

The Dual Model – Germany

UNIT

1

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Introduction

The German vocational education system, called as 'Dual System', has been highly appreciated for its ability to provide quality general education, combined with excellent specific training for a profession or a skilled occupation. It is widely acclaimed for producing quality skilled human resources required by the nation for maintaining competitiveness in the industrial world. Its uniqueness lies in its being an independent, self referral system of vocational training linking labour, capital and the state. Mainly run by the industry, the companies are the primary learning locations for imparting vocational skills. The learners also attend a vocational school financed by the public sector. Although largely isolated from the general education sector, its success can be understood by the fact that in Germany even small enterprises are highly organized, and training is viewed as a long term investment for the industry and the education sub-system (the dual system) is a 'normal track' for a majority of youth (Greinert, 2004). The industry is involved not only in imparting training but also in evaluation of the trainees at the end of their course. The training curricula are carefully planned, based on the occupational standards of competency, determined in consultation with the industry, chambers of commerce and associations, for a large number of occupations. Appropriate legal base has been created in the country to facilitate effective implementation of the programme of vocational education and training. The system of training has effectively delivered the results and benefited the employers, the trainees and the nation. It is, therefore, interesting to know the important features and the working of the dual system. This unit aims at providing a broad view of the widely acclaimed system of vocational education and training prevailing in Germany called the Dual System.



Learning outcomes

After going through the unit you should be able to:

- trace the developments in the system of vocational education and training in Germany, over the years;
- describe the important features of the dual system of vocational education and training;
- describe the organization of 'on the job training' under the dual system;
- describe how 'off the job' training is organized under the system; and
- examine the legal bases of the dual system.

Historical perspective

The history of vocational education in Germany can be traced to early middle ages where young workers were trained in small handicraft workshops or monasteries by the monks and fathers. During the later middle ages, the handworkers formed themselves into associations, which were

called guilds. The guilds developed traditions in their respective trades and provided training to the new comers. Later, with the development of industries, the guilds lost control of vocational education and training. This gave rise to setting up of industrial schools. The first of such schools was established in the state of Baden in 1834. This was a Sunday school. Later such schools were replaced as *Fortbildungsschulen* or continuation schools. The trade and craft code was established in 1869 to regulate apprenticeship training. The trade statute book of 1897 led to the creation of the crafts chambers and the chambers of industry and commerce and their role in coordinating training.

The demand for industrial commercial education increased with the increase in industrialization. To cope up with the human resource needs of the economy, part time schools with 8-10 hours of instruction per week were started between 1904-1907. These schools concentrated on providing training for a particular occupation and the term *Berufsschule* was given to them in 1920. In 1938, the legal basis to apprenticeship training was established and attendance in the *Berufsschule* (part time vocational school) became compulsory. In 1969 the Vocational Training Act gave form of law to what had hitherto been the statutes of the chambers. The Federal Institute of Training was established in 1970 to carry out research, development and consultancy on matters related to vocational training.

The system

Schooling is compulsory of 9-10 years in Germany. After four (or six) years of primary education, there are three options for grade 5 (or 7) to 9. The *Hauptschule*, the *Realschule* and the *Gymnasium*, as well as an integrated form (*Integrierte Gesamtschule*). Among these, the *Hauptschulen* offer vocational education preparing students for entering into employment and are attended by most of the youth. At the tertiary level, *Fachhochschulen*, requiring successful completion of 12 years of schooling, train students in the practical application of scientific knowledge. Every youth in Germany with a general schooling of 9 years must attend some part-time or full time professional qualification programme. The specialized secondary schools include commercial secondary school (*Wirtschaftsgymnasium*) which offer some business subjects in grades 11 to 13 and technical secondary school (*Technisches/Berufliches Gymnasium* or *Technische Oberschule*) which lead to higher education in technical fields. There are slight variations of academic programmes only. The real vocational and technical education, however, takes place in many different specialized schools, these are, part-time vocational school (*Berufsschule*), full time vocational school (*Berufsfachschule*), the extended vocational school (*Berufsaufbauschule*), the specialised secondary school (*Fachoberschule*) and the technical school (*Fachschule*). The part-time vocational schools are the most common vocational schools in Germany providing the compulsory part-time schooling with practical apprenticeship training leading to a certificate. This dual system forms the usual route to trades for most of the youth. However, there are opportunities for its articulation with advanced qualifications through the *Berufsaufbauschule*, *Fachhochschule* (university polytechnics) etc. (Agrawal, 2006-07). The dual system combines classroom study with work related apprenticeship in an industry. In other words, learning takes place at two places:

- the school; and
- the firm providing on-the-job training.

For one or two days a week, the learners attend state vocational school called *Berufsschule* where they study the theoretical aspects of their vocational subject and general education aspects. For rest of the days, they go to the industry and acquire practical skills at the place of work. The trainees are trained in undertakings under the similar conditions, set-up, people, and atmosphere

under which they will have to work later in life. This gives the learners a realistic concept of the working world while they are studying, and develops in them a sense of responsibility.

The practical training of trainees on the job has been the responsibility of the employers by tradition since the days of Guilds. As the training takes place in workshops, the employers have a control over practical part of the training. The theoretical part and the supplementary aspect of the training, on the other hand, is the responsibility of the states. Thus, the vocational education and training in Germany is the joint programme of the Government and the industry.

Apart from the industrial enterprises, the trade unions and the chambers and associations, such as chamber of industry and commerce, chamber of skilled trades, chamber of agriculture, play a key role in the planning and implementation of vocational training programme. The chambers and associations perform various functions that include the following:

- entering training agreement into the Register of Apprenticeship and Traineeship;
- advising on all training issues;
- monitoring the performance of in-company training; and
- conducting interim and further training examination. The awards given by individual chambers are recognised nationally and are valid throughout the country.

Some of the main features of the dual system are outlined as follows:

- It is a comprehensive system which combines school education and training at work place.
- A very large percentage of people (about two third) of those taking vocational education opt for the dual system.
- A large number of occupations (i.e. 390) have been recognized for training under the dual system.
- The duration of VET programmes range from 1 year to 3 or 3 and a half year, depending upon the nature of the occupation.
- On the successful completion of the training programme, a state wide standard certificate is issued to the trainees by the responsible authorities such as the Chambers of Industry and Commerce and the Chambers of Handicraft.
- Cost of on the job training is entirely borne by the industry while the cost of running the part time schools is borne by the federal and the *lander* governments.
- High degree of cooperation exists between the employers and trade unions at various levels for planning and implementation of vocational training under the system.

On-the-job training in the dual system

On-the-job training in actual work situation is the most important feature of German vocational education and training system. It gives an opportunity to the learners to acquire specific job skills in real world of work. They work under the supervision of trained instructors or master craftspersons and training counsellors. They learn to produce the specified standard of quality over the period, by practising under the watchful eyes of the experts of the field. The detailed training schedule is carefully drawn to facilitate achieving the desired standard of competencies in each occupation.

As the training is given by a firm, many issues relating to practice, e.g. infrastructural facilities, trainers, raw material for practising, evaluation, etc. are taken care of by itself.

Such training is provided by companies of varied set-ups, ranging from small companies, where extremely close personal contact can be established between the trainer and the trainee, to structured training organizations in large companies having their own in-house training departments and special training centers. The training process is complemented by training courses over several weeks in specialized training centres wherever required, particularly where training requirements cannot be fulfilled by individual companies themselves. In the case of small or medium sized companies, which alone may not be able to provide the length and breath of the training required under the training directive, inter company trade training centers have been set up under the auspices of the chambers to ensure that the trainees get appropriate skills.

