

What is required therefore is that a combination of different models as per the needs of the course/skills in the vocational education programme should be tried. For example, Chandigarh has adopted variety of models of vocational education and training for vocational courses at +2 level. Selection of any delivery model should be based on the availability of resources. Freedom should be given to the institutions of vocational courses to understand and develop vocational education programme according to the needs of the society, with a combination of different models of vocational education.

Other major constraints in implementation of the vocational programme

In the recent years PSS Central Institute of Vocational Education (NCERT) has conducted studies for evaluating the effectiveness of the implementation of Vocational Education programme in the state of Haryana, Tamil Nadu, Punjab, Assam and Maharashtra. Earlier also such studies were conducted for the states of Goa, Karnataka, M.P., Maharashtra, and Delhi. The strengths and weaknesses in each of these states have been evaluated. Some of the common problems based in the implementation of the vocational programmes have been given as under:

- Lack of systematic school-industry linkage for effective implementation of the programme.
- The Central as well as State Governments are not modifying recruitment rules.
- Non-availability of adequate instructional materials, especially developed for the needs of the vocational courses.
- Inadequate facilities for practicals in the laboratories.
- Inflexibility in the contents, duration and delivery of the programme.
- Lack of opportunities for vertical mobility in the same or related trades.

In view of the objectives of vocational education and the problems faced in the implementation of such programmes, some of the issues and concerns currently affecting the programme of vocationalization of education are as follows:

Vertical mobility

Any programme has a vertical mobility if there is a mechanism to allow students to enter into higher level of education/training.

Regarding vertical mobility of vocational courses the NPE 86/92 recommends "Graduates of vocational courses will be given opportunities under predetermined conditions, for professional growth, career improvement and lateral entry into courses of general, technical and professional education through appropriate bridge courses." But the fact remains that in vocational education programmes (+2 level) the students do not have vertical mobility. The rush in academic programmes continues as they allow them to pursue higher education. Although it is agreed that majority of the students enrolled in vocational courses should join the world of work after completion of the course, opportunities to pursue higher education

should also be provided to those who wish to upgrade their learning as and when desired. The issues, therefore, are i) non-recognition of vocational courses at higher education institutions, ii) absence of a mechanism of recognising prior learning, iii) non-availability of vocational courses at the degree level, and iv) resistance to change in delivery patterns by the higher education institutions and universities.

The following suggestions are worthy of consideration for providing vertical mobility to vocational students.

- The scope for vertical mobility at tertiary level should preferably be created in the vocational stream itself. For this purpose systematic formal linkages should be established with universities under UGC, ICAR etc. and with other technical institutions, viz. polytechnics, engineering colleges etc. Wherever there is an entrance test for admission, it should be modified to include vocational knowledge. The vocational students should be eligible to compete in the relevant areas for admission to higher technical programmes.
- Bridge courses may be designed and provided by vocational open school system. These institutions offer flexible modular vocational courses. The Programme of Action (POA) 1992 drawn up by Ministry of Human Resource Development in relation to the National Policy on Education (NPE) 1986 has emphasized the need to expose the first degree level students to the world of work by including application oriented courses in the curriculum.
- Vocational stream should be treated at par with arts, science and commerce stream; and vocational stream students after +2 stage should have direct access to tertiary stage of general education in related discipline. Channels for continuing education should remain open or should be created for vocational students.
- In order to increase the acceptability of the vocational courses, it is important that opportunities of vertical mobility in the same or related professions are made available to the students. It is, therefore, suggested that vocational students are given some preference in admission to related courses in polytechnics and other professional institutions such as agriculture colleges, home science colleges, hotel management institutions, etc. where higher level vocational courses are available in these areas. In addition, number of courses at the under graduation or diploma level be started in the universities and other professional institutions so that the students do not find the vocational courses as dead ends and get opportunities of growth and development in their vocation or profession.

[Note: All India Board of Vocational Education (AIBVE) has approved that + 2 vocational students be given in 2nd year of diploma courses in polytechnics. Some states have implemented these recommendations.]

Flexibility

Presently the vocational education courses are of two years and are rigid in structure. Revision of courses to meet the market demand on a regular basis, normally does not take place in states. In order to meet the requirements of vocational education and training of different categories of target groups, it is important to design vocational courses of different duration and allow flexibility in terms of multiple entry and multiple exit so that people join these courses at their own convenience, take whatever module they like to and complete the course at their own pace. This will also satisfy the requirements of people for acquiring multiple skills, so that they can add on to their competence and also refresh their knowledge and skills.

The vocational education programme therefore needs greater flexibility which calls for modularization of courses and setting up of semester system.

The National Policy of Education (1986) stated that the vocational courses should be provided in general education institutions after the secondary stage with flexible duration ranging from 1 to 3 years. Further, that these courses will ordinarily be provided after the secondary stage, but keeping the scheme flexible, they may also be made available after class VIII.

The document entitled 'Higher Secondary Education and its Vocationalization' developed by the NCERT in 1976 indicated that 'an essential feature of the design of the higher secondary system is its flexibility which would allow the desired diversification of vocational and academic courses to be effected.' It also noted that flexibility can be ensured by adopting the semester and credit system of courses. 'If the lack of familiarity with semester system is used as an argument for introducing this essential change later on, then the danger is that the change will not take place and vocational programme may start failing from the very reason of being inflexible'. The present formal system of vocational education in India suffers from lack of flexibility in offering of courses, conducting examinations etc.

Introducing flexibility in the system has the policy support as mentioned. Following actions in this respect need to be taken:

- Introduction of a large number of short duration courses in different vocational areas.
- Preparation for multiple certification so that different courses such as 'certificate course', 'advanced certificate course', 'diploma' or 'advanced diploma' may be offered by the Boards, instead of offering a single, two years course at +2 level, as is being done presently.
- Introduction of modular and credit based system, to allow multi-entry and multi-exit to the students.
- Strategies for the introduction of semesterisation system, as advocated by the National Policy on Education 1986 and re-emphasized by the NCERT's document National Curriculum Framework for School Education, 2000.

Teacher related factors and quality concerns and issues

Since vocational courses are unconventional in nature and are of diverse type, they require skilled personnel corresponding to various vocations. For the maintenance of quality and standards, instruction in vocational courses necessitates availability of teachers with proper expertise both in theory and practice. Teachers occupy the pivotal position in the system of vocational education and their shortage and any lack of competence pose serious problems to the initiation and expansion of the programme of vocational education. Presently, pre-service training for vocational teachers is practically non-existent; in-service training is not adequate and competent vocational teachers are often not available in desired numbers. Teacher training in the field vocational education, therefore, requires attention on priority basis.

The Centrally Sponsored Scheme provided for two types of teachers: full-time and part-time. The part-time according to this scheme norms should be professionals working already in specialized fields and their services are utilized on the part-time basis for skill training. However, this has not been implemented properly by many states. Generally, they appoint freshers without any professional experience. The full-time teachers by and large lack any

industrial experience and are hardly aware of the changing work place requirements at present, much less so for the future.

Majority of the state governments have shown reluctance towards appointment of full-time staff because of the unwillingness to take on a long term committed liability in case of closure of the scheme. Large scale transfer or deputation of teachers has been made from the general stream to vocational stream without adequate consideration given to technical merit. Part-time teachers of vocational stream were found not only less qualified but also lacked experience in actual job situation.

The Programme of Action 1992 visualized a phased and well-structured programme of pre-service teacher training to be drawn and implemented. However, at present only in-service short term teacher training of one month duration is conducted by PSSCIVE and some states for full-time teachers. Except one university in U.P. there is no other institutions conducting pre-service vocational teachers training programme. The programme of this university is in the form of one year B.Ed. for graduate teachers in the areas of Commerce, Home Science and Science and Technology. PASSCIVE has prepared curriculum for B.Voc.Ed in Agriculture, Engineering and Business & Commerce. The curriculum alongwith a scheme to provide grant to running B.Voc.Ed to Regional Institute of Education was submitted to NCERT/MHRD. The scheme could not be implemented.

ACTIVITY 4



What is vertical mobility? How can such mobility be ensured for the vocational stream students? Write your answer in about 150 words.

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Suggestions

The following suggestions are made to improve the state of vocational education in the country:

- Pre-service training for vocational teachers should be provided in institutions such as agricultural and technical universities and institutions. RIEs were established for preparing specialized teachers for multipurpose schools in the area of agriculture, commerce, technology, home science and fine arts. They have the necessary infrastructure base which could be updated with additional inputs and become model institutions for pre-service as well as in-service training of vocational teachers in the country. Cost-wise also this will be more economical than any other model.
- The four National Institute of Technical Teachers Training & Research (NITTTRs), have been training polytechnic teachers for many years. They have the infrastructure and expertise in training of technical teachers. These institutions should also provide training to vocational teachers. This was already recommended in POA (1992).
- In-service courses may be organized by the states in selected professional institutions on the basis of guidelines provided by the PSSCIVE in terms of duration, content and methodology. The PSSCIVE should continue to conduct in-service training programmes on national or regional level in collaboration with other institutions.
- The state department concerned with vocational education may also evolve schemes to utilize resources in institutions such as those under Khadi and Village Industries Commission, Krishi Vigyan Kendra, Farms, Hospitals, Business houses, etc for training vocational teachers on part-time as well as on full-time basis.
- Distance learning can be resorted to on a large scale so that teachers are not displaced in time and space from their institution. Periodic refresher courses may be provided through open distance learning systems.
- Teacher preparation would have to function in close cooperation with industry/employment sector in order to ensure relevance at all time and, therefore, representative from such organizations should be involved in formulations of teacher preparation programmes.
- Modularized teacher preparation courses with add on character in a flexible delivery mode may be more suitable for training vocational teachers. An extra advantage of this would be that the same modules may be used for pre-service as well as inservice training programmes.
- The full-time teachers must be appointed on a regular and permanent basis as is the case for academic stream so that uncertainty about their continuity is removed. It is only in this situation that we can expect full commitment of the teacher in implementing the programme.
- A vocational teacher today is not merely one who teaches in classroom. He/She occupies a pivotal position in the entire process of implementation: right from conducting the survey to identifying appropriate courses, to placement of students and their follow up. He/she is called upon to play varied roles in the whole implementation scheme of vocationalization.

ACTIVITY 5



In keeping with all that has been discussed above on the issues and concerns currently affecting the vocationalization of education, collate your views on how can vocational education be geared to deal with the problems of vocationalization of education in India. Answer in about 150 words.

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Quality

Quality refers to the characteristics of excellence. In order to improve the quality of vocational education programmes, suitable interventions have to be made to control the various factors that adversely affect the quality of teaching and learning. While a few institutions have organised effective training in vocational education in a number of states, the quality of practical training requires much to be done. Issues like provisions of entrepreneurship and self-employment support, availability of suitable instructional material and teacher training, employer's assessment of quality of training, performance of vocational and technical products, on-the job training and apprenticeship etc require much attention and considerations. Over the years the programme has been evaluated by many agencies. The recommendations based on the evaluation done, need to be looked into and implemented. Some of the steps (Mehrotra, 2005) need to be followed:

Learner-centred curriculum transaction

Learning in vocational courses should be learner-centred instead of teacher centred. In normal classrooms instruction is characterized by conventional teaching and learning methods and is content or lecture-oriented, with major emphasis on the use of blackboard writing and notes taking. As a result 'active participation' of learners in the learning process is lacking.

Resource-based learning, wherever existing, is mainly confined to the use of text-books, practical manuals and other printed materials. Very few schools in India have the facility of modern educational technology such as overhead projectors, slide projectors, television, personal computers with user-friendly softwares, etc., to facilitate learning in vocational courses.

On-the-job training (OJT)

Linkage between schools and industries catering to the areas relevant to vocational courses is an important feature of vocational education programme. On-the-job training provided in vocational courses at the higher secondary stage is delivered in an informal and unstructured way. The training is mainly confined to schools. Systematically implemented programmes of on-the-job training and project work in a real work situation, under the guidance and supervision of expert practitioners are needed to augment the basic skills acquired in schools.

