CHAPTER I

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The increasing globalization of production and market, rapid technological changes and other factors have created tremendous structural changes in economy and labour market all over the globe. These changes in turn have led to significant changes in the composition of jobs and skills and especially in the vocational education and training required by all parties concerned so as to respond meaningfully to the future needs of individuals and different communities.

The nature of the vocationalization of education is rich and diverse. Its scope is world-wide and in different countries, the vocationalisation of education has developed differently in accordance with political philosophy, national or local culture. Moreover, changes in demography, employment and technology also influence growth and development of vocationalisation of education in a country.

In order to meet the changing needs of the world labour market and the world economy, the structure of vocationalisation of education of each country is revised and modified. Hence, it is worthwhile to analyze vocationalisation of education in terms of the structures and experiences in general and that perspective in particular in the international perspective so that the practices and programmes followed in other countries can be compared and examined for meaningful suggestions and applications in the context of
1-1 VOCATIONALISATION OF EDUCATION IN GLOBAL PERSPECTIVES

As it mentioned earlier that the education development of each country has developed gradually and differently from each other depending on various internal and external factors. Hence, the study and analysis of examine and compare vocationalisation of education of the following selected countries, some models may have promise or relevance to future programmes in the proposed field in Thailand.

1-1.1 The United States of America (USA)

The fifty states cover an area of more than 3.6 million square miles (nearly 9.5 million square kilometre) with population of over 237 million people. Thus, the United
States of America has an enormous range of climatic and geographic condition and possesses an abundance of nature resources (Cantor, 1989). It is interesting to highlight that the most striking feature of its educational system is its 'decentralized nature', where the federal government play only a very small role. In other word, it can be stated that the country is represented by separate educational systems of fifty states and each state has a lot of freedom in organizing its own programme. The great majority of the states place the specific responsibility for education in the hand of smaller "local education agencies” or school districts. As a result, school districts operate their own schools, appoint their own staff and determine their own curriculum. Furthermore, most of the budget needed to run the schools is raised at the local level by the districts themselves, using property and other forms of taxation to fund local education programmes.

The Educational System

Each state of USA controls its educational system with compulsory schooling extending from ages 6-16 for most states. According to the patterns of the school structure, interestingly, three patterns exist in this country, i.e., 6-3-3, 8-4 and 6-6 forms. For the 6-3-3 arrangement, it covers six years of elementary (Ages 6-12) school, three years of middle or junior high school, and three years of senior high school. For the other two patterns, there are the "8-4" plan and "6-6" form. After graduating from high school, students are provided with the options of job entry, enrolling in 2-year community, vocational-technical, or junior colleges, going on the a-four-year college, or to the university. Figure 1.1 presents the picture of the general school structure for education in USA.
Figure 1  The General School Structure For Education in the United States.
It is interesting to note that vocational education is an integral part of the American educational system. Furthermore, it is also available to all students on some basis. In addition, many states, the educational patterns have been developing for school reform so as to satisfy the demands for economic development and work needs for the 21st century.

Vocationalisation of Education and Training

Wilms (1988) states that American National Education is based on the key tenets of the opportunities, promoting individual efforts or self determination and emphasising the morality of hard work and success. It, therefore, can be stated that in the light of this belief, vocational education is defined by the American Vocational Association as an education that is designed to develop skill, abilities, understanding, attitudes, work habits and appreciations needed by workers to enter and make progress in employment on a useful and productive basis (Shivarudrappa, 1988).

To achieve the objectives mentioned above, the vocational education has been made as an integral part of the secondary school system so as to meet most of the social needs. Thus, in this system students are provided with the technology that is needed to fill in the existing unfilled job that their society needs, including 'entrepreneurship education'.

Vocational programmes is offered by comprehensive high schools and they are available to grades 9 and 10, aiming for providing students with the basis, introductory in nature, for broad occupational areas such as agriculture and business.
There is evidence that most US High school students take one or more of these classes and in total they account for about two-thirds of the student enrolment in high school vocational programmes. Thus, the other one-thirds take courses in occupational-specific programmes which are generally provided to 11th and 12th grade students as preparation for occupational employment.

The occupational-specific options or programmes or Clusters or Strands, aim to develop job-entry level proficiency in students and enable them to enter an occupational field. For instance, Hawaii’s clusters are labelled as Agriculture, Electrical and Electronic Engineering, Office Occupations, Marketing, Home Economics and Child Care Services, Technical Graphic, Mechanical Occupation, and Construction (Courtney, 1995). In addition, under the same guidelines, the state of Washington Industry and Technology Education Programme at Puyallup has adopted a similar set of domains, consisting of Communication, Manufacturing, Power-Energy-Transportation, Construction, and Bio-Technology (Cropley, 1994).

However, it is worth highlighting that apart from the objectives mentioned earlier, the concept of vocational education has also been viewed as possible means for future entrepreneurs since 1973 resulting from the recognition or the economic importance for job creation. In this regard, US Small Business Administration (SEA, 1984) Report states that in 1981 and 1982 at the height of economic recession, small independent firms created 2,650,000 new jobs more than the compensating for the 1,664,000 jobs lost by large people in the same period.

Hence, for this reason, 'entrepreneurship education and training' have been
introduced in all vocational programmes both for high schools and adult education programme (Ross, Ashmore, et al., 1984). The policy concerning the proposed programme is stated as follows:

It is the policy of the US Department of Education to encourage the inclusion of Entrepreneurship as an integral part of Vocational and Adult Education and to support all endeavours which serve to increase the capacity of vocational and adult education to deliver for entrepreneurship (Ashmore, 1984).

However, the educationists in USA do not expect that all vocational students should become employers. By contrast, it is recognized that not all vocational students/pass outs will be able to become their own boss as a career option but those all students will certainly contribute to the success of the community's entrepreneurs with their skills and work attitudes. Moreover, it is believed that learning should be directly relevant to the active interests and concerns which students have or will face in their out-of-school life in their private lives and in their future roles as workers and citizens (Lauglo and Lillis, 1988).

Thus, in order to satisfy the demands for technological growth, globalization of economies, and changing skills and labour needs for the 21st century, in many states, educational patterns are being developed for school reform and implementation (Courtney, 1995).

The Reform Movement in American Vocational Education for the 21st Century

To understand where the new direction of American Vocation Education for the next century is leading to, the Reformed Education Structures for the state of Oregon was selected to highlight the issue in details.
By the year 2010, Oregon expects that 55 per cent of its high school students will be enrolled in Professional, Technical, and Entrepreneurial Education Programmes. Small business start-ups will be about 3-5 per 1,000 population (Oregon Progress Board, 1992).

Interestingly, it is worth noting that vocational education is also regarded as an appropriate vehicle for entrepreneurship education in accordance with the American belief and society. Thus, it can be concluded that the ultimate goal of entrepreneurship education is to ensure that all students can gain a better understanding of both employers’ and employees’ problems. No matter of what roles they are going to play in the world of work, they can handle the situation effectively and efficiently.