Though it is not mandatory on the part of the firms to provide vocational training to young trainees, there is widespread conviction that taking part in training is good for the youth of the country, companies as well as for the nation.

Vocational training agreement

In order to avoid any complications, it has been made mandatory that a written training agreement is signed by the trainee and the training company. Such agreement contains all the terms of training such as the duration, hours of work, trainee stipend, responsibilities of trainers and trainees, etc. Such a contract is registered with and is supervised by the chamber with which the employer is registered. This becomes the basis for relationship between the trainer and the trainee during the period of training.

Training cost

Motivated by a sense of social responsibility, the expenses of on the job training are borne completely by the firms providing the training. The cost borne by the firms include the training allowances paid to trainees, the wages and salaries of instructors and the cost of supplying training aids including the workshops.

ACTIVITY 1



Based on the experiences of the dual system of Germany, what lessons can be drawn for improving the effectiveness of practical training of vocational students in India? Write in about 150 words.

Off-the-job training in the dual system

The off-the-job training under the dual system is provided by part time schools *Berufsschule* to cover conceptual aspects of specific vocation as well as general education aspects. Generally this part is so organized that vocation specific content is about 60 percent of the course and the general education accounts for the remaining 40 percent. In most *lander* the vocational schools are organized into several vocational groups, viz. industry, commerce, home economics, agriculture and mixed occupations. Classes are organized in the school for one or two days in a week. A flexible approach is adopted in fixing the days in coordination with the firm providing 'on the job training'. At times, school based instruction may be given in a bunch of specific number of days. Attendance at schools, however, is mandatory for the entire duration of the apprenticeship training.

As an alternative to joining 'part-time' school for the 'off the job' part of the training, full time vocational schools (*Berufsfachschule*), which offer one year course related to a prescribed vocational field and also include some general education subjects such as German language, Social Studies and Physical Education are gaining considerable acceptance. These schools offer courses conferring partial credits towards completion of the trainees requirements provided the trainee enters a job within the same occupational area. Thus, under this type of arrangement, instead of going to a part time school for one or two days in a week, the trainees go to a full time school for one year and undertake vocational theory and general education subjects. For the 'On-the-job' part of the training, however, they have to join a firm and gain the practical experience.

The basic elements of 'On-the-job' and 'Off-the-job' components of vocational training under the dual system may be summed up in the following Table 1.1:

Table 1.1: Elements of 'on-the-job' and 'off-the-job' training under the dual system

Aspects	In-Company Training	Off-the-Job or School Training
Legal Basis for training relationship	Apprenticeship contract	Compulsory part time education
Advice and monitoring	Chambers, Guilds, Trade, Associations	Ministry of Education, Boards of Education
Training Personnel	Company instructors	Vocational school teachers
Tasks	Practical skills	General education, vocation specific theory
Financing	Company providing the training	Federal/Lander Administration

It may be observed that the legal basis of 'Off-the-job' training provided by firms is the apprenticeship contract and the attendance in part time school is compulsory for 1 or 2 days a week. Similarly while the 'On-the-job' training is provided under the supervision of chambers, Guilds and trade associations, the training in vocational schools is monitored by the Ministry of Education.

The personnel involved in the process of training under the Dual system are shown as follows (Figure 1.1):

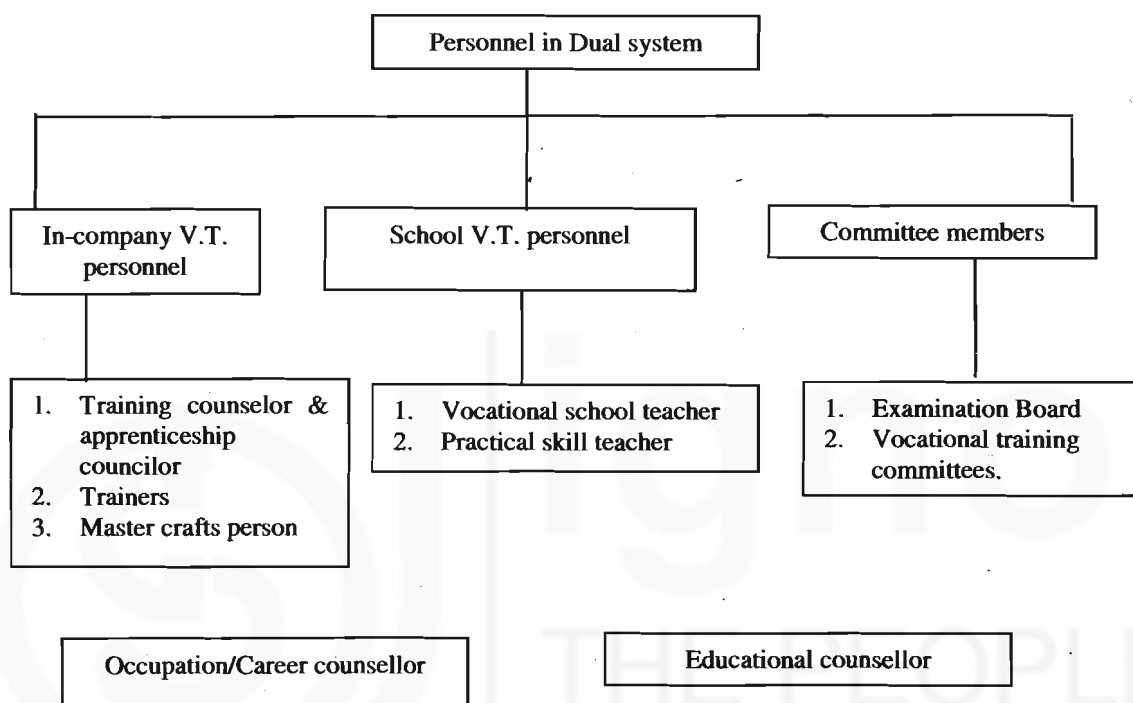


Figure 1.1: Personnel in dual-system training

ACTIVITY 2



Based on the discussion about the features of the dual system and the personnel involved in the same, what suggestions would you like to give for effective management of vocational education system in India? Write in about 100 words.

Course duration

The duration of a vocational training course varies with its nature and requirements. The specific programmes are usually between three to three and a half years' duration. Many occupations, however, require only two years of training while in some cases, training can be completed in one year.

Berufsschule, the part time schools, are the junior partners within the dual system. Their function is to provide a theoretical component to the 'on the job training'. The objective is to enable the trainees to carry out their occupational duties with a sense of social and technological responsibility. About one third of the total time at *Berufsschule* is taken up with general education subjects, namely German, social studies, economics, religion and sports. The rest is devoted to the vocational education, which provides the theoretical or conceptual basis of the training. The school decides how to organize teaching time, training on a number of possibilities so that instructions may be given in the form of coherent blocks and ensure best possible attendance of pupils.

Legal basis

The field of vocational education and training in Germany is well regulated, governed by a series of federal laws and regulations covering all important aspects such as what occupations require training, the responsibility for training, the process of setting occupational performance standards, the content and length of training, etc. The two most important laws governing vocational education and training are:

- i) Vocational Training Act 1969, which specifies the basic legal conditions for the provision of 'On-the-job training'; and
- ii) Vocational Training Promotion Act 1981, which governs the planning of vocational training and work of Federal Institute of Vocational Training (*Bundes Institute Für Berufsbildung – BIBB*). The institute identifies the occupations and determines the occupational standards for each of them.