The centrally sponsored scheme (CSS) document has emphasized that on-the-job training is an integral component of vocational courses to make them more meaningful and purposeful. OJT refers to that component of vocational curriculum which needs to be transacted in real situations under the guidance and supervision of a professional or technician aiming at the development of proficiency in skills and self-confidence. Since, the OJT is being provided in industry in real situation, the scheme of studies of vocational curriculum has a provision of four to twelve weeks for OJT during two years of vocational education.

On-the-job training should be made compulsory for all VET programmes. The duration of the training should be at least 4 months in a year and even the holidays can be utilized. Assessment of OJT should be made on the basis of the performance of student's participation in the activity, skills acquired, products produced.

Apprenticeship training to all

The National Scheme of Apprenticeship Training covers 10+2 vocational graduates in providing opportunities for practical training in industries and commercial organizations, as per the Apprenticeship Act (1961). The vocational graduates can obtain practical training under the Apprentices Act for a period of one year and also get a monthly stipend. The pass-out students of vocational courses have been covered under the Apprentices Act (1961) under a separate category called Technicians (Vocational) Apprentices. At present, less than 10% of the vocational pass outs are being placed as apprentices, mainly due to lack of identification of training sites in and around the schools especially in unorganized economic activities. Research studies directed to identify the reasons for low placements of vocational pass-outs in industries as apprentices will be useful in making necessary amendments in the Apprentices Act and procedure of placement of students.

Continuous and comprehensive evaluation of competencies

Assessment in vocational courses has to be performance-oriented. The performance of a student in scholastic and non-scholastic areas should be assessed through formative and summative evaluation. The formative evaluation of vocational students would provide them a continuous feedback regarding their strengths and weaknesses, so as to enable them to cultivate regular learning habits and also to modify their learning styles and approaches. The teacher should maintain a complete and comprehensive record of the assessment of the student's performance including evidences reflecting personality traits. Continuous and comprehensive evaluation,

with a built-in-procedure for remedial measures, will ensure effective achievement of the requisite competencies.

Networking and monitoring of vocational education programmes

A separate management structure, with trained full-time staff is inevitably needed in States/UTs to effectively monitor and implement VEP. Separate bodies for the management, supervision, control and monitoring of education at district level and *taluka* level should be established. At the village level, Panchayats, Village Education Committees, Parent-Teacher Associations, Gram Sabhas and School Betterment Committees can be involved as an advisory body in the management of VE institutions.

Stable availability of funds for development and maintenance of infrastructure is important for bringing about qualitative improvement in VE programmes.

Equity and relevance

Vocational education and training should be accessible to all, without any discrimination. To enhance the access to vocational education and training, priority should be given to unreached groups of all age groups and at all levels. The Government should support and build capacity of those who are already working in vocational education by upgrading their infrastructure. Majority of the +2 institutions offering vocational courses are located in urban and semi-urban areas and many of these institutions do not have boarding facilities. Such a situation prevents quite a good number of students living in rural areas and willing to offer vocational courses. Besides, in large number of states, there are separate boys and girls school which limit the offering of vocational courses. In such a situation, both the sexes are put to disadvantages. For example, Home Science courses cannot be offered to the boys as they are generally offered by girls school.

The important requirement is to provide vocational education programme at cluster of village level, block level, in rural as well as urban settings. A massive programme is needed.

Efforts should be made to ensure unbiased flow of knowledge and skills to the following:

Girls/women

Education and economic empowerment are the key contributors to improve the status of women in the society. The NPE (1986) rightly enumerates "Education will be used as an agent of basic change in the status of women. In order to neutralize the accumulated distortions of the past, there will be a well-conceived edge in favour of women. The National Education System will play a positive, interventionist role in the empowerment of women". Further, "Major emphasis will be laid on women's participation in vocational, technical and professional education at different levels."

Institutions offering vocational courses are not offered within the reach of the girl child and therefore there is need to open VE schools in the neighbourhood to increase girls participation. Boarding facilities are also needed in the institutions.

ACTIVITY 6



Based on the discussion on the quality of the vocational education programmes presented above, outline briefly the various steps needed to ensure quality in vocational education in a country like India. Write in about 150 words.

[illegible]**Scheduled castes/scheduled tribes, religious and ethnic minorities**

These groups belong to the socio-economically deprived section of the society. Our country must work on the philosophy of knowledge based social order and should provide equal access to vocational education and training.

Neoliterates

The large number of neo-literates, through total literacy campaigns, who, could be children or adults, need post-literacy skill building programmes to make them employable.

Child labour

Vocational Education, again has to be expanded not only in terms of accessibility but type of programmes that it offers to cover this group. A multi-pronged strategy has to be adopted which should include welfare, awareness, motivation, training and schemes for financing.

People with disabilities

Habitation of children with different abilities would require suitable modifications in vocational programmes and changes in instructional strategies to suit their needs. This will help them to integrate with the main stream VET programmes. The training institutions should initiate programmes suited to the needs of persons with different disabilities.

Advancement of rural livelihood

India has an agrarian economy and a large population is rural based.

Vocational Education Training (VET) can play a significant role in developing skilled work force, in order to face the challenges of modernization and globalization. So far, the formal programme of VET has an industrial and urban bias. There is no systematic formal delivery of VET for development of skilled manpower for agriculture and rural based activities.

Continuing education or life-long education, provided through the open learning system can play an important role in providing opportunities to people for developing and upgrading their knowledge and skills. It is all the more important for those who have been unable to complete their education and training for some reason. The mechanism of providing formal and non-formal VET programmes throughout life is needed.

There has been a great concern expressed over the relevance of vocational courses being taught in vocational schools which tend to be biased towards traditional skills and crafts on a very broad base. In future, demands of knowledge and skills relevant to the industry needs will increase. Therefore, need based courses should be designed and offered through a flexible delivery system. The curriculum of the vocational education need to be reviewed with the possibility of providing specialization according to the local/regional country needs. This has to be done to cater to the manpower requirement of industries in accordance with their growth. The success of VET programmes would largely depend on the relevance and excellence.

The rigidity of the curriculum in terms of fixed entry qualifications, course duration, content, place of learning, delivery modes and teacher-centered learning has adversely affected the VET. Participants of training differ in interest, speed of learning and learning style. Offering VET programmes, which lack relevance to the needs of the learner and market economy, only leads to wastage and frustration. Individuals who are already competent in some areas can be assessed before the training starts, and then training can be tailored to meet their precise needs. Training that is need-based, focused and goal-oriented serve the purpose of the learner and the employers.

In addition, the courses should match with the aspirations, attitudes, interests and convenience of the students. Apart from that, these should be designed as per the economic opportunities available in an area and be integrated with the development plan of the block or the district. What is needed is modular courses of different duration, covering a variety of competencies and skills with a provision of multi-entry multi-exit. There is a need for constant revision of the vocational courses and development of new ones.

Curriculum and instructional material

The MHRD has prescribed a curriculum design for vocational courses in higher secondary education. All the states have followed the design except a few. Vocational courses were introduced without any preparation in respect to instructional materials. The MHRD through its scheme made provision for staff to be appointed in the existing SCERT's and also for holding workshops to develop instructional materials. A number of research studies can be carried out on the modalities of development and content of instructional material development, need for a national or state specific instructional material and language of instructional material. The studies are also required to assess the type and format of the materials. Some studies may also deal with content coverage standard and quality of instructional material. Looking into the economic background of the students joining vocational courses, it may be worthwhile to study the need of free and subsidised distribution of books.

School industry linkage

The distinction between education and training is slowly disappearing as the education system increasingly integrates basic training and even occupation or industrial training within its fold. Vocational education was launched with the same philosophy as it was offered in collaboration with relevant institutions or industry willing to participate in instruction. The infrastructure provided under the scheme presumes that the institutes shall have collaboration for effective and meaningful curriculum transaction. However, the situation at the ground level is not very encouraging. The reason may be non-availability of organisations in the vicinity, absence of interest in collaboration by such institutes. The issues relevant to this aspect are:

- i) Extent and nature of collaboration
- ii) Modalities of collaboration
- iii) Legislation for school-industry linkage
- iv) Commuting problems
- v) Supervision of collaboration and
- vi) Providing adequate infrastructure in the absence of collaboration.

Researches on various aspects of school-industry linkages will help in developing a workable model of enterprise education, suited to the local needs and requirements of the institutions offering vocational education courses.

Students Evaluation

In the vocational education programme, the evaluation of students needs to be criterion Referenced. The assessment based on relative performance, where performance of a student is compared with the performance of others (Norm refereed) is not a suitable approach for vocational education. Having completed the course, a student will take-up some job, the expectations are that he/she has the skills to perform satisfactorily. As such the emphasis has to be on competence assessment? Competence to perform a job includes, all the there domains of learning cognitive, psychomotor and attitudinal. The cognitive and attitudinal component, play an important part in the performance of student where he/she has to demonstrate the skills of the trade. The evaluator should take the following parameters into considerations while measuring the performance of a vocational student.

- | | |
|-------------------------|---|
| (a) Process Evaluation: | <ul style="list-style-type: none">- Economy of Time- Economy in the use of
(raw materials)- Effective & efficient use of hardware
(tools and machines)- Economy of Effort. |
| (b) Product Evaluation: | <ul style="list-style-type: none">- Finish- Quality- Marketability
(cost-effectiveness). |

Methods of evaluation

Oral and written tests are adopted in evaluating knowledge and understanding. For evaluating skill components observation and performance tests are the only suitable methods. Personality traits can be evaluated through a continuous process of observation.

Tools for oral and written tests

Test items are the tools for oral and written tests. Test items should be objective based requiring one word, one sentence, one paragraph, or rarely more than one paragraph answer. Test items may be 'supply type' or 'choice or selection type.'

Test items/questions for written test:

Supply Type

Terminological Type
Completion Type
Very Short Answer Type
Short Answer Type
Essay Type

Selection Type

Multiple Choice Type
Matching Type
True-False

Tools for skill evaluation

Subjectivity in evaluation of observation, performance tests used for skill evaluation can be avoided by the application of appropriate tools respectively.

Methods

Observation
Performance Tests

Tools

Observation schedules
Checklists

Rating Scales

Tools for evaluation of personality traits

Evaluation of personality traits are not a one-time affair. It is a continuous process. Traits manifest spontaneously which can be observed. Specific traits absent in students, but needed for inculcation can become a habit after a long time with repeated exposure to the concerned traits-involved activities. Evaluation tools most relevant for the purposes are observation schedules and rating scales.

Practical record: An essential tool

Faithful day-to-day recording of practical activities by the student with attached response sheets of checklist and rating scale for self evaluation, teacher's evaluation and community's evaluation serve as an essential tool for comprehensive evaluation of vocational competencies attained by the students in all the three domains, cognitive, psychomotor and affective. It is tool for both formative and summative evaluation.

Evaluation should be continuous and comprehensive comprising both internal and external components.

School has to ensure the following:

- Preparation of a Year Planner with day-to-day programme schedule of curriculum transaction;

- Preparation of evaluation tools for evaluation of knowledge, process skill, product skill and personality traits for each and every practical activity carried out in and duplication of adequate copies for self, teachers and community's evaluation.
- Co-operation and participation of concerned experts of collaborative institutions and site supervisor of OJT in the evaluation process of the students for the collaborative and OJT phases of circular transaction respectively.
- A meticulous and sincere evaluation of vocational competencies attained by the students can ensure quality product. It is not the certificate of the Board but the Stamp of the School that will command respect through the recognition and appreciation of the quality of work of the vocational graduates in the society.

Vocational teachers should be trained to develop evaluation tools and item banks for evaluation of vocational competencies. School Boards can arrange specific training-cum-workshop programmes for each vocational course and develop evaluation tools and item banks, as well as guidelines for evaluation of vocational competencies.