According to the Oregon’s Project for the 21st century, Oregon’s concept for a 21st century school is to encompass a programme of work extending from early childhood through advanced education. As a result, Oregon’s Education Reform Act became law in 1991, with operational plans for implementation in all school districts in the state by January, 1995. One effect of the act will be the restructuring of the system leading to the traditional 4-years high school, which will be replaced by two distinct programmes, namely, the Certificate of Initial Mastery (CIM) and the Certificate of Advanced Mastery (CAM). The scheme for Oregon’s Reformed Educational Structure for the 21st century is displayed as Figure 1.2.
Figure 1.7 The Reformed Education Structure for the State of Oregon (United States).

- Workforce
- Lifelong Learning
- Associate Degree
- Apprenticeships
- Advanced Degrees
- Bachelors Degree

CERTIFICATE OF ADVANCED MASTERY

- Cooperative Learning
- Developmentally Appropriate Practices
- Performance Outcomes
- Integrated Learning
- Applied Academics
- Learning Centers
- On-Going Assessment
- Mixed-age Grouping

CERTIFICATE OF INITIAL MASTERY

- 9 - 10

MASTERY LEVEL 3

- 6 - 8

MASTERY LEVEL 2

- 4 - 5

MASTERY LEVEL 1

- K - 3

Head Start, OR Pre-Kindergarten Programs

EARLY CHILDHOOD PROGRAMS

Early INTERVENTION
The Figure 1.2 indicates that at the end of the 10th grade, when most young people are 16 years old, they will have the opportunity to complete the CIM by demonstrating their capacity to learn, think, reason; retrieve information, work effectively alone and in group and to use technology for problem-solving. In this connection, the completion of CIM will allow a student to proceed into the CAM programme of work (Weiss, 1994). In addition, students will be asked to exhibit mastery in both CIM and CAM by substantiating performance standards through a variety of means, such as with work samples, tests, portfolios and projects (Conley, 1994).

It expects that the CAM curriculum is grounded on the students' demonstration of performance in an outcome-based process, much of which is related to work site experience and job-related training. A strong system of professional technical education forms the capstone of the plan, providing students with both opportunities to success in a career and with the skills needed for further education and training. To achieve this goal, the respective roles of teachers (Educators), parents, business, and students will dive the programme of reform. An effective partnership between these 4 groups is based on responsibilities which include the following:

1. Teachers (Educators): will design the structure of school with teaching strategies based on research and best practices, develop alternative environments and learning centre to reach youngsters who are not making adequate progress, provide outcome-
based education with alternate forms of assessment in the classroom, and provide school-to-work transition.

2. Parents: will be more involved in schools, participating in decision making with school councils and become more involved in their child's educational programme and career choices.

3. Businesses: will engage in partnership with schools, working with schools to set standard that will allow students success. They will provide work-based learning opportunities for students, help schools assist students in their transition to the working world, and provide opportunities for employees to be involved with schools.

4. Students: will be more engaged in their own learning, be more accountable for reaching the outcomes, and have more options, focusing their education on real world experiences (Courtney, 1995).

To ensure that, young-people are prepared for an increasingly diverse and complex society and for the high performance work environment of the next century, by law, local site councils will be formed with responsibilities to propose plans for education describing; how the school will be restructured to manage the reform, how students will be affected educationally, how progress will be measured, and what outcomes will be achieved. Then, local school boards will approve plans which are submitted by site councils accordingly.

To sum up, it is evident that the concept of American Vocational Education
Management is decentralisation. Thus, the Federal Government can play only a minor role. Apart from the such available programmes for vocational students, it can be proved that the American educators also attempt to lower the barrier between vocational and academic studies by shifting the meaning of liberal education so that practical and utilitarian students are no longer to be identified as being illiberal. This country, therefore, has been more successful than most countries in reducing prejudice against practical and utilitarians learning (Rust, 1984).

Finally, vocational education for the 21st century aims to develop in its workers of the future the skills of creativity, entrepreneurship, communication and more flexibility in order to cope with the globally competitive world of the next century.

1-1.2 Norway

In the Western Europe, Norway is an interesting country for highlighting its educational system because this country has a strong history of education in the dualistic Western European tradition before this dualism was broken down in 1947. Norwegian educational system reflects a strong conventional liberal art orientation due to the basic guidelines which sets the framework for the basic school (grade 1-9) aims and programmes. This indicates that most programmes offered devoid of references to vocational and technical education (Grunnokoleradet, 1988).

At the upper secondary level (grades 10-12), it is composed of nine general streams of study. All students are required to participate in a substantial programme
which fall within the only conventional liberal arts. However, it is interesting to note that for social studies, some topics concerning the consumer society and the world of work are also put into the sole focus. But, obviously, vocationalisation of education is not taken into consideration as a part of general education in the Norwegian context.

According to the following UNESCO recommendations of 1974, vocationalisation of education is highlighted as a crucial integral part of Norwegian educational system:

An initiation to technology and to the word of work should be an essential component of general education. It should be a required element in the curriculum beginning in primary education and continuing through the early years of secondary education (Art.IV,19).

Technical and vocational education should begin with a broad basic vocational education, thus, facilitating horizontal and vertical articulation within the educational system and between schools and employment (Act, II, 7).

According to the above recommendation, Norway has changed its perception towards the vocationalisation of education from being illiberal to an integral part of the life long process. As a result, students are free to choose the options offered in upper secondary schools throughout the country.

Hence, Norway has made great efforts to develop its upper secondary school structure in order to provide students with extensive broad options. For this reason, students can link from one to another options.
Apart from providing students with vocational options, the Norwegian Government also makes great effort to promote the practical branch to have an equal status as the general branch. Hence, the upper secondary school law was established in 1976 and stated that students at all branches could proceed to all types of higher education if their performance is of sufficient standard. This means that a bright young student can prepare not only for a vocation at the secondary school but also look forward to a future place at the university if he/she wishes (Rust, 1987).

To sum up, we find that vocational education in Norway has been viewed equally with a general branch resulting from the 1974 UNESCO recommendation. Even though, it has been put on the sole focus for preparing students for their future occupation quite late when comparing to other counties but it seems to make exemplary progress in achieving a measure of success. This may result in providing a basic education programme of uniform quality throughout the country. Therefore, it can be concluded that at upper secondary school, in principle, all students are provided openly with chances to experience vocational options which may link to the future occupation. In this respect, the Norwegian's concept toward vocationalisation of education has been influenced by pragmatism as it rejects dualism between "pure" and "applied" knowledge. For this reason, it is believed that learning occurs best when arising from sensory experience (Lauglo and Lillis, 1988). Therefore, the vocational options provided to students at upper secondary school stress the importance of broad human development as well as psycho-motor and aesthetic ability.
1-1.3 The Federal Republic of Germany

This European country is selected to provide additional information towards its vocational education structures and future trend for the next century apart from Norway because it has the most obvious characteristic in terms of the unique dual system and the indifference between genders as regards work with 38.2 per cent of women workforce. In the meantime, in various countries, the need for quality of the gender becomes evident, as woman are categorized among those minorities and handicapped requiring special programme to prepare them for the working world (Lev and Dror, 1992). Moreover, it is interesting to note that the Federal Republic of Germany has recently consolidated with the German Democratic Republic.