Other important regulations include 'Employment of Young Persons Act' which provides for compulsory medical examination of trainees before commencement of a course; the 'Disability Persons Act', the 'House of Employment Regulations Act' and the 'Maternity Protection Act'.

Each occupation that requires training is governed by a separate set of training regulations which are used in the form of a statutory order by the German Ministry of Industry and Commerce or other responsible ministries in coordination with the Ministry of Education & Science; and Research & Technology. The training regulations state the designation of the occupation that requires training, the length of the training period, the knowledge and skills to be imparted, the general training programme and the examination requirements.

The regulations are broken down into different categories with two or three levels. At each level the training can terminate with a final examination or can be continued at the next level.

The regulations governing vocational education in undertakings are formulated by the office for vocational training in undertakings, in close contact with industrial and commercial bodies and trade unions.

The skills and knowledge to be acquired in the course of training at the workplace are set out at *Ausbildungsordnung* (training regulations) and broken down in terms of content and time in a framework training plan for each individual trainee.

Curriculum development and implementation

The contents and standards for each of the education and training programmes are decided by voting on resolutions. The curriculum guidelines so prepared are revised once a year, which are then used to develop lessons, covering each of the topic that has been included.

Teachers are generally not able to modify the curriculum, as it is linked closely to the completion of examination, 70 per cent of which consists of multiple-choice questions. The main task of the curriculum is to prepare the students to take the final examination that qualifies them to pursue a career in the specified occupation. The aspects having no practical value are not included. General competencies, such as teamwork, small group problem solving and communication are usually emphasized in each curriculum.

Training institutions also have guidelines that must be followed. Training is provided on the basis of a civil law contract between the company providing the training and the trainee. The contract covers all aspects of vocational training, including objectives, duration and amount of training, salary, and the duties and responsibilities of the trainer and trainee.

The role of textbooks is limited; they are used more as reference sources and for review than for instructional purposes. As per an estimate the break up is as follows: 40 percent workbooks, 40 percent worksheets and 20 percent textbooks. Text is frequently used for home assignments to allow students to review and internalize the material.

Assessment and examinations

- Trainees in the dual system are informally assessed throughout their course, but the assessment which actually counts is at the very end of the apprenticeship. In other words, there is greater emphasis on the final assessment. Practical tests are carried out by companies providing training but in a company other than the students' own training company and the chambers conduct and supervise the assessment.
- The final vocational assessment consists of written and practical tests, which are set by the chambers. The practical test could be, for example, a sales negotiation for trainees within the retail or wholesale sector. For commercial apprentices, the test is usually an oral one. Examiners comprise representatives of employers, trade unions and the colleges. The chambers recruit the examiners.
- The written examinations for the part of the course provided by the school are conducted at school by the student's own teachers, who are paid for the task by the chamber. In some areas multiple choice tests are used, whereas others use tests requiring long answers. Multiple-choice questions are designed for the whole of Germany by a central organization which involves representatives of the chambers and teachers. The scores of the tests are also given centrally by the same organisation. The curricula and assessment of general education elements are common to the whole *Land*, as the *Länder* have 'cultural autonomy' for general education.

ACTIVITY 3



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Benefits of the dual system of Germany

The dual system is beneficial to individual trainees, the firm providing training as well as to the Federal Government. The details are discussed below.

Benefit to the individual trainees

- The Dual model facilitates smoother transition from school to work place as the learners are trained in real work situations.
- It combines ‘working’ and learning, facilitating development of desired competencies in an effective manner.
- The choice of vocation is based on assessment of the ability of the learners and the requirements of an occupation, for which career guidance facilities are effectively used.
- After completing the training, the learners are accredited as skilled workers which help them in the attainment of social standing and income.

Benefit to the company providing training

The firm providing on the job training is benefited by the dual system in the following manner:

- It gets competent work force for the future.

- The recruitment cost is lowered as the trainees having desirable skills are readily available.
- Generally the cost of labour to the firms is lower.

Benefits to the government

The federal and *Länder* Governments are directly and indirectly benefited by the system in several ways including the following:

- The dual system makes it possible to maintain uniform qualification standards throughout the country, which ensures quality of human resource development and increases the acceptability of the vocational passouts by the employers.
- The quality of human resource developed through this system helps in maintaining competitiveness of the country in the industrial world.
- The system helps to maintain social stability in the country as acceptability of the trainees amongst the employers as well as society in general is high.

Summary

The German vocational education and training system, called the Dual System, is widely acknowledged for producing quality human resource with skills required by the country to maintain its competitiveness in the industrial world. It combines classroom study with a work related apprenticeship situation in an industry. The learners join part time schools, *Berufsschule*, for one or two days a week, for the study of theoretical aspects of their vocational subject and the general education aspects. For the rest of the days, they go to the industries and acquire practical skills in real work situation. The duration of the courses ranges from one to three or three and a half years. The cost of 'on the job' training is borne entirely by the industry while cost of running part time schools is borne by the Federal and the *Länder* governments. Apart from the industry, the trade unions, chambers and associations take active part in the implementation of the system of vocational training. It is mandatory on the part of the individual trainee as well as the firm providing partial on the job training to enter into a vocational training agreement, which becomes basis for relationship between the two, during the period of the training. The detailed training schedule is carefully drawn to enable the trainees to achieve the desired competencies. The skill training is given by company instructors/master craftspersons under the supervision of chamber, guilds, associations. As an alternative to part time schools, full time vocational schools, which offer one year courses related to prescribed vocational fields are gaining considerable acceptance.

The dual system of training is well regulated and governed by a series of federal laws, the two most important of such laws being 'Vocational Training Act 1969' and 'Vocational Training Promotion Act 1981'.

The assessment of the students is based on practical tests carried out by the companies providing training under the supervision of the chambers. The written examination of students is conducted by teachers in respect of the theoretical aspects of the training and the general education. The system of training has been found beneficial to the individual trainees, the company providing training as well as to the Government.

Suggested readings

Agrawal, Poonam (2006-07). Traditional and transitional technical and vocational education and training systems. *UNESCO-UNEVOC International Handbook on TVET*. Paris: UNESCO.



Greinert, W.D. (2004). European vocational education 'systems' – some thoughts on the theoretical context of their historical development. *European Journal of Vocational Training*, 32.

John F. Thompson (1973). *Foundations of vocational education social philosophical concepts*. New Delhi: Prentice Hall of India Private Limited.

Warren, H. (1967). *Vocational and technical education*. Paris: UNESCO Publications.



Questions for critical reflection

1. Discuss the main features of the dual system of vocational education and training and critically analyse its features. How has the system benefited the industry as well as the individual trainees?
 2. How is the linkage between the schools and the industry established in the dual system? How far can this system be relevant for India for effective implementation of the programme in the country?
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Introduction

In the wake of fast changing economic and technological environment of business, there is an increasing need for skilled human resources to keep pace with the economic development of a nation. Each nation has, therefore, to meet its development needs by developing the base of its skilled human resource. Different nations have adopted various strategies for achieving this objective. It is important that these various systems are understood so that lessons can be drawn for effective implementation of the vocational programme.

The present unit is devoted to learning the system of Technical and Vocational Education (TVE) adopted by The Peoples Republic of China (referred to as China). We provide an overview of the education system of China and give an historical background of the development of its TVE system. We also discuss the different types of TVE institutions operating in China including the important achievements of the system.