Evaluation in vocational education would need

- To assess competencies which include all the three domains of development- cognitive, affective and psychomotor.
- To press into search 'observation' as the main technique of evaluation besides written, oral and practical ones.
- To extensively use checklist, inventories, observation schedules, rating scales in addition to question papers as tools of evaluation.
- To take cognizance of sessional work and the quality, quantity and speed of progress made by an individual. This would be put on record through an additional certificate of comprehensive and continuous evaluation issued by the school on a format prescribed by the examining Board as a supplement to that of external examination.
- To specially focus on on-the-spot evaluation of performance besides evaluation of academic achievement.
- To be participatory – jointly done by the teacher who teaches and a designated external examiner.

Annual/semester/modular approach

The National Policy on Education –1986 advocated the introduction of semester system in secondary and higher secondary stages for providing greater flexibility and functionality in the offering of courses. The report of the Conference of Chairman of Boards of School Education on Semesterisation and Examination Reform (NCERT, 1992) deals elaborately with the semesterisation of vocational education at the higher secondary stage. The recommendations made in the National Curriculum Framework for School Education (NCERT,2000) for bringing about necessary changes in the delivery of VET has undoubtedly brought in a fresh outlook to the vocational education programme to meet the challenges of the 21st century.

In spite of such an emphatic statement in the national policy document, semesterisation of

the Vocational Education Programme has not been done, even after 25 years of implementation of VEP. The National Curriculum Framework for School Education brought out by the NCERT (2005) has also emphasized flexible modular approach with provision for credits and credit accumulation.

A cafeteria approach of offering vocational courses of varying durations should therefore need to be adopted, based on the outcome of the occupational survey. It will enable students to exercise their choice and take their own decision in opting for a programme. An assessment of the interests and abilities of students should inevitably be done by a vocational counsellor. Arranging such demand-driven vocational programmes should be the sole responsibility of the institution. The institutions should learn to adjust to the demands of the students in offering of vocational courses.

A VET pathway for each identified occupation, based on modular approach, offered at different stages of education has to be developed for coherence and smooth progression of an individual in a profession of his/her own choice.

Students should have the choice of determining the programmes by matching and mixing the modules of their choice to their professional needs. Such a system exists in several countries like New Zealand, United Kingdom, Philippines, South Korea, etc. It will provide multi-entry and multi-exit options through a set of occupation based modular courses.

ACTIVITY 7



Now since you have gone through the above issue, give your views on how can vocational education improve the livelihood of the people in a country like India. Write in about 100 words.

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Summary

This unit has described the major issues and concerns faced by vocational education in the country such as vertical and horizontal mobility of vocationalization, areas that require flexibility in implementation, role of teacher and maintenance of quality, equity and relevance of the programme. We discussed in this unit the need for vertical and horizontal mobility for students of

vocationalization in order to increase the acceptability of vocational courses. It is, therefore, suggested that vocational students are given some preferences to related courses in polytechnic and other professional institutions. We have also discussed that vocational education programmes need greater flexibility which calls for modularization of courses and setting up of semester system. We have also highlighted the suggestions related to the teachers and steps required to provide quality in vocational education. The issue of the relevance of the programme was also being discussed. The relevance of the programme is concerned with the needs and interest of the stakeholders, students, parents, employers and the society at large. There is need for constant evaluation of the programme to serve the specific needs.

Suggested readings



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- Sacheti, A. K., Verma, A. P. and Mehrotra, V. S. (2005). *Vocational Education and training: challenges and strategies*. Bhopal: PSSCIVE (NCERT).
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Questions for critical reflection

- 1) Elucidate the concept of horizontal and vertical mobility of students in the context of vocational education.
 - 2) Explain, with example, both criterion referenced and norm-referenced texts along with when and where each of these can be effectively used in performance testing.
 - 3) What are the major constraints in the implementation of vocational education programme?
-

Curricular Design and Implementation Strategies

▪ Nalini Srivastava

UNIT

3

Introduction

In common parlance, the word 'curriculum' signifies an outline of courses of study. The curriculum is a whole body of courses offered in an educational institution, or by a department. A curriculum may mean a single course, a bunch of courses, a whole body of courses offered by an institution, and even the entire programme of study encompassing a variety of courses and their infrastructure support. The term 'curriculum' is normally used in a wider sense to cover the various educational activities through which the content is conveyed as well as materials used and methods employed. It is, therefore, the learning experiences gained during the curricular transaction/implementation. This unit deals with national curricular design for vocational education which includes various components, particularly on-the-job training, competency-based evaluation, and implementation strategies.



Learning outcomes

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

- explain various components of the vocational education curriculum;
- identify the need for on-the-job training;
- analyse the format for competency based curriculum, and
- analyse its implementation strategies for vocational curriculum.

Competency-based curriculum

Competency-based curriculum describes an approach to vocational education and training that focuses on the development of competencies in the learner as an outcome of the implementation of the curriculum. The primary focus is on what the learner can actually do and detail out the skills along with the supportive knowledge and attitudes as they relate to a specified level of competency.

The concept of 'competency' focuses on what is expected of an employee in the work place and embodies the ability to transfer and apply skills and knowledge to new situations and environments. All aspects of work performance are included. Thus, the competency based vocational curriculum is one which imparts the knowledge and skills required to execute the various responsibilities and activities involved in a particular vocation.

Each competency based curriculum provides a list of job opportunities (both wage and self) and description of each job. In addition, a set of competencies required to be attained in cognitive (knowledge), psychomotor (skills) and affective (personality traits/attitudes) domains are presented. The objectives of the course, scheme of studies and examination pattern, syllabus and list of on-

job-training sites are given. The other information includes the list of equipment, chemicals, etc., along with a list of collaborating institutions. The suggestive qualifications of teaching staff, a list of reference books and career pathways are also provided.

Curriculum is useful not only for the Boards of Secondary/Senior Secondary Education but also for the implementing agencies, teachers, book writers, examiners and research workers. The utility of this curriculum can be judged by the qualitative improvement it brings about in the implementation of the vocational education programme.

The PSSCIVE has developed curricula for various vocations in Agriculture, Home Science, Engineering and Technology, Commerce, Health and Paramedical and Humanities. List of curricula developed by PSSCIVE is given below:

ACTIVITY 8



What do you mean by competency-based curriculum? What is competency? Is competency related to psychomotor domain only? Elaborate your answer by giving reasons to justify it? Write with suitable examples in about 100 words.

Competency based curricula in vocational courses developed by PSSCIVE, Bhopal

01. Agriculture	: 28
02. Business and Commerce	: 11
03. Engineering and Technology	: 17
04. Health and Paramedical	: 09
05. Home Science	: 09
06. Humanities and others	: 08
TOTAL	: 82

01. Agriculture:

- 01.01 Agriculture Chemicals
- 01.02 Crop Production
- 01.03 Dairying
- 01.04 Farm Mechanic
- 01.05 Fish Processing Technology
- 01.06 Horticulture
- 01.07 Inland Fisheries
- 01.08 Plantation Crops and Management
- 01.09 Plant Protection
- 01.10 Poultry Production
- 01.11 Seed Production Technology
- 01.12 Sericulture
- 01.13 Swine Production
- 01.14 Vegetable Seed Production
- 01.15 Floriculture, Landscaping and Bee-Keeping
- 01.16 Medicinal and Aromatic Plant Industry
- 01.17 Sheep and Goat Husbandry
- 01.18 Agrobased Food Industries (Food Based)
- 01.19 Agrobased Food Industries (Animal Based)
- 01.20 Agrobased Food Industries (Feed Based)
- 01.21 Post Harvest Technology
- 01.22 Fish Seed Production
- 01.23 Fishing Technology
- 01.24 Veterinary Pharmacist cum Artificial Insemination Assistant
- 01.25 Repair and Maintenance of Power Driven Machinery
- 01.26 Rural Construction Technology
- 01.27 Veterinary Pharmacist-cum-Technician
- 01.28 Dairy Technology

02. Business and Commerce

- 02.01 Accountancy and Auditing
- 02.02 Banking
- 02.03 Cooperation
- 02.04 Export Import Practices and Documentation

- 02.05 Insurance
- 02.06 Marketing and Salesmanship
- 02.07 Office Management
- 02.08 Purchasing and Salesmanship
- 02.09 Steno-Typing
- 02.10 Taxation Practices/Taxation Laws/ Tax Assistant
- 02.11 Receptionist

03. Engineering and technology

- 03.01 Air Conditioning and Refrigeration
- 03.02 Audio Visual Technician
- 03.03 Auto Engineering Technology
- 03.04 Building Maintenance
- 03.05 Clock and Watch Repair Technology
- 03.06 Computer Techniques
- 03.07 Electronics Technology
- 03.08 Engineering, Drawing and Drafting
- 03.09 Lineman
- 03.10 Maintenance and Repair of Electrical Domestic Appliances
- 03.11 Mechanical Engineering Technology
- 03.12 Printing and Book Binding Technology
- 03.13 Repair and Maintenance of Radio and TV Receiver
- 03.14 Repair, Maintenance and Rewinding of Electric Motor
- 03.15 Rural Engineering Technology
- 03.16 Plastic Technology
- 03.17 Software Application

04. Health and Paramedical

- 04.01 Health/Sanitary Inspector
- 04.02 Hospital Documentation and Record Keeping
- 04.03 Hospital House Keeping
- 04.04 Multi Rehabilitation Worker
- 04.05 Medical Laboratory Technician
- 04.06 Ophthalmic Technician

- 04.07 Physiotherapy and Occupational Therapy
- 04.08 X-ray Technician
- 04.09 Health and Paramedical Curricula (Revised & recognized with core and elective modular outlines)
- 04.10 Repair and Maintenance of Biomedical Equipment (Proposed)

05. Home Science

- 05.01 Bakery & Confectionary
- 05.02 Catering & Restaurant Management
- 05.03 Clothing for the family
- 05.04 Commercial Garment Designing & Making
- 05.05 Food Preservation & Processing
- 05.06 Institutional House Keeping
- 05.07 Pre-School & Creche Management
- 05.08 Textile Designing
- 05.09 Garment Manufacturing and Styling

06. Humanities and others

- 06.01 Interior Design
- 06.02 Library and Information Science
- 06.03 Photography
- 06.04 Tourism and Travel Techniques
- 06.05 Classical Dance – Kathak
- 06.06 Instrumental Music – Tabla
- 06.07 Commercial Art
- 06.08 Hindustani Vocal Music

07. General Foundation Course

- 07.01 General Foundation Course (GFC)

ACTIVITY 9



List the areas of different curricula developed by PSSCIVE Bhopal.

National curricular design

Scheme of Vocationalization of Secondary Education, MHRD envisage that an essential feature of vocational education is that it should be need based, socially relevant and lead to meaningful self or wage employment. The course structure should be such that it helps to develop suitable competencies, including abilities for continuing education.

The vocational courses were expected to be of 1 to 3 years duration, but most of them are of 2 years duration. The curriculum design recommended at the national level tends to develop desired level of competency in vocational graduate in their respective areas of specialization and prepares them for employment, either self or wage.

In the curriculum design as recommended by PSSCIVE at national level, each vocational course consists of the following components:

Component	Weightage in %
1. Language	15-20 %
2. General Foundation Course (GFC)	10-15 %
- Environmental education	
- Rural development	
- Entrepreneurship development	
3. Vocational Theory and practice	70 %
Total	100 %

Between the Vocational Theory and Practice, at least 50% time is allotted for practical. Although this varies with the nature of the course. The idea is to have greater emphasis on practical experience. The GFC curriculum is recommended as a compulsory component of all vocational courses. A vocational student to succeed must have a proper perception of the environment, its resources and potential to support growth. The citizens, specially entrepreneurs, are responsible to maintain and can serve environment for sustainable growth, hence, it is absolutely crucial that they receive such an education, which is also directive of the count. There is still a wide disparity between the rural and urban areas of the country. This has to be removed if India were to become a developed country. Keeping this in view, rural development has been included.