In Germany, education is compulsory for children up to 12 years, with 9-10 years of full-time schooling at general schools and the rest consisting of at least part-time attendance at vocational occupation. After 4 years of primary education, students are provided with chances to select secondary education at the comprehensive schools. See the general configuration of the Formal Education System in Figure 1.3.
Figure 1.5 General Configuration of the Formal Education System of Germany.
The Figure 1.3 illustrates that after completing 4 years of primary education, the students may be placed in one of these three parallel tracks as follows:

1. **Lower Secondary (Hauptchule)** which leads to a school certificate after three years. This track is attended by about 36 per cent of the available group. The majority of its graduates goes on to part-time vocational schools and apprenticeships.

2. **Medium Track (Realschule)** leading to an intermediate certificate after four years. There are about 26 per cent of the secondary school age group attend this track. Normally, its graduates enter apprenticeship or full-time vocational schools with the prospect of going on to the polytechnic colleges.

3. **The Gymnasium** which is attended by approximately 27 per cent of the age group. In addition, there is evidence that it is predominantly academic and its orientation grants the **Abiteen** and qualifies the students for admission into the university or for entrance into polytechnic college (Naumann and Kohler, 1988).

Interestingly, it may be noted that in this country the educational system is decentralized nature. As a result, different states (or Länder) have their own Ministries of Education and distribute their own regulations and curricula as well as make decision about school leaving procedures and appoint teachers as civil service employees. Furthermore, education here demands no tuition fees and German is utilized as the language of instruction. To ensure that the learning outcomes can meet the objectives set, all teachers are required not only to have four years of higher education with two additional years of practical training in schools under the guidance
and supervision of an experienced teacher but also to pass a state exam as well (Hartmann, 1992).

Vocational Education and Training

In Germany, there are two crucial goals set for vocational education and training: to pave the way to a successful career for young people and to guarantee a skilled workforce for its economy. It is the German belief that to be able to get economic success is to successfully achieve these two major goals. For this reason, the Dual System Form of Education is planned and designed so as to reach the proposed objectives or goals.

It is accepted that in Germany, the upper secondary level for vocational training is unique when compared to other western countries (Lourtucy, 1995). In this regard, the dual system establishes comparatively close linkage between private sector enterprises and Vocational Education (Naumann and Kohler, 1988). There is an evidence that this system yields successful outcomes in bridging the gap between general education and gainful employment or vocational education. Unlikely, what is happening in some countries, especially in the United Kingdom as Nuttgens (1986) states practical skills are not generally considered as an evidence of "brightness" because in the U.K., education has traditionally concentrated on the development and use of verbal and numerical skill. Consequently, verbal and numerical abilities have been prerequisites for educational success (Smith, 1992).

Based on the Dual System in Germany, its programmes are comprised of
apprenticeship training, lasting about 3 years and part-time vocational training with more general and theoretical content. Besides, this system also provide a large number of different training possibilities which qualify students for the workforce. It can be assumed that the standard of training in Germany is internationally respected as a valuable resource for providing highly qualified young people for the workforce. Moreover, the current dual system provides its practical associations and its format guarantee flexibility and continual alignment to workforce demand (Courtney, 1995).

As the aim of the dual system is to combine training received in a company, factory or workplace with education at a vocational school, it is worth analyzing its distinguish nature which differs from that of most countries. This outstanding system comprises with two distinct ways as follows:

1. In the dual system, the larger part of the learning takes place in production or service business representing industries and commerce. The student takes his/her role as a trainee in such workplace as one of the professions.

2. The company and the vocational school take equal responsibilities for providing the training. Besides, Federal Law also applies to training received in a company or workplace, the school is the responsibilities of the state or Lander. Under this process, within a week, students receive formal training in a company for 3-4 days and at a part-time vocational school for 1-2 days.

Moreover, so as to facilitate the implementation, under production condition, state of art facilities and equipment can be utilized for the vocational training
However, generally, a company where is approved as a training site must have at its disposal instructors who are technically and educationally qualified apart from having the proper equipment and training programme which can be fully implemented subject matter teaching and other requirement needs.

For the instruction in the vocational school, technical content is focused on up to 60 per cent of the course work while general education takes part for the other 40 per cent. Under this process, it can be concluded that the goal of education of Germany is to put vocational education and general education on equal footing. In this respect, it can be led to numerous options for both further vocational training and for more advanced education.

According to the duration of the training, normally, it lasts between two and three, and one-half years depending on the student's selected occupation. For the first year of training, it contains a broad basic training course covering the entire vocational field. Spontaneously, subsequent years lead to occupational specialization.

To ensure that the training programmes can cope with technological changes and meet the requirements of the workplace, the Federal Institute for Vocational Education prepares the content of the training requirements which are based upon research, providing information on content, training aims and job preparation. At the same time, the Federal Minister for Education and Science approves training regulation where each set designates the:

1) Occupation requirements
2) Duration of the training
3) Skill and knowledge requirements
4) Training contents and timetable for obtain skills
5) Examination requirements

As a result, through such an arrangement, students or trainees gradually grown into the employment, applying their skills and knowledge which are covered in the system training programmes. Thus, the concept of 'work-education' combination allows students to apply their skills under real conditions in the real life situation.

Even though, the Federal Minister for Education and Service (1992) states that usually courses taken in company training centres are determined by the size of the company, the kind of production or service, the state of Applied Art used by the company, the company organizational structure, facilities, expenditures for training and individual learning possibilities but the different existing nature of company training centre will lead to condition which vary widely in scope and content. As a result, so as to ensure that students are trained properly in accordance with the objectives set, Supplementing Training Centres are available for training students to fulfil extra requisites which may not be offered by the company centres.

Moreover, it may be noted that training workshops and training offices have a long tradition as supplementary training centres in large companies. Hence, inter-company training centres add to the efficiency of the dual system help to determine the standard of training. At the same time, many small companies rely upon
supplementary courses so that they are able to offer full training programmes effectively (Courtney, 1995).

To sum up, it clearly illustrates that the German Dual System has successfully implemented vocational training and has yielded fruitful outcomes because almost every person who leaves school does apply for vocational training and almost all suitable companies participate in vocational training. There is ample evidence that the training makes economic sense for the companies and for the society in terms of reducing the risk of unemployment for young people. Moreover, companies provide training voluntarily at their own expense by believing that this is the best way to satisfy their own need for a skilled and experienced workforce. Therefore, basing on the German spirit, under such agreement, students or trainees may opt to either remain with the company following the training or they may get work elsewhere. And under these circumstances, companies are not obligated to hire them as employees following the training. Somehow, the companies are also given the benefit in return by reducing costs through the production contributed by the students during the training.

Due to the changes in advanced technology and for preparing people for middle-level technicians and management staff, Germany also provides further vocational training for upgrading technical and occupational skills which are necessary to vocational qualification. Therefore, further vocational training can assure that qualifications are adapted to new technical and professional development.
And point should be noted that it is easy for every one to join this training programme as it takes place in an open system.