Learning outcomes

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

- describe the education system in China;
- give historical account of the evolution of the TVE system in China;
- analyse the existing TVE system in China;
- list and describe the type of TVE institutions; and
- examine the achievements of TVE system in China.

The education system in China

The education system prevailing in the Republic of China can be understood from Figure 2.1.

It may be seen from figure 3.1 that, as in India, the formal education in China also starts at the age of 6. However, the primary school education in China is for a period of 6 years – from Class I to Class VI – as against five years in India.

The elementary phase of education in China is provided in Junior Secondary Schools, which provide education for classes VII to IX. There are two types of schools at the junior level: one, the General Junior Secondary Schools which provide academic or general education for a period of three years; the other types are the Junior Vocational Schools which provide skill-based education and training to the children. Then there is Senior Secondary Education, from classes X to XII. The Senior Secondary Schools are again of two types – those providing general education and the

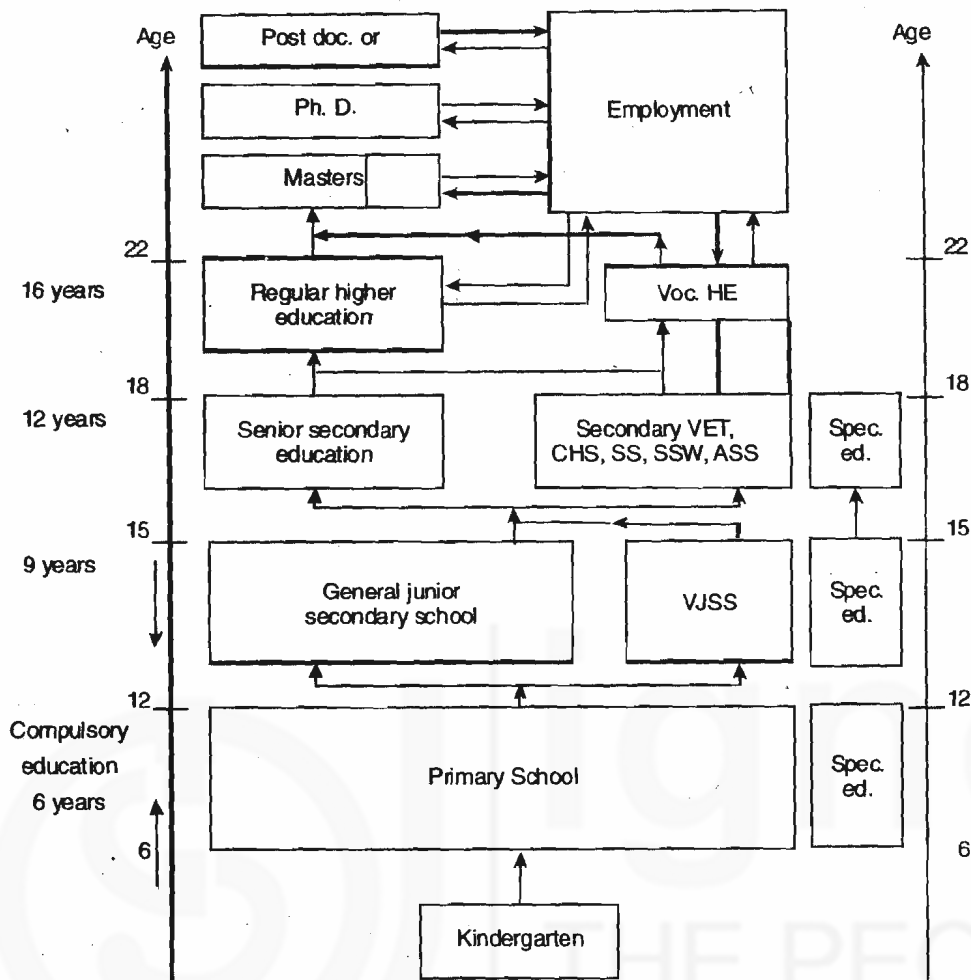


Figure 2.1: Pathways to qualifications and employment (P.R. China)

Note: CHS: vocational higher school; SSS: specialized secondary school; SSW: secondary skilled worker school; ASS: adult specialized school; VJSS: vocational junior secondary school; Voc. HE: vocational higher education; Spec. ed.: special education

other providing vocational education. The college education or higher education starts after class XII for a period upto four years, and thereafter are the postgraduate schools where Ph.D. can be pursued.

China is following a policy of nine years compulsory education as compared to eight years in India. In other words, each child has not only to be provided with primary education for a period of 6 years but also the junior secondary education for a period of three years, which may be imparted either in the general Junior Secondary Schools or in the Vocational Junior Secondary Schools.

After passing out from the General Junior Secondary Schools, there is an option for the students to join either General Secondary Schools or the Vocational Secondary Schools. Similarly, the passouts from junior vocational schools have an option to join either the general school or continue in the vocational schools for their senior secondary education. This of course continues at the territory level of education too. It is possible for the students to shift from one stream to the other at any stage of education.

ACTIVITY 4



Describe the main features of the education system in China and compare these with those of the Indian system. Write in about 150 words.

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Historical perspective of VET in China

China has adopted the policy of large scale development of its vocational education and training system so as to meet the growing needs for skilled human resources in the country. The system of vocational education aims at enabling the students to undertake studies of technology and related disciplines and to acquire practical skills as well as knowledge related to an occupation. Before understanding the system in detail, it is important to have an historical perspective of the same.

In ancient civilizations, before the advent of industrial era, home and the apprenticeship were the main systems of educating children, vocational education being an integral part of the system characterized by manual work. The Ancient China is an exception to this. China is one of the oldest countries with its own education system. In 770BC-476BC, private schools existed through which teachings of different schools of thought, e.g. *Confucianism*, *Taoism* were taught. These schools continued to exist although there were times when state education became popular. Vocational education first appeared in China in isolated schools around 1870 (Wu, 1991).

The origin of vocational education in China can be traced back to the start of industrial education during 1860s. In the initial years, the objective was to study the western technology and train human resource in the skills required for the industrial growth of the country. The programme of vocational education has undergone a process of continuous reforms and steady development.

Recognising the importance of both the conceptual knowledge as well as practical skills, joint provision of vocational education by the education sector and the industrial sector was made by the Chinese Vocational Education Society in the year 1917. Further, to meet the growing needs for skilled human resource in the economy, specialized vocational institutions known as 'Skilled Workers Schools' and 'Agricultural Schools' were established in the year 1950 and 1960, giving a boost to the secondary technical and vocational education in the country. However, in the second half of 1960s vocational education was wrongly criticized as a phenomenon of unequal opportunities because of which many vocational schools were closed down.

Opening up of the Chinese economy to the outside world in the year 1978 led to spurt in the domestic production as well as international trade. The need for upgradation of the skills was felt for the speedier development of the economy. This re-emphasized the programme of vocational education in the country. The Report on the 'Structural Reforms of Secondary Education' stressed the importance of vocational education programme to meet the needs of socialistic modernized construction. For this purpose, the government resumed specialized secondary schools and skilled workers' schools, and transformed several of the general secondary schools into vocational schools. Some new vocational schools were also built. The literacy development and vocational training was carried out in rural areas for the development of human resources and promoting rural economy. The Chinese economy developed at high speed maintaining its high growth rate during the 1980s.