A Proper awareness and understanding of entrepreneurship is essential because wage employment being limited, finds absorption of only about 10% of human resource in it. The rest have to strive for self ventures. This necessitates the development of entrepreneurial character and attitude among vocational students. Therefore, the GFC is a unique blend of these three extremely important components. PSSIVE has recently introduced one more area under GFC, i.e. of computer based on NCF School Education (2000) recommendation. A component of On-the-job training (OJT) is also visualized as an integral part of the curriculum so that the student receives a systematic training in applying the knowledge gained and competencies developed in the real work situations. Thus, generally speaking, every vocational curriculum imparts the following skills to its students:

- i. Communication skills - through the language component. Choice of the language to be taught is left to the states.
- ii. Entrepreneurial skill – through the GFC curriculum.
- iii. Vocational skills – These are developed at three places i.e., in schools, collaborating institutions and during the OJT at real work places.

National format proposes 1200 hours of vocational teaching and 200 hours of OJT over a period of two years. This is in view of the fact that schools have a 6 hour working day. However, states have the freedom to alter this time schedule according to the number of working hours/days and number of working days available per year in their state or region. For example, Kerala has added more optional courses to its vocational curriculum and also there is variation in the percentage of instructional time allotted to theory and Practice (60-70 % is for theory). Haryana has 8 hours of work/day in schools. Further, there are no summer vacations and as such, their number of hours of vocational teaching is more than 1200.

Scheme of studies and examination as proposed at the national level

S.No.	Paper	Subject	Theory		Practical		Total	Total
			Hours	Marks	Hours	Marks	Hour	Marks
1.	2.	3.	4.	5.	6.	7.	8.	9.
PART- A								
CLASS - XI <i>LANGUAGE AND GENERAL FOUNDATION COURSE</i>								
1.	I	Language – 1 and/or Language – 2	150	150	-	-	150	150
2.	II	General Foundation course (Entrepreneurship Development studies, computers Environmental and rural Development).	50	50	100	100	150	150
TOTAL:			200	200	100	100	300	300

CLASS - XII

1.	III	Language – 1 and / or Language – 2	150	150	-	-	150	150
2.	IV	General Foundation course (Entrepreneurship Development studies, computers Environmental and rural Development).	50	50	100	100	150	150
TOTAL :			200	200	100	100	300	300

PART – B

CLASS – XI *VOCATIONAL THEORY AND PRACTICE*

1.	I	Paper I	80	100	120	100	200	200
2.	II	Paper II	80	100	120	100	200	200
3.	III	Paper III	80	100	120	100	200	200
TOTAL :			240	300	360	300	600	600

S.No.	Paper	Subject	Theory		Practical		Total	
			Hours	Marks	Hours	Marks	Hour	Marks
1.	2.	3.	4.	5.	6.	7.	8.	9.

CLASS – XII

4.	IV	Paper I	80	100	120	100	200	200
5.	V	Paper II	80	100	120	100	200	200
6.	VI	Paper III	80	100	120	100	200	200
TOTAL :			240	300	360	300	600	600

PART – C

CLASS – XI *ON THE JOB TRAINING*

1.	I	On-the-job Training	-	-	100	100	100	100
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CLASS- XII

2.	II	On-the-job Training	-	-	100	100	100	100
TOTAL :					200	200	200	200

SUMMARY

	PAPER			HOURS			MARKS		
	Th.	Pr.	Total	Th.	Pr.	Total	Th	Pr.	Total
CLASS- XI									
PART- A 2	1	1	3	200	100	300	200	100	300
PART -B	3	3	6	240	360	600	300	300	600
PART –C	1	1	1	-	100	100	-	100	100
TOTAL:	5	5	10	440	560	1000	500	500	1000
CLASS – XII									
PART- A 2	1	1	3	200	100	300	200	100	300
PART -B	3	3	6	240	360	600	300	300	600
PART –C	1	1	1	-	100	100	-	100	100
TOTAL:	5	5	10	440	560	1000	500	500	1000

Note:

1. Continuous assessment of student will be done by the teacher/instructor on the basis of attendance, achievement in the tests, assignments and performance in practical classes/field operations.
2. On-the-job training will be organized during vacation period in related industries. The duration of the on-the-job training will be of 200 hours in a period of two years. The students will be placed at industries, manufacturing units etc

The vocational curriculum, developed by the PSSCIVE, NCERT within the national curricular framework, is based on the identification of job opportunities, specification of duties or tasks to be performed in the job, and analysis of each task in terms of knowledge, skill and personality traits required to perform the task.

The main objective of vocational education is to provide education and training to the students so as to develop in them vocational competencies which make them employable. These competencies are developed through curricular transaction in school, and in collaborating institutions or by providing OJT for an adequate duration. There is great variation from course to course and institution to institution, in respect of the amount of practical training provided to the students in school and collaborating institution. The vocational education programme (VEP) in the country is visualized as a partnership programmes between the education and other sectors. It is a collaborative venture between the vocational schools/institutions and the neighboring employers or professional organizations in the agricultural, industrial, health and other service sectors.

Even if the students acquire all the competencies within the four walls of the school environment, it will still leave the students training incomplete because he/she will not have the feel and experience of the actual work environment. So, it is essential to put them for an adequate period on OJT to develop self-confidence and proficiency.

On-the-job training in curriculum (OJT)

The OJT is an integral component of the vocational education curriculum which is transacted in a real work situation under the supervision of an expert/supervisor/master craftsman before graduation and aims to develop proficiency and self confidence. The OJT thus differs from apprenticeship training which takes place after vocational graduation.

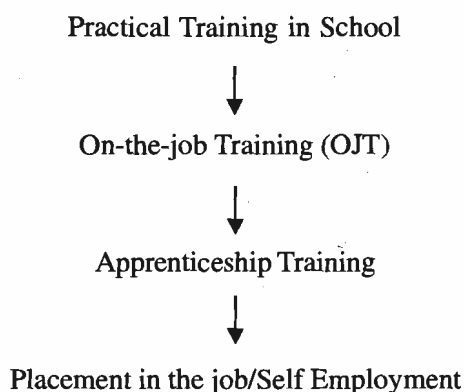
According to Centrally Sponsored Scheme (CSS) document – "Practical work and training are very important components of vocational education and sufficient time would be allotted to this aspect in the course design. The practical work would be arranged in institutions like polytechnics, ITIs, nursing schools, and through "work benches" identified in commercial and industrial establishments, hospitals, farm etc., depending on the nature of the vocation and intensity of the practical training required for the course.

The government departments themselves would be in a position to extend training facilities in many vocational areas and also provide part-time faculty for instruction as well as for monitoring the progress of the student at the "work-bench". Training arrangements should also be located in the unorganized sector. Sufficient time on half-day or full day basis, on the same days of the week, would be assigned as part of the school time-table for such practical training. Structural flexibility should also progressively be incorporated in the curricular design of vocational courses, like introducing semester system in class XII and the freedom to arrange practical training in different semesters according to the convenience of the student and the collaborative relationship with employers who would thus be assured round-the-year supply of trainees at the "work-bench" on-the-job training. Guidelines have been prepared by the NCERT for school-industry linkages to help identify institutions/organizations which could be used for providing practical training. The Heads of institutions offering vocational courses would approach such institutions and enlist their co-operation in providing practical training to vocational students. The state government would ensure that necessary instructions are issued to appropriate state authorities and concerned institutions to extend full cooperation for imparting practical training to vocational students.

Linear progression in the development of competencies

The development of vocational competencies is a life-long process. There is linear progression in acquiring and developing competencies in the vocation, skill training in schools or in collaborating institutions and are as visualised in the scheme of vocational secondary education. It begins from progressively refined during OJT, apprenticeship training and after placement in a job/self employment.

Linear progression in the development of competencies



Development of competency based curriculum

The PSSCIVE has developed the curriculum for vocational courses in the workshop mode. The working Group involved in development or revision of curriculum comprises curriculum experts, subject experts, entrepreneurs, representatives from training institutes, concerned trade union/association and prospective employers. This working group develops the curriculum through a process called DACUM developing a curriculum. Each curriculum should have the-

I. Job prospects

Job prospects for the course should be identified properly:

II. Job opportunities

The wage employment opportunities should be identified and listed properly. Self-employment opportunities should be identified and listed properly.

III. Job description

The repeatedly performed duties for each employment opportunity should be listed down.

IV. Job analysis

Knowledge and skill component under each repeatedly performed duty must be identified and listed down.

V. Objectives of the Course

The broad objectives of the vocational course must be formulated while considering all the three important aspects mentioned above.

VI. Scheme of studies and examination

The objectives of the vocational course should be considered in deciding weightage to the theory and practice or the scheme proposed by the examination body should be followed. Appropriate weightage to on-the-job training must be given.

VII. Syllabus

The content to be drawn from job analysis into six papers, three for eleventh class and three for twelfth class organising into theory and practicals should be arranged and divided properly.

In the case of modular curriculum, the content to be drawn from job analysis into independent modules of different weightage should be arranged and divided adequately. This however should be done when semester or trimester system is put into action at this level of examination by the concerned Boards.

VIII. Inputs for the courses

Exhaustive lists of category wise input – equipment, machine, tools, glassware, chemicals, other raw materials for a unit of twenty students shall be prepared. This however will vary from course to course.

IX. Addresses for the procurement of inputs

An exhaustive list of category wise addresses should be prepared from where different inputs can be procured. If possible, their prices as rough estimate could be quoted.

X. *Suggested list of collaborating institutions*

A list of collaborating institutions should be prepared properly which can be involved in the curriculum transaction.

XI. *On-the-job training sites, syllabus and evaluation*

A list of places where on-the-job training in the specified vocation can be imparted/arranged must be prepared properly. Syllabus of on the job training and evaluation should also be mentioned.

XII. *Teaching staff and their qualifications*

The minimum qualifications for the full time teacher and the instructor must be listed. The experience and preferences desirable for doing the job should be given. The qualifications for the part time teacher for the course and his/her qualifications and experience must be indicated.

XIII. *Reference books*

An exhaustive list of reference books – textbooks, manuals, teacher guide, supplementary readers, etc. must be prepared properly.

XIV. *Career mobility*

Career mobility for the vocational course must be mentioned in the curriculum systematically.

Implementation strategies

The strategies that may be adopted for implementation of the vocational course are given below:

In different states the implementation of VEP is the responsibility of education directorates. In some states, a separate directorate of vocational education has been created. While in others it is the responsibility of Directorate of Primary and Secondary Education. Vocational Education Programme is being implemented either by Directorate of Primary and Secondary Education, or Directorate of Higher Education, or Directorate of School Education., or Directorate of Industrial Training and Vocational Education or Directorate of Vocational Education and Training, or Directorate of Vocational Education. Separate Directorate of Vocational Education should be established. For smaller states separate wing in the Directorate of Education should be established. States with larger programme should establish separate Board of Vocational Education. Release of funds should be time bound and based on performance with accountability.

National level authority should be established at the national level. There is a Bureau of Vocational Education of MHRD, which provides administrative support to the entire programme of vocational education, besides releasing grants to the state government and non-governmental organizations for implementation of Vocational Education Programme. The Bureau also provides secretarial support to the Joint council of Vocational Education, which is responsible for planning and co-ordination of Vocational Education Programmes implemented by different organizations/ ministries.

PSSCIVE should be given authoritative roles related to accreditation and monitoring PSSCIVE should be strengthened RIVE should be established. The PSSCIVE, a constituent unit of NCERT, is providing research and development support to the programme. Its major functions include orientation and training of key functionaries, development of guidelines; curricula, instructional materials, popularization of materials, video programmes and evaluation and monitoring of Vocational Education Programme.