To achieve the stated aims of the dual system as well as the vocational education so as to cope with the rapid economic growth and advanced technological changes, various acts have been framed under the responsibility of the Federal Minister for Education and Science in terms of principles, and coordination. The basic legal considerations for vocational training in companies are governed by the 1969 Vocational Training Act. The Acts related to vocational education and training are 1981 Act for the Promotion of Vocational Education and the Act on Protection of Young People in Employment. Furthermore, there is committee that is responsible to make recommendations for the further development of vocational education and training. The proposed committee includes representatives of the employees, the trade unions, the state (Lander), and the Federal Government Cooperation on an equal footing in the central committee of the Federal Institute for Vocational Education.

In Summary, as may be seen, behind the German success in implementing the vocational training programme so called the Dual System is not caused by some supernatural power or a miracle. By contrast, all parties concerned coordinate their efforts to carry out the programmes under their responsibilities eagerly and willingly so as to ensure that they can yield fruitful outcomes. It can be concluded that apart from well planning, implementing, monitoring, evaluating and follow-up, the German
Spirit is the crucial key word for its success as it is believed that the training programme will help the country's economy.

1-1.4 Australia

Australia is a huge country which is more than 30 times the size of the United Kingdom. Its population is only 18 million people by the late 1993's and the society is an urban one where two-thirds of the people live in cities with over 60 per cent being located around the six states capitals of Adelaide, Brisbane, Hobart, Melbourne, Perth and Sydney. This country is a Federation with a Commonwealth Government based at Canberra, the Capital, with state governments in New South Wales, Victoria, Queensland, Tasmania, (Cantor, 1989). Australia is a relatively young country, having its bi-centenary of the First English settlement in 1988. It is large-scale immigrant Societies with indigenous minorities (Duke, 1989).

At present, its service sector of economy has grown substantially. Financial and Business Services, Community Service, Recreation, Tourism and Education have prospered apart from Retail and Wholesale Trade. In addition, there are deficiencies in the number of skilled workers in many of these areas (Courtney, 1995).

Normally, in the Australian situation, most young people have joined the working world after leaving schools at ages at 15 or 16. Thus, the number of youth unemployment is increased spontaneously resulting from the changes of new advanced technology and international market competition. Under such circumstances, many unskilled and semi, skilled jobs have been eliminated.
For this reason, the Australian Government is caused a concern for providing vocational education and training programmes to raise the skills of young people who leave school, so that they may qualify for available jobs. It, therefore, can be stated that in Australia, there has been much consideration given to the relationship between education and the labour situation (Courtney, 1995).

The Education System

In Australia, its education system is decentralized nature like Germany. Thus, each state is responsible to provide its education service, except in Australian Capital Territory (ACT) and in a few small external territories. The responsibilities are with the Federal Government. Recently, there exists at least eight distinct systems of education, one in each of the six states, the others being in Northern Territory and in ACT. Interestingly, it is worth noting that there is no officer in the Commonwealth Development of Education who is charged with continuing education throughout the country. There is no overall planning and directing for coordinating continuing education (Duke, 1989).

The school attendance is compulsory between the ages of 6 and 15, except in Tasmania, where the age is 16. Thus, almost all pupils complete at least 10 years of schooling. The education system is divided into primary and secondary schools. Although there are some private schools and mostly Roman Catholic, constituting a substantial involvement but the majority of students attend co-educational non-fee comprehensive schools so called "government school".
After the secondary programme, there is a post-education system, the most important vocational-technical education portion being the **College of Technical and Further Education (TAFE)**. The education system of Australia is presented in Figure 1.4.

*Figure 1.4 The Education System For Australia.*
Vocational Education and Training

There are three major organisations responsible for providing vocational education and training for Australia; Public System of Technical and Further Education (TAFE), Private vocational Training Institution and Industry.

However, it seems that TAFE becomes the major supplier of basic vocational education offering as industries in general has traditionally relied upon it. There is an evidence that by the mid-1980’s, there were more than 1.3 million students in about 230 institutions in TAFE sector, operating on multi-sites in about 1,000 different locations. On the whole, these programmes are well-equipped and modernized. However, ever with these proper conditions, providing sufficient vocational courses in rural areas where student numbers are scattered is a continuing problem for TAFE (Cantor, 1989).

In addition, due to the heavy commitment to apprenticeship training in Australian society, the proportion of students taking vocational courses is very high. Moreover, this traditional method is also regarded as major means to train youngsters leaving school and entering employment but the training cost is expensive and statutory responsibility for the administration of apprenticeship rests with the state and territories. As a result, about three quarters of apprenticeships are found in the three industrial areas of manufacturing, construction, and wholesale and retail trades (Courtney, 1995).

Based on the agreement, as a part of the training, students are required to
attend "off-the job" training courses in TAFE colleges, normally on a day or block release basis. Interestingly, it is worth highlighting that the majority of apprentices is male, therefore, it is not different from many other countries, except in the German Situation. The number of school-leavers participating in the training programme is increased spontaneously, especially in the fields of Engineering and Construction, Graphic Arts, Tourism and Catering, Business Studies, Horticulture and Marine-Related Studies. Thus, these proposed programmes are accepted by the employers and Trade Unions as direct entry into apprenticeships.

Due to this respect, a few of the large firms have established their own "off the job" training for apprentices. However, there appears to be general consensus that the apprenticeship system needs to be made more flexible and more relevant to the needs of industry and advanced technology. Skills training must be broadly based, with competency as a major focus. In this regard, it can be assumed that several significant initiatives have been introduced in Australia since the early 1980's to ensure that unemployable young people be provided with marketable skills. However, some of the early initiatives were discontinued due to the difficulty of offering high-quality training packages and the fears that employers would use trainees as cheap labour. Apart from what mentioned, trainee monitoring has been a continuous problem (Courtney, 1995).

Under such circumstances, it is realized that the country's economic growth and significant role in global competitive market will be affected unavoidably.
To solve the problem, the Adult Training Programme (ATP), was, therefore, established in January, 1986 in order to replace the dissatisfied previous programmes offered and to help adults who had been unemployed for 6 months or longer as well as the ones who lacked sufficient job skills. It can be concluded that this programme was designed to help disadvantaged group including single parent and women. Apart from the proposed programme, in 1987 the Commonwealth Government had introduced the Youth Training Programme so as to provide a wide range of short-term vocational training courses to unemployed young population as well as disadvantaged groups such as Aboriginals and Torress Strain Island people groups. To facilitate the programme implementation, TAFE "off-the job" courses are made full use and expanded to the other disadvantaged groups.

In addition, to ensure that unskilled and unemployed people are helped to cope with new advanced technology and the labour market's demands and needs thoroughly, the Australian Government had allocated national fund for introducing the Skills Training Programme in 1987, aiming for innovating training projects as well as skills centres so as to support the national network of Industrial Training Committees. Under such arrangement, the committees consist of representatives from eighteen major industries which cover over one-half of the private sector workforce. Thus, these committees will determine needs of industry for skilled labour, promote systematic training needed and liaison with public education and training bodies. Under this phenomenon, it is hoped that based on these initiatives, Australian
Education System and Training can surely respond to the country's needs and demands in terms of skilled personnel.

However, it seems that to achieve the stated aims of the training for industry is not paved with rose petals. It is due to the fact that most of Australian companies, factories feel that it is the responsibility of the public sector to provide apprenticeship and trade training for their employees. As a result, only few industries and companies are willing to play their respective roles in the training and retraining of their employees. Prescott (1986) states that 83 per cent take training courses in TAFE colleges and 16 per cent combine training in their colleges with that in "off-the-job" industrial training centres. Thus, only one percent receives all of their training "on-the-job".