The 'Decision on the Structural Reform of Education' promulgated by the CPC Central Committee in the year 1985 clearly laid its emphasis on establishing the vocational education system at different stages (from junior level to senior level) so as to meet the human resource needs of the industrial sector. The need for establishing linkages with the regular secondary education was also emphasized. The tasks and objectives for further development of vocational education were identified in 1991, by the State Council, while formulating the 'Decision on Energetically Developing Vocational and Technical Education.' In 1992, it was decided to gradually adopt a socialistic market economic system, which meant moving away from the planned economic system. In other words, the domestic production as well as international trade was to be geared to the world market.

The 'Outline on Reform and Development of Education in China' drawn by CPC Central Committee and State Council in 1993 required the governments at various levels to attach greater importance to vocational education and plan for development of vocational education. The objective was to mobilize all the departments, enterprises, institutions and all quarters of the society to provide vocational education at different levels. The first vocational education law was promulgated in the year 1996 which provided legal protection for the perfection and development of vocational education in the country.

ACTIVITY 5



Give a critical summary of the historical developments in the vocational education system of China in about 150 words.

Present system of vocational education

Vocational education in China is provided at three levels viz.:

- Junior secondary level;
- Senior secondary level; and
- Tertiary level.

Details about these are provided in the following pages.

Junior secondary level or elementary vocational education

Elementary vocational education schools (junior high schools) enroll students who complete six years of education in primary schools. The vocational education programmes in these schools are of three to four years. The aim is to produce junior-level skilled workers, farmers and personnel in trades and commerce and other relevant fields. This is a part of the nine year compulsory education. The junior vocational schools are mainly located in rural areas.

Secondary vocational education

Secondary vocational education offers vocational courses of three to four years duration and aims to produce middle-level skilled workers having comprehensive occupational skills for industrial, service and other relevant sectors. The secondary vocational education includes secondary specialized schools, vocational senior schools and skilled workers' schools. These schools enroll students who have completed the nine year compulsory education from junior secondary schools or vocational Junior secondary schools.

The specialized secondary schools enroll junior high school pass outs with 3 or 4 years schooling and train them in technical areas of production by giving them the required knowledge and skills. Skill Worker Schools train the junior high school passouts for operating directly in production activities.

In 2001, there were a total number of 17,770 secondary vocational schools with an enrolment of 11,642,300 students.

Tertiary level or higher vocational education

Higher vocational education includes vocational courses at tertiary level in vocational universities, vocational and technical colleges, and higher-level technology specialized schools. The courses are generally of two to three years duration and aim to produce senior-level professional skilled personnel for production, construction, management and service sectors. Students who have completed senior secondary education from the General Senior Secondary Schools or secondary VET schools are eligible to take admission in higher vocational education institution. The proportion of students passing out from 'senior secondary schools' joining the higher vocational courses is, however, increasing.

There are broadly three types of institutions providing vocational education and training at the tertiary level. These are:

- higher vocational technology institutions;
- five year higher vocational course institutions, and
- regular higher education institutions and Adult higher education institutions.

Vocational training which is playing an important role in vocational education is mainly conducted and managed by the departments of education and labour.

Growth of VET in China

Vocational education programmes in China have seen rapid growth during the past three decades because of the priorities assigned by the state to meeting the human resource needs of the fast developing economy and the provision of the required support from the state. There has been tremendous growth in the number of students opting for vocational courses. The proportion of children studying in vocational institutions has substantially increased over these years. For example, the proportion of regular senior high school students among all the students at the level of secondary education has increased from 19 percent in 1980 to 45 percent in the year 2001. Over 50 million students have passed out from secondary vocational institutions during this period. Setting up of junior vocational schools in rural areas has helped in rapid development of vocational education in those areas.

As per the educational statistics available for the year 1993, a total number of 206 million students were studying in regular schools at different stages of education. Of these, 124 million students were studying at the Primary schools and about 56 millions, at the secondary schools and the remaining about 26 millions, at the kinder garten level. The data in respect of formal vocational education institutions is as follows (Table 2.1):

Table 2.1: Formal vocational education institutions and enrolment

Type of School	No. of schools	Enrolment in million
Specialised Secondary Schools	3694	2.82
Vocational schools	8403	3.06
Skilled workers schools	4475	1.74
Elementary vocational schools	1582	.56
Total	18154	8.18

In addition, more than 2000 training and employment centers have been established by the labour departments in local government, with a capacity of training over two million people every year.

Several factors have contributed to the growth and development of vocational education in China. Firstly, due emphasis was placed on preparation of vocational teachers by involving different departments of the state and establishing facilities for the training of vocational teachers. The vocational technical colleges affiliated to higher education institutions and the central departments have been involved in the process of building the capacity of the teachers to impart vocational skills to the students. Teacher training bases have been established for vocational education by vocational technical colleges affiliated to higher education institutions and by central departments and local government.

Secondly, great emphasis has been placed on quality and level of vocational education and school efficiency. The quality of the vocational programmes may be judged from the quality of the skill development of the vocational passouts and their level of acceptability amongst the employers. A large number of key and pilot vocational schools, producing quality students, have been established for promoting the overall development of vocational education.

The importance given to research has contributed greatly in achieving quality in vocational education. A number of institutions conducting research in various aspects of vocational education have been established which work in collaboration with the vocational schools, administrative departments responsible for vocational education and other research organisations at different levels.

Further, the international cooperation and exchange in vocational education has greatly helped in developing the vocational education system as well as in its effective implementation. The Dual Track System of Germany, Skill Course for Starting Small Enterprises of UNESCO and the Skill Development Programme of Australia and Canada and several other countries have contributed in improving the level of teaching of vocational education and reforming the system.

China has provided for a specific legal framework for its vocational education system. In the year 1996, it promulgated the vocational education law, which provides legal guarantee or development and empowerment of vocational education. The 'Decision on Depending Educational Reform and Promoting Quality Education' by the state council in the year 1999 emphasises that an educational system suitable for the socialistic market economy and the internal law of education with different type of education linking each other should be established and that vocational education should be greatly developed. This has helped the system of vocational education to grow in the country at a rapid pace.

ACTIVITY 6



Analyse the important factors contributing to the growth of VET in China. Write in about 150 words.

Management of VET in China

Though China is a centralised state, each province has its own autonomous jurisdiction. The central and local governments issue regulations which become basis for the guidance of the vocational education programmes in the country.

At the central level, technical and vocational education is administered by various departments of the Government of China. However, the formulation of the policies, overall planning and all round arrangement of its reforms and development rest with the State Education Commission. Several other government departments involved with such aspects as the forecast of human resource, placement of passouts, making provision for financial resources, etc. include State Planning Committee in the Ministry of Labour, the Ministry of Personnel, and the Ministry of Finance.

The local governments take major responsibility for the development of vocational education at the district level. They look at various aspects including location of schools, admission of students and placement of the passouts. Generally the local governments constitute coordinating agencies consisting of local educational authorities, labour department and professional departments. At the school level, the boards of management are set up to look at the day to day affairs of different departments.

Different types of vocational schools are managed by different departments. The specialized secondary schools are mainly administered by the trade or professional departments. Vocational schools are managed by educational authorities and professional departments or enterprises that run the schools. Skilled workers schools are managed by the labour departments.

At the tertiary level, two types of vocational institutions are there. These are vocational universities and vocational teachers colleges. These are run by local governments.