In quite a large number of states SCVE has been constituted. SCVE should be reconstituted till authority at the national level and its parallel bodies at the state level are created. The State Institute of Vocational Education or State Council of Educational Research and Training provides academic support to the Vocational Education Programme at the state level. It conducts district vocational surveys, organizes in-service teacher training programmes and undertakes evaluation studies of the programme.

Most of the states have given responsibility of administration of Vocational Education Programme to the Directorate of Education. Some of them assigned responsibility to Directorate of Industrial Training. A few have established Directorate of Vocational Education also. Separate Directorate of Vocational Education should be established. The Directorate supervises and monitors the implementation of the Vocational Education Programme. It also extends secretarial support to the State Council of Vocational Education, which provide policy directives and coordinates with various agencies at the state level.

Very few states have established the District Vocational Education Offices (DVEO). At the district level, District Education Officer or District Vocational Education Officer supervises or oversees the implementation of the programme. He/she works as nodal agent for organizing and co-ordinating various activities at the district level.

District vocational survey should be conducted for identification of suitable institutions.

Surveys should be made a prerequisite to the grant of Vocational Education Programme and should be periodically conducted (5 years) for update. DVEO should be established and made functional with the main responsibility of conducting surveys.

Each School has 2-3 courses. Selection of courses should be based on district survey as well as preliminary survey conducted by the school. Such reports should be considered prerequisite for allowing a particular course. Schools having large infrastructure and good performance records should be allowed to offer more courses.

For an effective implementation of the vocational education programme, the provision of adequate instructional time as per the requirements of various courses needs to be ensured. It has to be impressed upon the schools/agencies that the time allocation as suggested in the Programme of Action (1992), i.e., thirty per cent time for language, the general foundation course, and seventy per cent time for vocational courses may be adhered to.

Instructional materials such as teachers guides, textbooks, practical manuals should be used. The PSSCIVE has brought out a variety of model instructional materials for vocational courses. They are available in print form. PSSCIVE should coordinate the instructional material development work at the national level. The course should start only after proper procurement of equipments. The equipments should be upgraded from time to time.

There would be full time as well as part-time teachers. Part-time teachers are expected to be professionals from industry. Full-time teachers are obligatory, should be appointed before enrolling students. Qualification of full-time teachers would vary with reference to each group of courses. However Master's degree would be the base qualification for selection of vocational teachers. Teachers would be selected well in advance. The Head of the Vocational institution would be given free hand to appoint part-time teachers.

Pre-service programmes for fresh entrants, training programmes and periodic refresher courses for in-service teachers and package training programmes for part-time teachers would be provided

on regular basis. Pre-service, In-service Training and Refresher courses should be given and made compulsory with proper feedback mechanism.

Regional Institute of Education should be revamped to provide pre-service and in service teacher training programmes.

Role of the Board of Apprenticeship Training should be decentralized upto Principal level. At the regional level, the four Regional Boards of Apprenticeship Training are responsible for the placement of the vocational students as apprentices in various industries for a period of one year. They also give stipend to the apprentices as per the norms decided by the Government.

Practical work should be arranged in other professional institutions, and the state government would issue necessary orders for the purpose. Practical training should be provided in industry. Schools providing vocational courses should strive to have their own training-cum-production centers. These centers provide to the learners real life experiences and an opportunity for acquiring on-the-job skills and developing entrepreneurship abilities. Thus, the schools offering vocational courses may undertake semi commercial ventures in production and services to generate income. It will provide additional incentives to the learners and teachers in monetary terms as they will share the profits. The community should be suitably involved in marketing the products.

There would be internal as well as external evaluation of performance of students. National level evaluation board should be established. Evaluation should be made on modular basis.

Assessment in vocational courses has to be performance oriented. Continuous and comprehensive evaluation, with a built-in procedure for remedial measures, will ensure effective achievement of the requisite competencies. A complete and comprehensive record of the assessment of the students performance including evidences reflecting their personality traits will be maintained. Both process and product assessment are important for proper evaluations. The certificate issued will make a mention of the competencies acquired along with the credits earned therein.

Each school should have one trained graduate teacher, trained as vocational guidance teacher. Vocational guidance should be made available at the district and school level

Central and state governments would take up the work of the modification of recruitment rules to increase the employability of vocational pass outs.

Monitoring of programme implementation should be done at various levels. PSSCIVE should continue evaluation of implementation of vocational education programme periodically. It may also hire consultant or agencies for their purpose. NGOs with 3 years of standing should be given assistance to take up initiative programmes in the field of vocational education.

ACTIVITY 10



In the context of curricular design and implementation strategies within vocational education, outline briefly various components of the vocational education curriculum, and analyse the format of the competency-based curriculum and its implementation strategies for vocational education in India. Write in about 150 words.

Summary

In this unit, we have dealt with the national curricular design for vocational education which includes various components, particularly on-the-job training, competency based curriculum and implementation strategies. Vocational education curriculum should be need-based, socially relevant and lead to meaningful self or wage employment. We have highlighted the process of development of the competency based curriculum and the strategies that may be adopted for implementation of the vocational courses. For an effective implementation of the vocational education programme, the provision of the adequate instructional time as per the requirements of the various courses needed to be ensured.

Suggested readings



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Verma, A. P. (1996). *Guidelines: establishment of production cum training center in vocational education institutions*. Bhopal: PSSCIVE (NCERT) .

Vaid, D.K., (2002). *Vocational educational programme Haryana : success stories*. Bhopal: PSSCIVE (NCERT).



Questions for critical reflection

- 1) Analyse the characteristic features of the vocational education programme under the scheme of vocationalization of education of the MHRD, Government of India.
 - 2) Discuss the concept and necessity of on-the-job trainers.
 - 3) Justify the inclusion of 50 percent stress on practical work in the 'national curriculum design of vocational education'.
 - 4) Illustrate the difference between process and performance evaluation in the context of vocational education.
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Innovations and Case Studies/ Success Stories

UNIT

4

▪ Nalini Srivastava

Introduction

Innovations in vocational education play a vital role towards enhancing the quality of teaching and learning in schools as well as teacher education institutions. The success of any educational policy and reform depends on their implementation of the system. The teacher is the key resource in the reform, redirection and renewal of education. *The National Policy on Education (1986)* and its modified version (1992) stated, "Teachers should have the freedom to innovate and devise appropriate methods of communications and activities relevant to the needs, capabilities and concerns of the community".

The word 'innovation; in vocational education means the introduction of novelties, the alteration of what is established, a novel practice and a change in established methods in vocational education. Generally, in the field of vocational education to innovate is to create something new which markedly deviates from traditional practices which have been followed since a long time to impart vocational education at different levels. Schools, being miniature society, participate in the educational reforms and social transformation. The problems of the society are essentially the problems of the school and as such schools are required to teach new vocational skills, develop new insights and approaches, and cater to the solution of the economic and social problems which a nation faces. This is essential in order to develop better adjustment ability in the future citizens of the nation so that they may satisfactorily meet the challenges of a developing society. In this unit we discuss some of the innovations and success stories concerning vocational education in the country.



Learning outcomes

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

- explain essential educational processes which are required for an innovation;
- highlight and describe the different invocations that have emerged in the field of VET;
- analyse various case studies in the implementation of vocational education; and
- examine the success stories in various areas of vocational education.

Innovations and need assessment of vocational courses and skills

Fifty five percent of the Indians are below 30 years of age and 70% of them are below 35 years of age. While India do needs graduates from Indian Institute of Technology, Indian Institute of Management, Medical Colleges and Engineering Colleges the actual requirement is for skilled manpower from vocational education and training institutions.

Apart from the students in the school system and all the school learners, there are women, marginalized youth, disabled people and unemployed educated youth throughout the country who are in need of skill training which can be provided by the vocational education programme.

For India we need millions of trained people in the area of services for Agriculture, Floriculture, Horticulture, Sericulture, Fishery, Health care, Tourism, Trading services, Business and hundreds of skills for the manufacturing sector. We do not see world class vocational education and training infrastructure, even after 55 years of India's independence.

There is non-availability of appropriate trained manpower to assist NGOs and private organizations which are shifting their focus on rural areas. Vocationally trained persons can setup their own NGOs to take up specific projects.

To meet the challenges of 21st century, knowledge workers with appropriate skills are needed in rural as well as in urban areas. So, developmental demand-driven vocational subjects be offered as optional subjects at under graduate/post graduate levels along with the academic courses.

Knowledge worker, personnel having competencies and skills in the use of modern technology for global market will be required to meet the manpower requirements of many developed countries having shortage in skilled personnel as also of many developing countries. So there is need for vocational diploma/advanced diploma and practically oriented degrees to be offered in appropriate trades to meet the global requirements.

There is need for variety of demand driven vocational electives to match the requirements of unorganized sector at school/undergraduate/post graduate levels for students to select as per their interest and aptitude. Need based courses will enhance their relevance to employment and will improve chances for employability.

In the manufacturing and service sector there are hundred of skills and vocation for which there is a world wide shortage. For example, TV, Electrical appliance repair and service, Automobile and moter cycle repair and service, Foreign language skills, Medical and health services, Hospitality, Tourism, Retailing, Construction, Telecommunications, Electronics, Agriculture, General Engineering, Teaching etc.

Vocational Education in India needs a fresh look. The following suggestions may be useful to make full use of resources and youth energies for the national development.

- Prepare the youth for a vocation of their choice
- Development of world class skilled manpower in the manufacturing and service sectors.
- Trained personnel in Agriculture, especially in floriculture, horticulture, sericulture and fishery and needed for diversification of agriculture and increasing export of agriculture produce.

Innovations in vocational education

Education is considered as the process of development of a comprehensive knowledge for understanding broad social, cultural and vocational aspects. It also helps in reducing poverty and exclusion of ignorance. There are likely to put pressure on changing education and training process. The following educational processes which would require consideration for innovation in vocational education.

- New innovative methods in preparation of vocational teachers.
- Introduction of new information technology for promotion of vocational education programme.
- Introduction of foreign language and culture.
- Integration of cognitive and psychomotor domains of learning.
- Integration among four pillars of education as recommended by Delors Commission on Education for the 21st Century.
- Need for national vocational qualification: a new system.

Innovative methods in preparation of vocational teachers

The technical/vocational education and training is multisectoral in nature. A number of ministries/departments in the central as well as state government is responsible for human resource development in that sector. In India, there are three different types of Technical and Vocational Education and Training Programmes which are provided through 3 distinct types of institutions. First in the system of polytechnics which admit students after 10 years of high school and offer diploma after 3 years of instruction. The system is run by the State Directorate of Technical Education and the Union Ministry of Human Resource Development through its Technical Education Bureau. Second system is that of Vocational Education in the Higher Secondary Schools which also accept students after 10 years of general education and offers courses of 2 years duration. Third system is that of Vocational Training provided through separately established Industrial Training Institutes (ITIs). These institutes also accept students with high school pass for majority of their trades (courses). Large number of these trades are of 2 years duration.

All the three systems are characterized by the absence of pre-service teacher preparation programmes. However, the four Technical Teachers Training Institutes, established one in each region, offer need based programmes of different duration for the purpose of intensive training of teachers of polytechnics. Similarly, 10 Advance Training Institutes offer in-service training programmes for the instructors of Industrial Training Institutes. The Pandit Sunderlal Sharma Central Institute of Vocational Education, Bhopal arrange need based in-service teacher training programmes for vocational teachers in collaboration with professional institutions on a limited scale.

The Teacher Education Institutions which provide bachelor's degree in Education as pre-service requirement for general education teachers have not been geared up to prepare vocational teachers.

The present programme of vocationalization of secondary education commenced as early as 1976-77 in some of the states, however, a nationwide programme of implementation under the Centrally Sponsored Scheme has been taken up only since 1988. But so far no nation-wide pre-service programme for the preparation of vocational teachers has been started either at the state or central level.

In the absence of any systematic teacher education programme the NCERT right from the beginning of implementation started organizing a number of orientation and short-term teacher training programmes in various states. The programmes were generally of one month duration each and were conducted in close collaboration with concerned specialized institutions.