Under such circumstances, it is clearly seen that even though TAFE facilities in general are satisfactorily equipped and staff members are competent and well qualified but to take the burden of heavy responsibilities for carrying on the vocational training programmes is very difficult to meet either the needs of business, industries and unemployed, disadvantaged groups. Normally, the needs perceived by business and industry leaders is different from the needs of the disadvantaged a unemployed groups. However, it is hoped that the Adult Training Programme (ATP) is prosperous and successfully expands its service so that the industry's needs well be partly met by the number of adult trainees. Furthermore, the establishment of a new and enlarged Department of Employment Education and Training which
aims to modify the administration of vocational education and training in 1987 will help the programme of this linkage. To sum up, the burden of the great responsibilities in the government part will be decreased if all parties concerning the private sectors change their attitudes and turn their faces to help their respective country's economy by training and retraining their own employees or joining hands with TAFE colleges.

1-1.5 The Perspective of the Former West Indian Colonies

According to the former West Indian colonies, the vocationalisation of education is viewed as "the Practical Work of Life". For this reason, schools are to offer a "sound industrial instruction", aims at the training of 'the hand and eyes" in subjects relating to agriculture and agricultural pursuits and farm life (Bacchus, 1988).

The idea behind this concept is that school should attempt to pass on to their students the kind of practical skills and prepare them for the kind of economic existence which these societies offered.

In this respect, it illustrates that this concept is at their roots and based on a strong political motivation.

In addition, they also show the great effort to use the instructional programme, especially, vocational programmes offered through the teaching value as a mechanism of society control so as to lower the occupational aspiration of the young population
of the societies to a more "realistic" level. Thus, one of the major objectives for providing "practical education" is to prepare manpower to serve as a source of cheap labour for the firms operating in their societies.

To sum up, the concept towards vocationalisation of education of the former West Indian Colonies or the colonized Caribbean is influenced by the overt political rhetoric. In this regard, the vocational programme is set to prepare students to be economically productive within their socio-economic context. From which they come, and behind this rationale, strong political motivations are lied to use these proposed programme as a means of lowering occupational aspirations to more "realistic" level as well as to meet lower level manpower needs (Lauglo and Lillis, 1988).

On the other hand, it can be said that the policy lie behind the Vocationalisation of Education of the colonized Caribbean and being influenced by the labour market force. The vocationalised programmes, therefore, are designed to be relevant to the labour market demand and its economic growth.

1-1.6 Japan

To highlight Asian countries’ perspectives towards vocational education, Japan is selected to illustrate its view because its educational system is centralized control and effective when compared with other Asian countries.

Japan is made up of 3,900 or more small islands, which are only one-third
habitable. The area about 65 per cent is mountains and forests while 14 per cent is farmland. Interestingly, many mountains are volcanic and active and make this country to be an unfortunate target of earthquakes. The population of Japan is about 123 million people. In recent decades, Tokyo, the Capital City has 12 million of population. It is objected that Japan's population will continue to increase until the year 2008, when it will be 130 million. In addition to the projection, it is expected to remain constant after the year 2075 (Kanaya, 1988). The characteristic of Japan is different from many other countries as it is a homogeneous country with relatively few foreigners. As a result, the instruction used from pre-school to higher education is only Japanese language. Its concept towards education is also distinguish from other countries. Its schooling emphasizes the development of basic abilities in young people rather than a set of specified vocational skills, the assumption is that with such a background they are prepared to cope flexibly with rapid progress in science and technology and with changes in the society (Kanaya, 1988).

The Education System

The Japanese education system is divided into 5 stages as follows:

1. Kindergarten (Ages 3-6)
2. Elementary (Ages 6-12)
3. Junior High School (Ages 12-15)
4. Senior High School (Ages 15-18)
5. College or university.

The Japanese education system is presented in Figure 1.5.
Figure 1.5 General Structure of the Japanese School System.
In Japan, school attendance is compulsory for 10 years. Thus, all Japanese children have to attend schools from age 6-12. However, most of them stay in schools until completing senior high schools or age 18. In addition, one-third of this number continue into higher education.

Elementary school provides children with basic education relevant to their physical and mental development and it takes 6 years for completing this level of education. According to the elementary level, there is an evidence that almost all children of this age group are enrolled and nearly 100 per cent are in public schools.

As the lower-secondary school is compulsory with 3 years, it, therefore, promotes from elementary to lower-secondary school automatically. At this level of education, pre-vocational education subjects have been taught and a foreign language is one of the elective subject, especially, English.

**Vocational Education and Training**

The upper secondary school begins to offer formal vocational education. In general, academic and vocational programmes of work are available for students to select, including the options of full-time, part-time and correspondence. Normally, for part-time programmes, it lasts for four years. For vocational education, the courses are available for them in both comprehensive secondary schools and in separate vocational schools. These courses are usually offered in the 11th and 12th grades at either type of school. Finn (1987) states that in 1984, of the full-time, part-time and correspondence enrolments, 28 per cent of Japanese students were registered
in vocational and other special courses.

As it mentioned earlier that Japanese education emphasizes the development of basic abilities in young people rather than a set of specific vocational skill, the assumption is that they will be prepared to be flexible when rapid changes happen in its respective society. Therefore, the central feature of the high school vocational curriculum is broad-based, not job-specific. Its curriculum covers the six areas of Commercial, Agricultural, Technical/Industrial, Home Commercial and Home Economics Areas. Apart from the vocational courses offered in upper secondary schools, there are other 4 types of special institutions which offer such programmes for preparing non-university bound youth for entry into the labour market.

**Technical College (koto renmon gakko)** These colleges are responsible to produce skilled technician for industry. Students will be admitted to these programmes in the 10th grade after completing compulsory schooling. The programmes last up to 5-5 1/2 years. Majors almost exclusively include engineering and merchant marine studies. There were 62 Technical Colleges in 1985.

**Special Training School (senshu gakko)** The policy of this school aims to help students develop abilities required for their vocation, for daily living, and to upgrade their general education. There are two types of programmes offered in this school:

1. **Upper Secondary Special Training Schools (koto senshu gakko)** These schools offer the programmes to lower secondary school graduates with the duration of 3 years.
2. Special Training Colleges (Senshu gakko) They aim to offer the programmes for high school graduates with the duration of 2 years. This level of education is called 2 years post secondary level.

For the Special Training School, it should be pointed out that it offers a wide range of courses for skill acquisition in Engineering, Agriculture, Medical Care, Nursing, Health, Commerce, Home Economic, and Liberal Arts. Moreover, many of these courses are tied to the student’s requirement for occupation certification.

During the past decade, there has been a very rapid growth of the special training schools. As a result, in 1985, there were 3015 special training schools throughout the country and about three-fourths of the students enrolled at the post-secondary level. It should be pointed out that these schools have an excellent reputation for preparing students for the workforce. Students of these schools, therefore, are recruited heavily by the employers for their companies or factories.