ACTIVITY 7



Analyse briefly the management of vocational education in China. Write in about 150 words.

Summary

The education system in China can be classified into three levels: primary education from class I to VI; junior secondary education from class VII to IX; senior secondary level from class X to XII; and tertiary education consisting of graduation and above. The vocational education starts at the level of junior secondary school and goes upto tertiary level.

Vocational education in China started about 150 years back with the objective of studying western technology and training human resource in skills required for industrial growth of the country. Opening up of the economy in 1978 and the resultant support in the demand for skilled human resource due to increased domestic production and international trade led to the growth of the programme. Structural Reforms of 1980 stressed the importance of vocational education in meeting the increased demand for skilled human resources.

The outline of reforms and development of education in China in 1993 contributed to the growth of VET in China. The promulgation of vocational education law in 1996 created a strong base for its growth and development. As per the available statistics, in 1993, there were over 18000 vocational schools with capacity of training over 8 million students in various vocations.

Vocational education is provided at elementary, secondary and tertiary levels of institutions. The programme of vocational education is managed by the central and the local governments. Different types of schools are managed by different departments at the local government level. However, the policy formulation and passing of the legislation etc. comes under the purview of the federal government. The vocational education programmes have seen rapid developments during the recent years. Various factors have contributed to its growth, particularly in the rural areas. The major contributing factors include emphasis on quality, provision for teacher training, researches in various relevant areas and useful international cooperation with a number of countries.

Suggested readings



Vocational Education in China. www.edu.cn/20010101/21929.shtml.

Xinli, Wu (1991) The Potential for Technical Education in People's Republic of China. *Journal of Distance Education*, 3(1).



Questions for critical reflection

1. Discuss the impact of Structural Reforms of Education on the vocational education programme of China.
2. Compare the vocational education programme of China with vocational education programme of India. Suggest how can vocational education programmes of India be benefited from the organisation of vocational education programmes of China.



Vocational Education System of Australia

UNIT

3

▪ Davinder K. Vaid

Introduction

Australia has taken various steps in the direction of developing an effective vocational education and training system for meeting the need for skilled manpower required to keep pace with its economic development. It would be interesting to study the features of the Australian vocational system. The present unit is therefore devoted to providing an overview of the education system, especially the system of vocational education and training prevailing in Australia. It also provides information about the different types of institutions engaged in the area of vocational education and describes the organization structure of VET in Australia. Besides that, it discusses the issues and concerns of VET system in Australia.



Objectives

On completing this Unit, you will be able to

- describe the Vocational Education System of Australia;
- list and describe the types of VET institutions;
- describe the organizational structure of VET; and
- analyse the issues and concerns of VET System in Australia

Education system in Australia

Australian education system can be divided into three broad sectors, viz. the School Sector, the Technical and Further Education Sector and iii) the Higher Education Sector. These can be depicted in Figure 3.1 below.

The school sector

As shown in the figure the school sector consists of two broad types – the primary school sector, which takes care of classes I to VI and the secondary sector, which takes care of classes VII to XII.

An important aspect of school education in Australia is that education upto class X is compulsory. Thus, the government is required to create facilities for children to compulsorily study upto class X.

School education in Australia has always been the responsibility of state governments. As such, over two thirds of the students get educated in the Government administered schools. The remaining students go to private or aided schools.

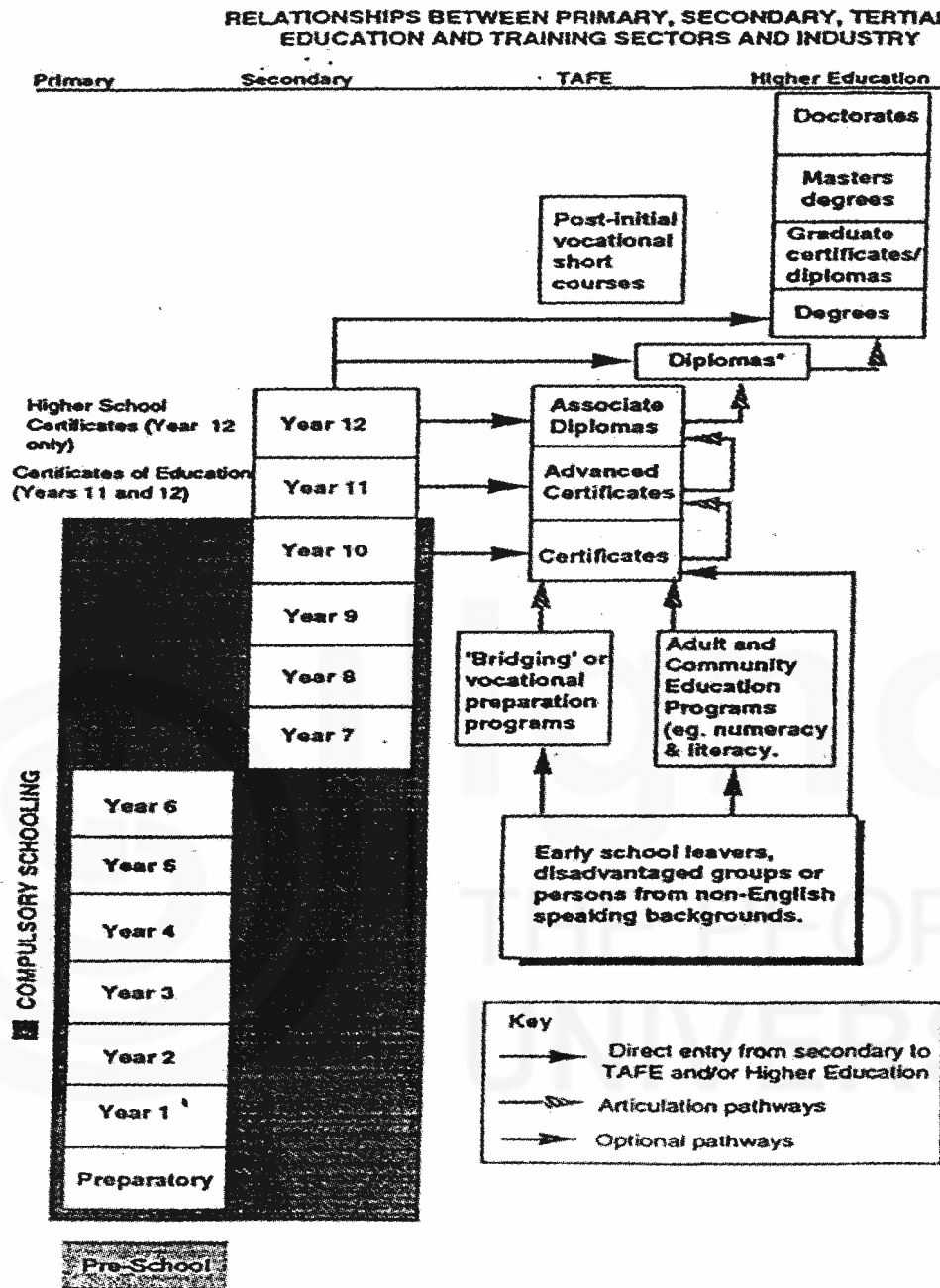


Figure 3.1: Education system in Australia

The technical and further education (TAFE) sector

The TAFE sector is concerned with providing vocational education and training to the students. Established in the 1970s, TAFE System provides accredited vocational education and training in majority of the government funded colleges and institutes in Australia. A growing number of private training providers and less formal adult and community education providers are also involved in providing vocational education and training to the pupils, under this system.