An initiative was taken by the NCERT under which four colleges of education were established in four regions of the country, mainly to prepare teachers for multipurpose schools in various practical

subjects like technology, agriculture, home science, industrial arts, fine arts, commerce and science. The faculty and infrastructure created for the purpose in these four colleges got substantially eroded over the years. The colleges gradually assumed the role of teacher preparation for the general education stream.

The PSS Central Institute of Vocational Education (PSSCIVE), has developed in consultation with national level experts, a well-structured pre-service teacher training curriculum for vocational teachers, which would lead to the degree of B.Voc.Ed. This is a content-cum-methodology course which needs to be tried out on an experimental basis.

Teacher training programme in vocational education

B. Ed. Vocational Education

Faculty of Education and Allied Sciences M.J.P. Rohilkhand University, Bareilly, U.P. has the distinction of starting the B.Ed. courses in various specializations. This is the first effort in the country to produce skilled teachers with adequate practical experience and on-the-job training as per societal needs. Trainees with B. Ed. specialization in vocational education degree are found highly successful and effective not only in teaching the school subjects but also the specialized courses of vocational trades.

Objectives of teacher training programme in vocational education

- To provide training to teacher trainees for teaching different school subjects along with vocational trades.
- To provide teacher trainees sufficient knowledge and skills required for acquiring vocational competencies in the area of different vocational streams.
- To develop attitude, knowledge and skills among youth for entrepreneurship and self employment.

With the emphasis on the specific area of study, B. Ed. (Specialization in Vocational Education) course was launched from the session 1995-96, sanctioned by the state government and approved by NCTE. The course provides intensive and specialized training in the teaching of vocational subjects (trades). The practical as well as on-the-job training are essential components and trainees are attached to various industries/firms to get floor job experiences on the vocational subjects selected as course of study. Streams of B. Ed. (specialization in vocational education) are home economics education, business and marketing education, science and technology education and agriculture education.

Course structure for B. Ed. specialization in vocational education

Theory papers consists of principles and management in education, educational psychology, technology and education, methods of teaching school subjects and vocational trades. There are two specialization papers which include theory and practical of two opted vocational trades and with entrepreneurial development (as a compulsory paper).

The innovative teacher preparation methods are now making use of distance learning, tele-conferencing and video conferencing, specially for updating the teachers' and teacher trainers' competencies. The open learning system can also provide periodic refresher courses for vocational teachers on a modular pattern. Well planned training strategies based on these are the need of the time. The uncertainties of the future would call for the development of a large number of

modularized courses for teacher preparation provided through flexible delivery mode. The pre-service teacher preparation programme should highlight multi-entry and multi-exit system to provide continuous and lifelong learning. It should also offer due consideration to prior learning and requirement of the job. The programme should be organized in such a way that it prepares teacher as a facilitator for the learning process and not merely as an agent for transferring knowledge and skills. Certain competencies in respect of foundations of vocational education e.g. organizing the production-cum-training-cum service activities in the schools/institutions are considered essential for those involved in imparting vocational education.

Introduction of new information technology for promotion of vocational education programme

Information Technology encompasses diversified aspects of computer science and its applications, electronics, tele-communications, computer aided designing and such others. Information technology is playing a very significant role in changing every aspect of human life – communications, services, manufacturing, trade, information, entertainment, education, research, national defence and global security. Information technology is breaking old barriers and making new bridges between the countries, communities/societies and individuals. It can be used as a tool for making strong, prosperous and self-confident individual of a country. It also offers opportunities for revolutionizing the procedures of providing technical and vocational education and training programmes. Distance learning, tele-conferencing and video-conferencing are some of the examples. In view of all these, Information technology should be utilized in providing vocational education and training and making it cost effective and readily available, accessible to all.

Introduction of foreign language and culture

Export-import business and higher education would require knowledge of foreign languages. This would also be required by those with skills who would like to migrate to other countries in search of suitable jobs. Learning of foreign language(s) may become inevitable for those who wish to migrate with their skills. In view of this the vocational education curricula should be reorganized in such a way that foreign language(s) and certain aspects of culture could be incorporated wherever necessary.

Need for national vocational qualification - a new system

There is requirement of a system or mechanism in which either the training acquired through informal system or experience gained by working at the place of work could be assessed and recognized. Assessment of prior learning, accreditation of work experience and certification standards are to be an important component of this system. It will be instrumental to large heritage with the formal system and the inter-dependence between the informal training system and education. In many countries, there exists a mechanism, wherein the national recognition is given to the workforce for their skills and qualifications. In some countries the mechanism/system is known as "The National Vocational Qualification Framework". The framework offers a variety of entry points and pathways for people to gain new skills and qualifications at any age and at any stage in their careers-lifelong learning from school onwards. The framework in operation facilitates the mobility between formal education and training and the informal training system. The proposed system helps in linking formal and non-formal vocational education programme. On these times, there is a need for a system of National Vocational Qualification (NVQ) in India also.

V.S. Gurukul Vocational Jr. College has been able to implement Vocational Education Programme successfully by way of developing suitable infrastructural facilities and some innovative ideas e.g. the Teachers of this Institute are providing guidance and counselling to pass-out students in gaining employment.

V.S. Gurukul Vocational Jr. college in Bombay is running five engineering and technology related competencies based vocational courses at +2 level in two shifts since 1988 – (i) Building Maintenance, (ii) Maintenance and Repair of Electricals and Domestic Appliances, (iii) Electronics Technology (iv) Mechanical Technology, (v) Repairs Maintenance and Rewinding of Electrical Motors.

From the very beginning the college developed workshops/laboratories of respective subjects according to the requirement of the courses. Initially, college faced problems regarding enrolment in standard XIth because of absence of general awareness in the society related to entrepreneurship through vocational education. But gradually the picture changed; students started to come up asking for admissions into vocational courses because the students of this college have been successful in getting employed consistently. Most of the pass-out students are working in actual world of work.

To motivate students and give them actual practical training the Institute has started "Gurukul Technical Service Centre". The center is maintaining its college buildings and surrounding residential buildings with the help of its students only.

It is running very smoothly and profitably. The profit is being shared amongst the teachers and students. A part of the profit is also used for the development of the centre.

The centre functions through 3 departments.

- The Civil Department executes all maintenance work like tap leakage, line repairs, bath and w/c check-up, replastering and repairing of walls, etc.
- The Electrical Department replaces defective tube lights, fans, wiring and in addition to this, the students are repairing all domestic appliances like mixer, iron, toaster, heater, geyser, washing machine, emergency light, etc.
- The Electronics Department repairs all electronic appliances like two-in-one, tape recorder, radio, TV, transistor, sound system with amplifier.
- The centre receives written complaints regarding maintenance throughout the day.

The teacher along with the students visits the site and submits estimate of the repair work and then the students along with plumber/electrician complete the work upto the satisfaction of the owner or respective authority. Later, they submit a bill of repair work for payment to the concerned person. In this way, the student is able to exhibit his/her skill acquired in the college at real work place.

The students of Gurukul College after passing their higher secondary examination do not wait for placement for Apprenticeship training by the regional Board, rather they keep themselves in touch with the college for job works in the community. These range from construction of small garden, construction of dust-bins, spray painting to repairing of collapsible gates, rewinding of electrical motors, repair and servicing of fans, etc. The Institute has purchased several equipment which are not mentioned in the syllabus like tile polishing machines, stones cutting machines, spray painting

machines with compressor etc. These equipments are also available to the pass out students who are unable to purchase the same in the beginning.

Some teachers of Gurukul College not only teach the students but also help them in seeking employment.

This is an example of successful implementation of Vocational Education Programme in a Jr. College. Such an effort by all other institutions implementing the programme can solve unemployment problem to a great extent and help in achieving the objectives of Vocational Education in India.

II. Case Study of Kanya Vidyalaya, Astan, Bardoli Surat, Gujarat

(As Reported by Dr. Poonam Agrawal in Quarterly Bulletin : Vocational Education vol III issue I April-June 1996)

Kanya Vidyalaya, Astan, Bardoli district Surat (Gujarat) is a unique institution in itself where modern perspective and noble ideas are implemented with zeal and in true spirit in the area of vocational education. Keeping pace with the policy of vocationalisation of education, the vidyalaya started Home Science based vocational courses namely, (i) Food Preservation and Processing, (ii) House Keeping and (iii) Creche and Pre-School Management, since 1990.

The Vidyalaya is successfully operating three vocational courses with the help of two full time teachers in Food Preservation and Processing and one each in House Keeping and Creche and Pre-School Management, besides this, there are lab coordinators to assist the courses. Infrastructure is well developed with 3 workshops (one for each course) and 6 classrooms (two for each course). The laboratories and library are reasonably well equipped.

Milestones in the success of the programme are:

- Establishment of Production-cum-Training Centre (PTC) "Swarojgar Talim Kendra" in 1994 at Vidyalaya, where the students get trained as apprentices and
- A selling centre 'Utkarsh' opened in market place in Bardoli.

In the PTC, about 100 students and 6 women from weaker section get job and the centre runs very smoothly under the able guidance of the Principal and Home Science teachers.

The responsibility of running 'Ukarsh' is entrusted on 12th passouts which serves them good experience and training in self employment. The products prepared by vocational students during courses and at PTC "Swarojgar Talim Centre" are sold at the sale counter 'Utkarsh' and the students also share the profit. The sale of the products in one month from the sale centre amounted to Rs. 10,000 was back in mid 1990s. Various products thus prepared and sold include decorative items, preserved foods, nutritious snacks, children's clothing, soft toys, housekeeping articles, child care articles, etc.

Besides this, the vidyalaya arranges self employment fairs and vocational fairs in which students from other centers are also invited with self products.

The success of the efforts can be adjudged from the fact that 70-75% of their students are self-employed, several of them working abroad and about 12% get wage employment in food factories, hotels, motels, button factories, child care centers, etc. This, thus, is a masterminded effort to overcome the problem of suitable linkages between school and industry. This noble effort is

recognized by the PSSCIVE, NCERT in terms of giving the centre "Best School Industry linkage Award 1994-95" and the "Best Vocational School Award, 1996" and could be a trend setter for others.

III. Case Study of Shantikunj, Haridwar (As reported by PSSCIVE in Guide lines – Establishment of Production-cum-training Centre in Vocational Education institutions)

Shantikunj was established in 1969 by Pandit Sri Ram Sharma Acharya, who was an active associate freedom fighter of Mahatma Gandhi. Life at Shantikunj follows the Gandhian philosophy and carries the prime objective of disciplined modest living and extending spiritual, moral and financial help to fellow persons specially to the weaker sections of the society.

Small scale industries were set up at Shantikunj in 1986. Presently, the organization is carrying out commendable activity in numerous trades:- candle making, nara-feeta (thread and silk string) bees wax and honey production, bakery, agarbatti, chalk making, book binding, rubber stamp making, photo lamination, ball pen refill, tailoring, making of the religious thread (janeu), printing press, liquid soap, photography, oil extraction, handloom fabric, papad making. These industries were set up basically to cater to the ashram's needs – with the prime objective of making it self-reliant in fulfilling its various activities and tasks and none of the produce is marketed from any sale outlets out of the Ashram. The Industries are set up on a very modest, low cost scale and employ services of minimal number of voluntary workers. Costing of the products is done simply by adding 4 to 6% (as overhead expenses or profits) to the cost of raw materials plus electricity and water expenses. Estimated minimum expenses required for setting up the various units, number of workers required and the minimum income that can be expected from the unit as proposed by the Shantikunj.

The industries such as Bakery, Tailoring and other related courses of vocational education at Shantikunj are established on a very modest scale with minimum investment of capital and use of cheap, easily available resources. No high cost equipment or machinery is being used here and production of large amounts of products is achieved through relatively simple and low cost machines and equipment which are easy to handle and economical to operate and maintain.