Miscellaneous Schools (kakushu gakko) Vocational and practical training in service occupations such as Bookkeeping, Typing, Automotive Repair, Computer Practices, Dressmaking and Cooking are offered in these schools. Moro’oka (1989) states that these type of schools also provides courses in Civil Engineering and Architecture, Electricity, Electronics, Training in Hospital Nursing, Dental Technician Training, Beauty Art, Governess and Teacher Training, Handicrafts, Designing and Foreign Languages. However, it is worth mentioning that the proposed courses are also available in both the upper secondary and post-secondary levels. For more
information, Finn (1987) mentions that there were 4,300 Miscellaneous school programmes in Japan in 1985. Women made up nearly one-half of the enrolment.

**Junior Colleges**: Junior Colleges offer both general education and vocational courses and more than a third of the students in these colleges are in general stream. However, it should be noted that more than one-fourth of all students enrol in Home Economics. Finn (1984) states that vocational teacher education makes up 22 per cent of Junior College enrolments, and Health, Engineering, and Agriculture together account for another 10 per cent. Teachers who are trained in the Junior Colleges are usually employed at the pre-school level.

As Japanese Government puts the development of human resources as a very high priority and it is clearly shown that its emphasis has caused the country to be very successful in its competitiveness within the world market place. Both public and private interests have been responsible for this success. The needs of business and industry strongly influence Japan's human resource priority. Thus, the relationship between various parties of the economy is reinforced by the cooperative effort and policy practices of government education, business and industry.

However, for the formal education, vocational education and training offered in this stream cannot meet the needs and demands of all parties concerned, especially, disqualified workers and unemployed people who need additional education and training in order to qualify for jobs. Thus, the programme of non-formal education is put into consideration as the necessity.
According to the **Informal Programmes**, they are designed for upgrading work skills outside the formal education system in the form of instruction which is designed to enhance productivity and flexibility in the work place. In general, Japan's large business firms offers many such programmes to assist their employees to cope with the changing needs of the world labour market and the world economy.

As the human resource development is its first priority for the country's success, Japan has a national vocational training law which can be applied to both public and private sectors. The proposed law provides a variety of incentives, including training allowances for unemployed workers, financial assistance to small and medium sized companies, factories, incentive grants for paid educational leave, advisory and institutional services. **Besides**, an additional programme, sponsored by the Ministry of Labour, offers basic vocational training, retraining for new occupations, and instructor training. As a result, Japan has nearly 4000 accommodating public centres in operation in 1981.

For the transition to work, it is worth analysing how graduates are helped to enter the working world. It seems that Japan is successful in producing manpower to fit into a productive workforce and helping its graduates enter the labour market. The placement services are usually available in technical colleges and in special training colleges. **Besides**, there are many different patterns of direct contract between students and employers at each of these levels. One of the crucial keys that makes Japanese Education System is very effective is the significant and active role
played by Japanese employers in education. They identify and articulate their worker’s needs so that education is able to be made relevant to job requirements and job site situations. Therefore, the creation of special training schools to meet skilled worker needs is an ample example of this cooperative endeavour. It can be stated that Japanese educational programmes appear to be very effective in providing employers with graduates who fit into a productive workforce. In this regard, it seems that employers have been quite satisfied with institutional credentials of students by education and most employers believe that the existing system of recruiting graduates should not be changed (Courtney, 1995).

However, even though, Japanese educational institutions perceive their success in meeting the job needs of employers but there are some critical matters that should be taken into consideration for meeting the needs of the 21st country. Finn (1987) states that Japan has been engaged in a major educational reform movement due to major complaints about the past system of educating youth. In addition to the proposed system, it is claimed to be directed toward the extent of centralized control of the schools, standardization practices, conformity, institutional hierarchy, and the heavy emphasis on entrance examinations.

As a result, there has been a movement by business leaders during the past several years to suggest and change the educational emphasis to a curriculum which includes more creativity, experiences and a greater sensitivity to international dimensions (Finn, 1987). In the mean time, some Japanese authorities also agree
with this point of view, mentioning that a sweeping reform is needed in preparation for meeting the needs of the 21st century.

Under such conditions, Japan believes that the major rational for involving students in an international perspective will increase numbers of economic, political, and cultural bridges with other world countries. Thus to perform successfully, Japan must necessarily function in concert with these other nations in order to remain prosperous. As a result, Japanese schools must certainly cope with this element in their curricula. In additional to the international issue, reformers are stressing curricula with more individuality, more creativity, and less concern for entrance type examinations (Courtney, 1995).

In addition, the former Prime Minister Nakasone had set the stage for the reform by saying:

……. It is my belief that educational reform should aim to preserve and further develop the traditional Japanese culture which we have inherited and to cultivate in children lofty ideals, sound physical strength, well-balanced personalities and creative power, as well as such moral and behavioral standards as are universally accepted in human society, so that these future Japanese citizens may be able to contribute to the international community with a Japanese consciousness … the reform in education will inevitably lead to reform of Japanese society itself …..

Spontaneously, the nature of this reform has been supported by representatives from education, organised labour, business and industry. After sometime, the
National Council on Educational Reform, which was established in 1986 has supported this concept as being relevant to educational reform. The emphasis of the reform are as follows:

- individuality
- fundamentals
- creativity
- expansion of choice
- humanization of the education environment
- lifelong learning
- internationalism
- dealing with the information age

Moreover, Council representatives who are from interested reform group, including those from business and industry have mentioned that centralized control over education should be loosened. However, each school which has full authority to organize its own detailed curricula on the basis of the framework prescribed by the Ministry of Education (Kida et al, 1983) should not be changed.

1-1.7 The Republic of Singapore

The reason for selecting Singapore to illustrate its educational system because it is an increasingly industrialized nation with a growing economy even though it has no natural resources but only its educated and technically literate labour force. The country consists of the main Singapore island and over 50 smaller islands. For Singapore island, it covers a land area of over 600 square kilometres (Bangkok Bank,
1986). Singapore is strategically located on the southernmost tip of the Asian continent, linked with Malaya in the north by a causeway which carried both a road and a railway. Singapore is regarded as the fourth largest port in the world because its location is at the crossroads of main international trade routes. Bangkok Bank (1986) states that foreign investment is very important to this country’s economy and is very attractive to investors because of its political stability, good infrastructure (Foundation), efficient and educated workers, generous tax and other incentive for restrictions. Thus, incentives are used for the promotion of new investments in industries and to encourage existing industries to upgrade their skills and technology in new approaches and toward knowledge-incentive services.

In addition to its history, Economist Intelligence Unit (1993-94) reports that in 1819, Singapore had a population of 150 people but in the mid 1992, its population was 2.82 million. It also states that successive waves of the population were from Chinese extraction, with 14.2 per cent Malay, and 71 per cent Indian. As a result, Singapore becomes a multicultural country with a multicultural citizenry. With this regard, English, Malay, Mandarin and Tamil are regarded as its official languages. Under this phenomenon, the younger people are bilingual and English, the language of commerce and government administration, is spoken by over half of the population (Citibank, 1981).