The higher education sector

This sector offers degrees, post graduate certificates and diplomas and higher qualification is a number of academic, professional and vocational fields.

Total enrolment of students in schools is 34 million students. More than 2,70,000 teachers are employed in the schools. As per the available statistics, about around \$30 billion are spent annually in funding the school sector.

About 2/3rd of the students are enrolled in State Government schools while the remaining 1/3rd, in the non government schools.

The Australian Government has identified National Groups for schooling in the 21st century and established Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) so that learning outcomes are focused and a framework for progress in school education, can be prepared. The priority areas have been identified by the ministers. These include areas like Vocational Education in Schools, literacy, numbering, etc. The aim is to deliver national consistence and high standard values in schooling. Various steps have been taken for raising the national standards in education. These include:

- identifying and promoting national standards and priorities for students;
- promoting teacher quality and school leaderships;
- reporting nationally comparable data on student achievements and other outcomes of schools; and
- improving school's and system accountability include better report on schooling outcome to present and the community.

Vocational education and training (VET) system

The formal programme of vocational education and training is a part of post compulsory education in Australia. In other words VET starts after class X, in the secondary schools and colleges.

Up to the year 1970, VET was part of the secondary education system. With the formation of the Technical and Further Education (TAFE) System in the year 1970, it separated from the school sector and came under TAFE, which makes federal government researchable for financing of the programme. However, the administrative control of the system still remains under the purview of the state governments.

Improvement of the skill standards of the workers was increasingly considered important for raising the economic performance of the country. As a result, in 1990, a separate authority, called Australian National Training Authority (ANTA) was established through legislation and National Framework of Standards was introduced. This linked the industrial award system, with the skills evidenced by qualifications. ANTA makes the federal government responsible for making policies as well as functioning of the vocational programme. Thus, for administrative purposes, the programme remains with the state government but the funding of the programme has come under the domain of the federal government. This was an important step for creation of the infrastructure and providing the much needed resources for running the programme of Vocational Education and Training.

ACTIVITY 1

[illegible]

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The VET institutions

1000

Off the job training refers to the skill based education and training provided to pupils prior to their joining a workforce. There are number of institutions which provide such training to the vocational students in Australia. A large number of such institutions come under TAFE System and are funded by the government. However number of private institutions are also involved in providing VET. The different institutions providing VET are discussed as below:

TAFE institutions

The TAFE system is the major provider of VET in Australia. TAFE institutions provide a full range of Vocational Training to the students. This include preparatory, operator, trade, post trade, technician and para professional level of training in a large number of fields and also in some fields, the professional level of training. Over one and a half million people undertake some form of vocational training in TAFE institution in the country.

Private providers

A range of private providers including business colleges and computer training colleges are increasingly offering formally accredited training in number of vocational areas. The number of such providers is increasing because of efforts of the government to establish accreditation and professional standards in number of vocational fields.

Apart from off the job training mechanism, number of institutions are engaged in providing on the job or work place training, in several vocational fields. Such structured workplace training is undertaken through the following mechanism.

Skill Training Centres: Skill Centres are an important source of providing skill training to people while working on a given job. These centers are owned and operated by industry and are engaged in providing practical or skill training to pupils. Such on the job training efforts supplement the off the job training provided in TAFE institutions and other training providers. The Australian Government provides funds for building the infrastructure (building, equipment etc.) for the development of such skill centres.

Apprenticeship and trainership: Apprenticeship and trainership are important mechanisms of providing on the job training to the trainees at the entry level. The work place training provided for trade occupations is called Apprenticeship and the one for 'non trade occupations', is called trainership.

Such structured on the job training at the work place is provided in addition to off the job technical education at TAFE institution or other approved center. The students join a given organization as apprentice to gain hands on experience and learn skills required for doing particular job.

Group training: In case of small companies which do not have capacity to recruit and train apprentices and trainees, group training arrangements are done, for providing workplace training to the pupils. The objective is to build both the theoretical or conceptual base as well as to provide hands on experience to the pupils. But as the size of the companies is small, they cannot afford having their own infrastructure for training of students. Therefore, number of companies joins hands for the purpose of providing training.

In-house training: The in-house training is provided in most organizations in the form of induction programmes and on-going, enterprise-specific, skill training programmes for the employees. The induction programmes are provided as soon as a person joins an organization. The objective is to introduce the new employee to the organization, the job and the people. Enterprise specific skill training programmes are organized to augment the specific skills of the employees, as required in the given job in the organization.

Apart from the above mentioned formal institutions, number of institutions in the informal sector are involved in providing vocational education and training to people in Australia. Such institutions are called Adult and Community Education (A&CE) providers. Most of the organizations involved in this sector are non-profit making non-government organizations. Such organizations offer low cost programmes on 'fee for service' basis. They also get some subsidies from the government for providing the training. A&CE programmes are based on local community initiatives and use a variety of readily accessible facilities such as schools and community centers for providing the skill-based training to the people.

ACTIVITY 2



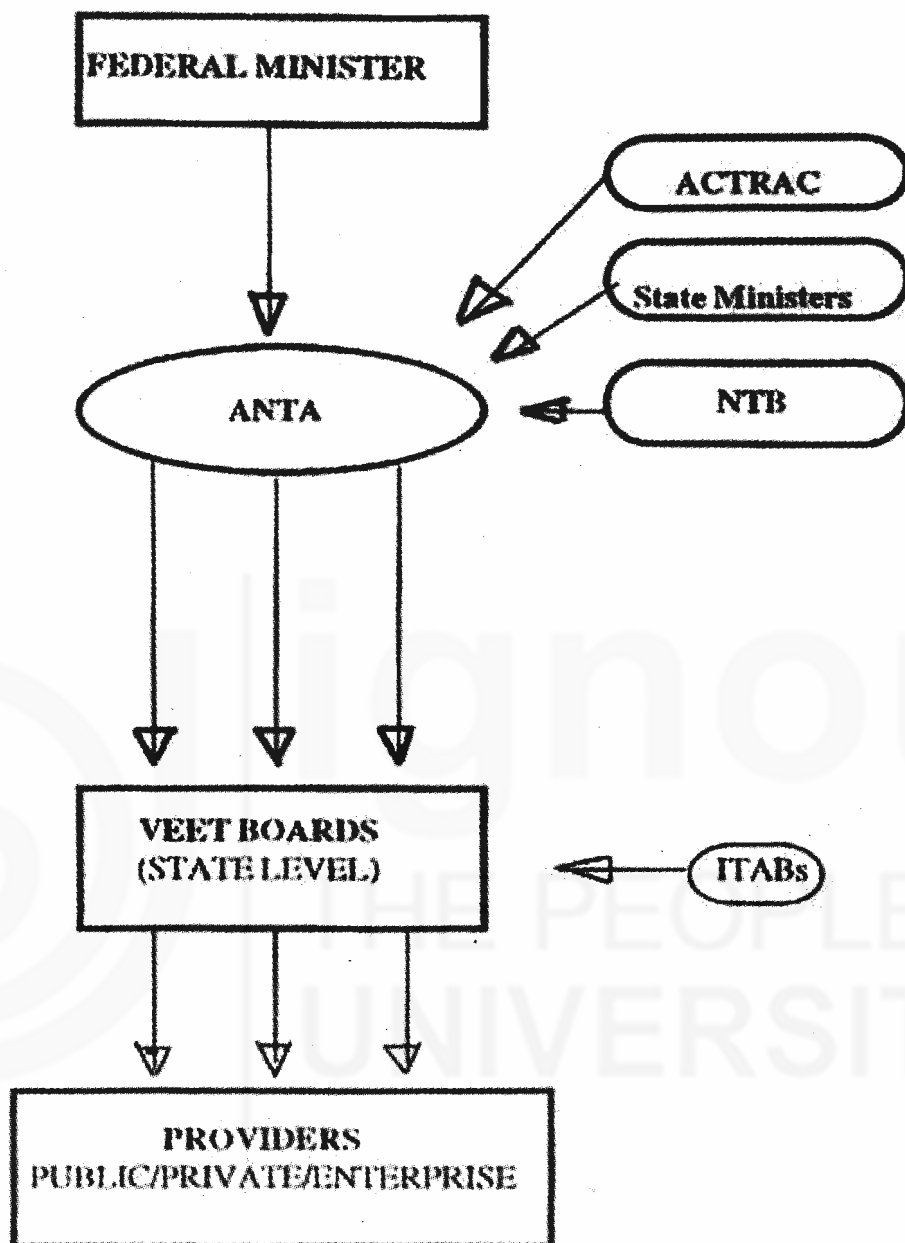
Discuss the various types of vocational institutions in Australia in about 100 words.