Students of the +2 level, with proper help and guidance of their teachers coupled with some practical training should be able to produce material of sound quality and standard. Small orders for any product may be procured from their school's staff or from neighbourhood. Execution of these orders would enable the students to get sufficient practical training, refine their practical skills and at the same time take care of the goods produced during training/practical classes. Added to all this would be availability of service to the consumers at a cost lower than the prevailing market rates. Within a short time, the training centres would or rather should become self-sustaining, generating their own funds for its continual running.

ACTIVITY 12



At this stage, you may take a pause and reflect on the above issues and such others that you can think of. Collate your views on how can these case studies play a pivotal role in solving the problems in vocational education. Write in about 150 words.

Success stories of vocational pass-outs

Success stories of the vocational pass-outs in different states are important in achieving the objectives of vocational education. These stories showed their value in being helpful in motivating the teachers, students, parents, employers and policy planners to appreciate the vocational education programme. Success stories of vocational passouts collected from different states has been categorized in different areas of vocational education such as in the area of agriculture, business and commerce, home science and engineering and technology. It can be concluded from the success stories that vocational passouts are properly self employed and they are earning enough to become self-dependent. These stories of vocational passouts would also act as a morale-booster to other students and serve as example to other implementing states to work more rigorously for achieving the objectives of vocational education.

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Success stories as reported by Mridula (2003) in Vocational Education Programme in Karnataka, by D. Vaid (2002) in Vocational Education Programme Haryana – success stories published by PSSCIVE, Bhopal are as follows:

(a) Success stories in the area of agriculture

I.

- Name of the student: **D.N. Muni Krishnappa**
- Vocational course studied: **Sericulture**
- School in which studied: **Govt. P.U. College, Chickballapur**

- Name of the student: **D.N. Muni Krishnappa**
- Vocational course studied: **Sericulture**
- School in which studied: **Govt. P.U. College, Chickballapur**

- Year of passing the vocational course: **1990**
- Nature of employment : **Self employment**
- Investment in Sericulture shop: **1,50,000**
- Workers Employed : **4**
- Income: **6000/-month**

D.N. Muni Krishnappa passed vocational course "Sericulture" from Govt. P.U. College, Chickballapur in the year 1990. After completion of vocational course, he joined bachelor degree course in B.A. with History, Economics and Political Science. In the final year, he discontinued his degree and planed to open a sericulture shop on his own.

In 1993, he started his own business named Navya Reshme Chemiclas and Prabha Reshme with the investment of Rs. 1,50,000 at Chikballapur. The business turnover today is Rs. 2 lakhs. He took loan of Rs.50,000/- from bank under PMRY scheme and 1 lakh from parents. He is paying monthly installment of Rs. 1200/- against the bank loan and Rs.3400/- per month as rent of premises where his business runs.

He employs 4 workers in his shop with the facility of two times meals and monthly payment of Rs.1000/-per person. He developed his business by direct contact and filed visit. His income is Rs.6000/- per month. His business includes production and services. He also operates as distribution.

His work is related to the vocational course done by him. He feels the course has proved to be very useful to him in learning the skills required for the job of Sericulture.

II.

- | | | |
|---|---|---------------------|
| ▪ Name of the student | : | K. Srinivas |
| ▪ Vocational course studied | : | Dairying |
| ▪ School in which studied | : | SDM College, Jjire |
| ▪ Year of passing the vocational course | : | 1994 |
| ▪ Income | : | Rs.4,000/-per month |

K. Srinivas passed vocational course "Dairying" from SDM College, Jjire in the year 1994.

After completion of the course, he worked as Supervisor in Dayalbagh Dairy, Jjire on consolidated payment basis up to 1998. He got this job by personally approaching the dairy officials. He did milking, feeding animals, milk selling, etc. His salary was Rs.2000/-per month.

In 1998, he underwent one year training from Karnataka Milk Federation, Mysore as Assistant Inseminator. He got no stipend but a certificate was given and boarding and lodging was free during the training period. Then he joined the Dharmasthala Milk Society as the Secretary. Collection of milk and assessing the quality of milk and pricing, managing the entire care of animals, maintenance of different records are his normal duties. He is allowed to do private practice as an Artificial Inseminator. His earning is more than Rs.4000/- per month.

He feels quite satisfied as he has been able to stand on his one feet because of the training received during the +2 course.

III.

- Name of the Student : Shri Ashok Kumar
- Voc. Course Studied : Floriculture
- Year of Passing Senior Secondary : 2000
- Nature of Work : Own Floriculture (Self employment)
- Name & address of the organisation : Floriculture Venture the organization
- Investment : Rs.20,000/-
- Income : Rs.4,500/-month

Ashok Kumar passed his vocational course in Floriculture from Government Vocational Education Institute, Gurgaon in the year 2000.

In 2000, after completing his vocational course he started his own Floriculture venture wherein he produces and markets flowers. He initially invested a capital of Rs.20,000/- in the shop. He did no take loan from anywhere. He is earning Rs.4,500/- per month from his occupations.

His trade is directly related to the vocational course done by him. He feels that he was motivated to take up self employment by the course, about which he is quite satisfied. He feels that his course is quite useful for the students and should continued to run in the VELs.

IV.

- Name of the Student : Shri Babulal
- Voc. Course Studied : Crop Production
- Year of Passing Senior Secondary : 2000
- Nature of Work : Trading in Seeds
- Name & address of the organization : Government Vocational Education Institute, Bhiwani
- Investment : Rs. 90,000/-
- Income : Rs. 11,000/-month

Babulal passed his vocational course in Crop Production from Government Vocational Education Institute, Bhiwani in the year 1997.

In 1998, he started trading in seeds from his shop and started a video library with an investment of Rs.90,000/-. He took a loan of Rs.40,000/- from Harijan Kalyan Nigum, which he repaid within 14 months.

He is able to earn Rs.11,000/- per month from his business. He feels the vocational course done by him has greatly helped him in motivating him to take up self employment and in establishing himself in the seeds trading business.

(b) Success stories in the area of business and commerce

I.

- Name of the Student : Shri Manoj Kumar Dixit
- Voc. Course Studied : Accountancy & Auditing
- Year of Passing Senior Secondary : 1993
- Name & address of the organization : M/s Eicher tractor, Faridabad
- Nature of employment : Wage employment
- Salary : Rs.8,500/-Month

Manoj Kumar Dixit passed his vocational course in Accountancy and Auditing from Government Vocational Education Institute, Palwal in the year 1993.

He did Apprenticeship Training for one year after completing the course. During such period he got exposed to the world of work which boosted his level of confidence to handle his job well.

In April 1994 he joined M/s Eicher Tractor, Faridabad as Accountant. He is drawing a salary of Rs. 8,500/- per month from his job.

His job is directly related to the vocational course done by him. He feels his vocational course has greatly helped him in setting his life.

II.

- Name of the Student : Shri Anil Kumar
- Voc. Course Studied : Office Secretaryship (Hindi)
- Year of passing Senior Secondary : 1995
- Nature of Work : Own work of typing (self employment)
- Name & address of the organization
- Investment : Rs.10,000
- Income : Rs.6,500/- month

Anil Kumar passed his vocational course in Office Secretaryship (Hindi) from Government Vocational Education Institute, Jhajjar in the year 1995.

In 1996, he started his own shop where he takes up typing and documentation work on job work basis. He invested a capital of Rs. 10,000/- in this shop. He did not took loan from anywhere for this purpose.

He is earning Rs. 6,500/- per month from his shop. His work is directly related to the vocational course done by him.

He feels motivated about his work and is confident that over a period of time, he will be able to expand his business.

III.

- | | | |
|--------------------------------------|---|---------------------------|
| ▪ Name of the Student | : | Shri Gaurav Sharma |
| ▪ Voc. Course Studied | : | Marketing & Salesmanship |
| ▪ Year of Passing Senior Secondary | : | 1997 |
| ▪ Nature of Work | : | Self employment |
| ▪ Name & address of the organization | : | Plaza Gift & Card Gallery |
| ▪ Investment | : | Rs.5 Lakhs |
| ▪ Income | : | Rs. 10,000/- month |

Gaurav Sharma passed his vocational course in Marketing & Salesmanship from Government vocational Education Institute, Sirsa in the year 1997.

He started his own business in the year 1999, in the name of 'Plaza Gift & Card gallery', Sirsa. The nature of business is to sell gift items and cards. He has invested Rs.5 Lakh in the shop. He has not taken loan from any institutions for this purpose.

His annual sales turnover from the business is Rs. 8 Lakh. He is earning over Rs. 10,000/- per month from his business.

His business is very much related to the vocational course he studied. He feels he has gained a lot by undergoing the vocational course. He was motivated during the course to opt for self employment rather than looking for job in some organization.

IV.

- | | | |
|--------------------------------------|---|---|
| ▪ Name of the Student | : | Shri Kuldeep Singh |
| ▪ Voc. Course Studied | : | Office Secretaryship (Hindi) |
| ▪ Year of Passing Senior Secondary | : | 1989 |
| ▪ Nature of Work | : | Wage employment |
| ▪ Name & address of the organization | : | State Vocational Education Institute, Jhajjar, Beiry as Office Secretaryship (Hindi) Instructor |
| ▪ Salary | : | Rs.5,900/-month |

Kuldeep Singh passed his vocational course in Office Secretaryship (Hindi) from Government Vocational Education Institute, Jhajjar in the year 1989.

In the month of June 1992, he joined State Vocational Education Institute, Jhajjar, Beiry as Office Secretaryship (Hindi) Instructor.

He is earning Basic Salary of Rs. 5,900/- per month from his job.

His job is directly related to the vocational course done by him. He is quite appreciative of the vocational programme of the state and particularly his vocational course as he feels the course is quite useful to the students in improving their employability in the job market. He feels satisfied about what he could achieve in life.

(c) Success stories in the area of home science

I.

- Name of the student : Shobha Wodyar
- Vocational course studied : Commercial Garment Designing & Making
- School in which studied : JSS U.P. College, Dharwad
- Year of passing the vocational Course : 1991
- Investment : 6000/-
- Income : Rs.10,000/- per month

Shobha Wodeyar passed vocational course "Commercial Garment Designing and Making" from JSS U.P. College, Dharwad in the year 1981.

Before studying the vocational course, she has established an institute named Instiue of Costume and Dress Design which was registered under Tungabhadra Rural Development Society registered under Karnataka State Societies Act 1975 in 1975.

After completion of vocational course, she had worked as worker teacher in the same school from 1981 on consolidated salary of Rs.300/- per month. There she worked up to 1985.

In 1985, she started to work full-time in her own institute named Institute of costume and Dress Design with the initial investment of Rs. 6000/-. First she purchased 2 machines and some other stitching items. Then she purchased more machines and engaged 3 people at a payment of Rs.800, 600, 300/- per month. They are also used for taking classes in the same institute. She took loan of Rs. 25000/- from DIC in 1992 which was repaid @ Rs. 1200/-per month. She takes orders for stitching work of ladies garments and school uniforms. She improved her business through advertisement on local TV, news paper and pamphlets (in 1997 and 1998). Her monthly income is around Rs. 10,000/- to Rs. 12,000/-.

She also conducts short time courses in the training institute and issues certificates to the students for 6 months course in Fashion Designing, 3 months course in Hand Embroidery and 3 months course in fabric Painting and also 1 year training in Tailoring. She is issuing certificates on Design and Tailoring courses under her institutes' name (ICDD).

The National Scenario

She found her vocational course to be very useful in orienting her to the world of work and developing her skills to perform the job effectively.

II.

- Name of the student : R.N. Soumya
- Vocational course studied : Health and Beauty Culture
- School in which studied : BNM P.U. College, Banashankari
- Year of Passing the vocational course : 1998
- Investment : 1,50,000/-
- Income : 5,000/- per month

R.N. Soumya completed +2 vocational course "Beauty and Health Culture" from BNM P.U. College, Banashankari in the year 1998.