The Education System

The cornerstone of Singapore’s Education system is the learning of two
languages, English and students’ native tongue, Malay, Chinese or Tamil. At the Foundation level (P1-P4), 33 per cent of the curriculum is set aside for English instruction, 20 per cent of mathematics, and 27 per cent for the mother tongue and moral education. The reason for providing the native tongue is to let children obtain good foundation in their cultural heritage (Walvis, 1993).

At the end of 1992, there were 187 primary schools, 127 secondary schools, and more than 30 other types of school at the pre-university level. According to higher educations, Singapore has 2 universities, 4 polytechnics, and several technical and commercial training institutions. Students are provided with at least 10 years of general education, at least 4 or 5 of which are at the secondary level. It is interesting to point out that it is projected that about 20 per cent of primary school students will complete a post-secondary vocational/technical education. The structure of Singapore’s education system is presented in Figure 1.6.

For Singapore’s Education system, at the end of Primary Four, it is taken place by Formal Sequencing or Formal Streaming where ability places the individual according to the secondary course which best suits their aptitudes for career study. Thus, placement will be judged on the basis of scores which they acquire on a Primary School Leaving Examination (PSLE). Pupils who are placed in the Normal (Technical) stream receive core courses, including English and computer applications, with a range of optional electives which include technical studies and others (Courtney, 1995).
Figure 1. The Structure of Singapore's Education System.
According to Post-Secondary Education in Singapore, it is geared toward producing skilled workers and technicians at the Institute of Technology, engineering technologist and middle managers at the Polytechnics, and engineers and other professionals at the University. The Ministry of Trade and Industry is involved with the entire process in being charged with forecasting manpower needs for the country. In their Forecasting, they have predicted that by 1996 there will be a need to increase enrolment at the Polytechnic by at least 60 per cent in order to meet future manpower requirements (Wah, 1994).

The Vocational Education and Training

Due to the shortage of natural resources, Singapore is a nation whose only resource is its people and the way to maximize. This resource is through education and training. Chung (1991) states that human resource development in this country is broadly grouped into pre- and post-employment training where pre-employment education consists of the Formal Education System. Post-employment training is involved with skills upgrading, work attitude, and labour-management cooperation.

To focus on pre-employment training, it is the responsibility of the Ministry of Education. There are 4 major goals for this training:

1. to maximize learning potential
2. to develop thinking and creativity
3. to nurture leadership qualities and good work ethics
4. to cultivate civic and moral values.

As the numbers of the polytechnic schools and the Institute of technical
education are small, it is worth analysing what and how the programmes are implemented in each institution and whether they are achieved the proposed goals set by the government.

1. Singapore Polytechnic

It is the first programme of this country and aims to train the middle-level personnel to serve the needs of the country's industries. Since it was established in 1954, more than 60,000 graduates have been produced by this institute. The courses offered emphasize "hand-on" experiences and industrial and computer applications. At the end of students' second year, they are provided with 14-16 weeks of industrial workplace experiences. Besides, lecturers and teachers may receive industrial job experiences as well under the programme (Walvis, 1993). In addition to the equipment provided, it can be stated that this institute is one of the best equipped polytechnics in the world of computer education, having a ratio of one computer per every eight full-time students. All students learn relevant software applications. Moreover, this institution also offers small and medium sized industries consultant services as well as short courses and conferences. Under this arrangement, companies are able to draw upon polytechnic's vast and modern pool of equipment, facilities, and quality staff. As a result, due to the close linkage with industry makes it possible to keep updated on technological advances and facility upgrading (Courtney, 1995).
2. Ngee Am Polytechnic

This institute became a public educational institution in 1968 after being as a private school in 1963. Thus, it is under the administrative of the Ministry of Education with the aims to prepare students for employment in the industrial and commercial section of the economy. Under this arrangement, it grants certificates, diplomas, and advanced diplomas and serves as a continuing education centre for working persons who wish to improve or upgrade themselves. Recently, it has an enrolment of 13,500 full time students. In cooperation with local industries and factories, this school makes it possible for its students to gain skills necessary to technical work and in productivity and quality. Moreover, the programme offered has a campus-wide network of computer, students, therefore, can work on their studies at home. Besides, there is an international student exchange programme as well. Apart from what mentioned above, this institute also emphasizes on creating an entrepreneurial and industry-oriented environment which suits for practical applications in the course work.

It is worth pointing out that this institution has a traditional philosophy of maintaining close relationship with industry and in keeping abreast of new technological advances. Under this commitment, the institution has operated a number of cooperative programmes such as the Vocational Training Programme and the Industrial Joint Training Scheme. The proposed programmes were established in 1990. The nature and objectives of the programmes can be presented as follows:
1. The Vocational Training Programme

This programme is compulsory for all second-year students with 8 weeks attachment with industry. It is taken during the student’s vacation time and Wah (1994) state the objectives of this programme as follows:

1. to allow students to perform assignment in actual work settings
2. to instill proper work attitudes and professionalism through observation and interaction with people
3. to provide on-the-job experiences in order to decrease time for becoming effective workers
4. to establish closer relationships between Ngee Am Polytechnic and business and industry

2. The Industrial Joint Training Scheme

It links with 207 companies with the aims to provide students with experiences in electronics, computer engineering, business and accounting. It can be stated that these training programmes offered are tailored to match students with work requirement under the supervision of the institute’s staff.

Apart from the two outstanding programmes mentioned above, there are some other cooperative ventures between this institute and private sectors which provide job-related preparation for students as the following programmes.

Third Year Student Project: The project requires the full fabrication of a product, including its design and manufacture.
Internships: Departments of mass communication and electrical engineering collaborate with industry so that students are provided with on-site training programme.

3. Temasek Polytechnic It was established in 1990 for preparing school-leavers for the working world by utilizing innovative strategies and state-of-the-art technology. Walvis (1993) states that three-year diploma programmes offer courses in business, operating management, design, information technology and applied science. The curriculum utilized is projected-oriented and practice based so that all courses can meet the needs of the economy and are market-driven. As a result, graduates are competent in their chosen fields, capable of independent thought and creativity, and possess good communications and interpersonal skills.

4. Nanyang Poly-technic It has just established in 1992 to complement the other three programmes and offers Diploma in Vocational Education and Training for school leavers. This institute aims to fill the manpower needs of its economy.

   Interestingly, this institute utilizes a Teaching Factory Concept, where training system, course curriculum and course contents are arranged to provide learning experiences which are relevant to industry. Students are provided with "hands-on" training which is applicable to jobs in industry through 11 full-time diploma programmes in the fields of engineering, business management, health sciences, and information technology. In addition to the programmes offered, they adopt a regional and an international orientation.
5. Institute of Technical Education (ITE): It is responsible to provide training to build up a pool of skilled workers essential to the country's economy. School leavers are trained through full-time courses and apprenticeships. Especially for workers, they are trained and taught towards skills training and worker education under the responsibility of the Continuing Education and Training Programmes. Apart from the proposed responsibilities, this institute also conducts test and examination for public candidates and education for industrial trainers. Thus, it can be concluded that the mission of the institute is to maximize the human potential through excellence in technical education and training in order to up-grade the manpower to enhance its respective country's competitiveness in the global market.