Organization Structure of VET

The organization structure of vocational education training in Australia has been summed up in Figure 3.2 as follows:

It may be seen from figure 3.2 that at the level of the federal government, the Vocational Education and Training programme comes under the purview of Australian National Training Association (ANTA), which is a major policy making body in the field of vocational education in the country. ANTA formulates overall policies regarding various aspects including the development of curriculum, determination of occupational standards, accreditation policies and revaluation methods to be adopted in each of the vocational course. ANTA is a high power body which reports to the Federal Minister and gets advice from the council of state ministers and Industry Training Advisory Boards (ITABs). There are 16 ITABs each of which represent a particular industry grouping. The ITABs advice ANTA on various aspects relating to vocational education and training in areas such as the vocational training needs, strategies to be followed for training in group of industries represented on them, etc.

At the state level, there are Vocational Educational Employment Boards (VEET Boards), performing parallel functions as those performed by ANTA. The VEET Boards get advice on policy matters from state level ITABs and training providers in respect of such aspects as the areas in which vocational trainings needed, the strategies to be followed for providing the same and so on. VEET boards, in turn, advice ANTA on needs and priorities of the state.



ANTA	-	Australian National Training Authority
ITAB	-	Industry Training Advisory Board
VEET	-	Vocational Employment Education and Training
ACTRAC	-	Australian Committee on Training Curriculum
NTB	-	National Training Board

Figure 3.2: Organisation structure of VET at the federal level

ANTA is also the central funding agency for the vocational education programme. It provides funds to VEET Boards. VEET boards in turn fund the training providers in the Government and the private sectors. The funds are provided for creating and maintaining necessary infrastructure and for meeting other financial requirements of the programme.

The procedure for funding is that an individual organization wishing to get government funds for creating and maintaining facilities for vocational education and training programme has to get itself registered with a VEET Board and apply for the funds.

At the grassroot level are the training providers. There are three types of institutions providing vocational education and training in different fields. These include (i) state government institutions of TAFE (ii) privately owned businesses providing vocational education and (iii) individual enterprises or group of smaller enterprises with in an industry, wishing to offer training to their employees.

Apart from ANTA, the Federal Department of Employment Education and Training (DEET) also provides funds for vocational education. Such funds are provided for organizing entry level courses based on the short term labour market.

Curriculum

The work relating to providing academic support, such as development of curriculum and instructional materials which is so important for the effective implementation of vocational education programme is performed by a specialized agency called 'Australian Committee for Training Curriculum' (ACTRAC). The curricula and instructional materials are developed by a committee of experts in the area, according to the conceptual framework of qualifications developed by National Training Boards. The curricula in different fields are developed for different qualifications viz. levels of the certificates, the Advanced certificate level, the Associate Diploma level and at the Diploma level. As a matter of national policy, all curricula are developed on a competency based format. In other words, each curricula is developed for certain specified competencies, which are necessary for agency level of performance in that occupation.

The curricula and instructional materials so developed are to be accredited by a VEET Board at the state level. Once a VEET Board accredits a course, it goes to the National Register and the course becomes nationally valid. The funds for the development of curricula and instructional materials are provided by ACTRAC, which naturally claims the intellectual property rights over these materials.

Issues and concerns

Quality of VET

The focus of vocational education and training in Australia is on achieving quality in all aspects of VET. To achieve that, several steps are undertaken. These include identifying and adopting the best practices in the industry, requiring the training providers to adopt quality assurance measures in respect of delivery of vocational education and training, putting emphasis on staff development projects and making available liberal funds for the same and encouraging staff of training institutions to return to industry, for upgradation of their skills. Maintaining a reasonable level of quality is very important as it determines the acceptability of the programme amongst the employers, the students, and the public at large.

Increasing accessibility

Efforts are made to upgrade the reach of the VET programme to a large number of people desiring to undertake skill based education and training. This includes the disadvantaged groups such as

disabled people, women, people living in rural areas, etc. Also, improvements are made in the vocational training system which aim at expanding the system of competency based, training, creating VET pathways for school to work transition. For improving accessibility of the vocational programme, flexible delivery of training is emphasized.

Increasing efficiency

The VET system in Australia is constantly geared to improving its level of efficiency. This is achieved through various measures including promotion of efficient use of capital resources, developing a national information and statistical system, taking feedback from the employers as well as the students, for determining their level of satisfaction and having agreed standards for cost of delivery, which becomes basis for distribution of funds.

Coordinated diversity of providers

To promote competition, diverse range of training provider viz. TAFE institutions, private training providers, employers or employers organizations (for off the job training) are encouraged to get registered as training providers so that they become eligible for grant of government funds. To encourage quality and efficiency, funds are allocated on tender basis. Further, for off the job training for apprentices, the provider of training is selected by employers in consultation with the employees.

ACTIVITY 3



Describe in about 150 words the organizational structure of vocational education and training system in Australia.

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Summary

Australian education system consists of three broad sections viz. the school sector, the technical and further education sector and the higher education sector. Education upto Class XII is compulsory. The vocational education and training, however, is a part of post compulsory education.

Prior to 1970, VET was part of secondary education system. It separated from this system on the formation of Technical and Further Education (TAFE) system in 1970. In 1990, a separate Authority called Australian National Training Authority (ANTA) was established. As a result, the federal government became responsible for providing the vocational education and training.

There are two types of institutions involved in providing off the job vocational education and training in Australia. These are TAFE institutions and private providers of VET. Also number of institutions in the informal sector, which are called 'Adult and Community Education' (A&CE) providers are involved in providing the vocational training on project basis.

The organization structure of the VET in Australia is such that at the level of federal government, VET comes under the purview of ANTA, which is an overall policy making body, reporting to federal ministers and getting advice from Industry Training Advisory Board (ITABs). At the state level there are state level ITABs. ANTA is the central funding agency for VET.

In order to improve the vocational system emphasis have been given on quality, increasing accessibility and enhancing efficiency of the programme.



Questions for critical reflection

- 1) List and describe the distinctive features of vocational education of Australia.
 - 2) Compare and contrast the Australian model of VET with those of Germany and China.
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