She worked as full-time Beautician in "Shobha Herbal Beauty Clinic" at a salary of Rs. 800/- per month for 6 months in 1997 simultaneously with her Class XII studies. Shobha herbal beauty clinic is a beauty clinic, where herbal therapies are given as substitutes to cosmetics. There she learnt about the herbal aids in beauty culture.

She then worked as Beautician in "Nims Beauty Parlour" on temporary basis @ Rs. 1000/- per month for one year. Also worked as Beautician in Pushpa Arts @ Rs. 2000/- per month for 9 months. She performed all jobs in the beauty parlour.

Finally, she started her own business in 2000 named Venus Herbal Beauty Care with the investment of Rs. 1,50,000/-. She started with the financial help of parents for which she is paying back Rs.2000/- per month. She is also paying Rs. 2000/- per month as rent premises where she runs the parlour. The annual turnover of the business is Rs. 60,000/-. She has engaged one employee. She publicized her business through visiting card, banner and pamphlets. Her monthly income is around Rs. 5,000/-. She is concentrating on health care and beauty culture in her parlour.

She is quite appreciative of the vocational programme of the state and particularly her vocational course as she feels the course is quite useful to the students in improving their employability in the job market.

III.

- Name of the Students : Ashok Veerappa Gull
- Vocational course studied : Textile Technician
- School in which studied : Municipal Junior College, Gokak
- Year of passing the vocational course : 1984
- Investment : Rs. 2 Lakhs
- Income : 25,000/- per month

Ashok Veerappa Gull passed vocational course "Textile Technician" from Municipal Junior College, Gokak in the year 1984.

He joined as Spinning Supervisor in Mahadev Textile Mills, Hubli in 1984 for one year on contract basis through approaching the mill people personally. He was one of the 15 supervisors in the mill who supervised the work of 600 spinners. His monthly payment was Rs. 1000/-. From 1985, for more than 3 years he also took some contract works of weaving and hand dyeing at Gokak. He got an opportunity to join weaving contractor as trainee in 1988 through interview for which he received no payment although certificate of working as weaving contractor for one year was issued to him.

He started his own business named Parsons Textiles in 1991 with the initial investment of Rs. 21 lakhs. He took loan of Rs. 15 lakhs from Karnataka Financial Corporation and Belgaum Industrial bank @ 18.5 % interest and put in Rs.6 lakhs of his own. He purchased land from Karnataka Industrial Area Development Board (KIADB). He constructed the business building and residential houses for workers with the financial help of Yamakanmaradi cooperative Society the entire bank loan was repaid by him by 1996. the annual turnover is around Rs. 2 crores. His monthly income has increased to more than Rs. 25000/-. He engages more than 50 skilled and semi-skilled workers in his business and pays Rs. 1.6 lakhs (approx) per month as salaries to the employees. The main jobs are fabricating fiber from yarn supplied by the customers.

He feels motivated that the initial impetus for starting his own business came from the vocational course done by him.

(d) Success stories in the area of health and paramedical:

I.

- Name of the student : Givindappa Timmanna Devaramani
- Vocational course studied : X-Ray Technician
- School in which studied : Bangur Nagar Composite Junior College, Dandell
- Year of passing the vocational course : 1989
- Type of Employment : Wage employment
- Salary : Rs.3000/- per month

Shri Govindappa timmanna Devaramani completed the vocational course "X-Ray Technician" from Bangur Nagar Composite Junior College, Dandeli in the year 1989.

After completion of the course but before class XII examination, he underwent 25 days training at Cancer Hospital, Dandeli.

After passing the course, he joined as X-Ray technician in X-kiran Kendra, a renowned hospital in Dandeli, his selection there was through an interview. He is earning Rs. 3,000/- per month.

He feels that vocational course has greatly helped him in getting job.

II.

- Name of the student : Sadanand Patil
- Vocational course studied : X-Ray Technician
- School in which Studied : Bangur Nagar Composite Junior College, Dandeli
- Year of passing the vocational course : 1981
- Nature of Employment : Wage,employment
- Salary : Rs.8000/-per month

Sadanand Patil passed senior secondary (vocational) in "X-Ray Technician" from Bangur Nagar Composite Junior College, Dandeli in the year 1981.

Received OJT at cancer hospital, Dandeli. He remained unemployed till 1985. In 1985, he joined as X-Ray Technician in Directorate of Health and Family Welfare Services, Bangalore by direct recruitment. His present earning is about Rs. 8000/- per month in the scale of 4150-7800. He occupies a permanent post in this department.

His decision to opt for vocational course in class XII examination proved right.

III.

- Name of the student : Fayaz Ahmed
- Vocational course studied : Lab Technician Course
- School in which studied : Farooquia P.U. College, Tilak Nagar, Mysore
- Year of passing the Vocational course : 1989
- Nature of Employment : Wage employment
- Salary : Rs.3000/-per month

Fayaz Ahmed passed "Lab Technician Course" vocational course from Farooquia P.U. College, Tilak Nagar, Mysore in the year 1989.

In 1989 November, he got selected as Lab Technician in Basappa Memorial Hospital, Mysore which is a private hospital. He started with a salary of Rs. 1500/- per month. Presently, he is getting Rs. 3000/- per month consolidated salary and PF facility. He does pathological tests in Blood Bank of this hospital.

For this job, he approached the hospital authorities for job and was interviewed. His performance in the interview and the vocational senior secondary certificate fetched him the job. This course was very helpful since they had done most practicals. His college was attached with Medical College and govt. polytechnic for using their doctors and faculty for practicals. This collaboration went on for 10 years till 1990. Since then the college had its own labs and appointed doctors to teach this course.

(e) Success stories in the area of engineering & technology

I.

- Name of the student : A.R. Manjunatha
- Vocational course studied : Electrical Wiring and Servicing of Electrical Appliances
- School in which studied : Govt. P.U. College, Chickballapur
- Year of passing the vocational course : 1991
- Investment : Rs.20,000/-
- Nature of Employment : Self employment
- Income : Rs.8000/-per month

A.R. Manjunatha passed vocational course "Electrical Wiring and Servicing of Electrical Appliances" from Govt. P.U. College, Chickballapur in the year 1991.

After completion of vocational course he joined Bachelor Degree, B.A. (History Economics, Political Science) but he discontinued in final year. In the mean time he got dealership from M/s Sabar Enterprises where he deals in submersible, irrigation, single phase and domestic pump sets. He got license from SSI to take up government electrical contracts.

He started his own business in 1995 named Manju Electricals and rewinding works with the investment of Rs. 20,000/-received as help from parents. The annual turnover of the business is Rs. 90,000/-. He is paying Rs. 800/-as monthly rent. He engages 8 persons on daily basis @ Rs. 50/- to 60/- per person. He developed his business through direct contact and field visit. The monthly earning is around Rs. 8,000/-. Type of works includes house-wiring, submersible pump-sets – repair and assembly, home appliances repair.

He feels motivated that the initial impetus for starting his own workshop came from the vocational course done by him.

II.

- Name of the student : Devadas N.Randewadi
- Vocational course studied : Automobile Servicing
- School in which studied : JSS P.U. College, Dharwad
- Year of passing the vocational course : 1992
- Investment : 80,000
- Nature of Employment : Self employment
- Income : Rs.9000/ month

Devadas N. Randewadi passed vocational course "Automobile Servicing" from JSS P.U. College, Dharwad in the year 1992.

He joined at Bellad and Company (authorized dealers of Bajaj two wheelers) for one year at a stipend of Rs. 300/- per month. His duties were servicing and repairs of all Bajaj two wheelers. He also worked at other repair shop for more than 8 months at a salary of Rs. 600/- per month. He underwent 3 months raining programme in Krishnarao Hanumantharao Kaboor Institute (Polytechnic) at Dharwad, where he did repairing and servicing of two wheelers.

He opened his own garage named 'Sri Sai Automobiles' in 1993 with the initial investment of Rs. 80,000/- which was given by his father. In 2002, he got loan of Rs. 50000/- from M.G. Bank. He is refunding the loan on daily basis @ Rs. 100/- under pick-me scheme. He is also paying Rs. 1600/- per month as rent of his garage premises. He engaged two skilled and semi-skilled labourers for maintenance of garage and pays Rs. 1000/- and Rs. 600/- per month to them. His monthly income is around Rs. 9,000/-. Repairing of machines, two wheelers, sales spares of two wheelers and tree wheelers are main jobs undertaken by him.

He suggests that the course should continue as it is very useful for the students in making them economically independent.

III.

- Name of the student : M.R. Subramanaya
- Vocational course studied : Automobile Servicing Technology
- School in which studied : DVS Independent U.P. College, Shimoga.
- Year of passing the vocational course : 1999
- Investment : 1 Lakh
- Nature of Employment : Self employment
- Income : Rs.20,000/ month

M.R. Subramanya passed "Automobile Servicing Technology" vocational course from DVS Independent U.P. College, Shimoga in the year 1999.

He worked in Neftne Automobile from 1999 at a salary of Rs. 300/- per week. He worked there for more than 2 years.

He started his own business named 'Annapoorneswari Maruti centre' with the investment of Rs. 1 lakh in 2001 with the financial help of parents and relatives. He took loan from Vijaya Bank for construction of building of Rs. 4 lakhs. His monthly income is around Rs.20,000/-. He has engaged 10 employees in his business. His main works include tinkering, painting, mechanical servicing, engine gear box, supervision, electrical work.

He feels quite appreciative of the course as it gave him employable skills because of which he is earning reasonably well.

IV.

- Name of the Student : Shri Babu Ram
- Voc. Course Studies : Maintenance & Repair of Electrical Domestic Appliances (M.R.E.D.A.)
- Year of passing Senior Secondary : March 1996

- Income : Rs.7,000/-per month

Babu Ram completed his vocational course Maintenance & Repair of Electrical

Domestic Appliances (M.R.E.D.A) from Government Vocational Education Institute, Morni Hills in March 1996.

After completing he course, he started taking electrical job works on contract basis. He is presently an Electrical Wiring Contractor and has his own shop in village Mandhana, Haryana.

He is earning between Rs. 5000/- to 7,000/- per month, from his contracting business. His occupation is greatly related to the vocational course done by him.

He feels good that the vocational course has shown him the right path and enabled him to stand on his own feet. He was motivated to start his own work rather than seek job somewhere.

ACTIVITY 13



In the context of the success stories within vocational education presented above, outline briefly their possible implications for the system of vocational education in India. Write in about 150 words.

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Summary

In this unit, we discussed the educational process which would require consideration for innovation in terms of new innovative methods in preparation of vocational teachers, entrepreneurship development programme for small enterprises. Introduction of new information technology for promotion of vocational education. Introduction of foreign language and culture, integration of cognitive and psychomotor domains of learning etc. We have also highlighted some case studies and success stories of vocational education programme to geared the vocational education in India towards further reforms.

Suggested readings



- Chauhan, S. S. (1995). *Innovations in teaching and learning process*. New Delhi: Vikas Publishing House Pvt. Ltd.
- Mridula and Palanivel (2003). *Vocational educational programme in Karnataka : success stories*. Bhopal . PSSCIVE (NCERT).
- PSSCIVE, (1996). *Quarterly bulletin: vocational education*, Vol. 3, Issue 1, Bhopal: PSSCIVE (NCERT).
- PSSCIVE (1999). *Vocational education perspective for the new millennium: the challenge*. Bhopal: PSSCIVE (NCERT).
- Verma, A. P. (1996). *Guidelines: establishment of production cum training center in vocational education institutions*. Bhopal : PSSCIVE (NCERT) .
- Vaid, D. K. (2002). *Vocational educational programme Haryana : success stories*. Bhopal : PSSCIVE (NCERT).



Questions for critical reflection

- 1) Why is there a need for innovative methods and techniques in VET?
 - 2) Which of the success stories mentioned in the unit did you like the most and why?
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