From the nature of the vocational education and training offered in the major institutions in Singapore, it can be clearly seen that the programmes offered in each institute seem to yield successful outcomes. In addition to this phenomenon, apart from having political stability, sound planning in infrastructure, tax incentives and an economic environment attractive to business, the creation of an educated workforce from these institutions is also a major factor that makes Singapore to be a Newly Industrialized Economy (NIE). It is recognized that all factors mentioned above has brought about economic growth. Thus, Singapore adjusts and puts the special emphasis on the following aspects:
1. further developing its work force

2. branching out into industries such as bio-technology, chemicals and micro-electronics

3. undertaking fundamental research and development

4. retaining positive relationships with multinational corporations (MNC's).

According to the policy concerning further developing its workforce, Singapore has offered its people with the New Apprenticeship System Option, aiming to provide an avenue for school leavers to earn money as they learn. The training is structured and formalized by contractual agreement between the apprentice, employers, and ITE and it may be conducted either on-the-job (at the workplace) or at approved institute or company training centres. Interestingly, it should be pointed out that this model seems to be along the lines of the German "Dual System" and features an emphasis on quality, continuation of general education for the apprentices and subsidies for employers. Besides, the Skills Development Fund (SDF) offers support to employers to offset the costs incurred in training the apprentices. Most apprenticeship programmes lead to certification and cater to the needs of the manufacturing sector. The Singapore programme enables small and medium-sized enterprises to take part in apprenticeship training.

From what mentioned above, it does not mean that this country does not have problems towards the number of participants joining the programmes offered. By contrast, it also has the critical problems like what is happening in many countries
about how to convince the school leavers to join the programme as much as possible. Thus, it can be concluded that better benefits to both the apprentice and to the industry may be a way to partially solve this fundamental problem. Courtney (1995) suggests that a "training culture" that has been traditional in Germany, should be created if the apprenticeship programme in Singapore is to succeed.

1.1.8 India

To focus on Asian countries' perspectives towards Vocationalisation of Education, India is also selected to be one of the Asian countries for analysing its perspective and implementation of Vocationalisation of Education. India is a land of a bewildering variety of religions, languages, and people. It has a population of over 700 million whose inhabitants are descendants of several races (Ghosh and Attieh 1987). Recently, in 1993, its population increased to 897,400,000 with 2.1 average annual growth rate (Sachdeva, 1995).

Since the nineteenth century, the lower segments of the population challenged Hindu orthodoxy and religions conservation with the process of modernization. Hence, the emergence of a new middle class started reorganizing society through wealth and educational attainment rather than on the basis of caste.

In this respect, modern India is based on the ideals of democratic socialism. The demand for independence (1947) and the adoption of fundamental right in Indian constitution in 1949 was based on the belief that democracy cannot be established unless certain right are assured to all citizens.
As a result, the favour of technical and vocational education is put to be the sole focus as it is believed that human resources can only be developed through education standard.

For this reason, at the end of the Five Year plan (1985), primary education for ages 6-11 is free in all states. Especially, girls, scheduled caste and tribes are provided with free education at primary and secondary stages.

According the Vocationalisation of Education, it has been influenced by pragmatism that is learning process is related to students interest and what they are expected to face in their future workplace. In addition, the Indian concept towards Vocationalisation of Education also rejects dualism. As a result, the programme of Vocationalisation of Education at the +2 stage has been launched in India in 1976 at upper secondary schools.

In this regard, it illustrates that a diversification of Indian Educational System is away from purely goals towards a series of national obligations. It, therefore, fits for those who do no continue with further formal education and want to enter the labour market, either, as employee or their own account.

Thus, the main objectives for introducing the vocationalised programme in 1976 are as follows:

-- To fulfil the national goals of development and the removal of employment and destitution.

-- To impart education relevant to productivity, economic development and
individual prosperity.

-- To meet the need for skilled and middle level manpower for the growing sectors of economy, both organized and unorganized.

-- To attract sizable segment of population to varied vocational courses so as to reduce the made rush to general education.

-- To prepare students for self-reliance and gainful employment (NCERT, 1976).

From above, the concept towards the vocationalisation of education of India focuses on its economy as it aims to develop skills and aspirations in students to closely match with the expected job opportunities of the developing economy.

Furthermore, it also implies that the vocational programmes are also used as a means as "Education for Self Reliance". Hence, students are expected to learn as they produce and produce as they learn from schools.

In this respect, students who complete this programme find themselves in useful occupations as a self employed person or as productive members of their own societies.

1-1.9 The Kingdom of Thailand

Thailand is surrounded by Malaysia in the South, Myanmar on the West, Laos in the North and Northeast, and Cambodia in the East. The United State Department of Commerce (1993) reports that Thailand is approximately of the size of France. Its total geographic area covers 514,000 square kilometres while its land area equals 511,770 square kilometres. It has 3219 kilometres of coastline.
Regarding Thailand's economy, Alpha Research (1994) reports that apart from agricultural products and mineral resources, Thailand gains high incomes from the most important manufactured products include electricity, diesel fuel and gasoline, trucks, motorcycles, cars, television sets, cement, rubber products, canned foods, carbonated drinks, beer, diamonds, paper, and modern medicine.

Interestingly, it is worth noting that the word "Thailand" literally means "land of the free" as it is the only Southeast Asian Country which has never been colonized by Western powers. Its independence has spanned over 700 years and is the home of what some experts of ancient civilizations believe to be the World's oldest Bronze Age culture. Because of its religious and racial value, Thailand has been able to maintain a uniformly high level of development throughout its history. It is a predominantly Buddhist Kingdom with a unique monarchy and has its own language and alphabet, along with its own literature, arts, music and architecture (Courtney, 1995).

US Department of Commerce (1993) has pointed out that in 1992, the Thai birth rate was 20/1000 population and life expectancy was 67 years for males and 71 years for females. Racially, Thai account for 75% of the population, Chinese 14%, and other 11%. In 1989 there were 30,570,000 in the labour force, with 62% in agriculture, 13% in industry, 11% in commerce and 14% in service. In addition to the unemployment, its rate in 1991 was about 4.1%. 1990 estimates showed that 93% (96% male, 90% female) who were age 15 and over could read and write.
Interestingly, Sachdeva (1995) states that in 1993 its literacy rate has increased satisfactorily to 94.4 per cent. By 1992 the population for the entire country has grown to nearly 60 million, with over 5.5 million living in the capital city of Bangkok (Planning Division, 1993).

According to the per capita income of GDP (Gross Domestic Products), there is evidence that in 1992 it reached 43,408 Baht or 1,669.5 US $ or 54,260 Rupees. Furthermore, it is expected that by the end of the Seventh Development Plan (1992-1996), the per capita income of GDP will reach 71,000 both or 2,730.6 US $ or 88,750 Rupees (Bangkok Post, December 9th, 1994).

According to the administrative model, Thailand became a constitutional monarchy like Norway in 1932. Since, in this country education is perceived as an essential means for national development, schemes pertaining to education were revised and put into practice in 1936, 1951, 1960, 1966 and 1977 respectively and the latest one was implemented in 1992.

**The Education System**

The educational system is highly centralized in Thailand. There are two major ministries responsible for its control and organization. Ministry of University Affairs is responsible for setting standards of university at higher education level while education at lower level is under the control of the Ministry of Education.

According to the 1977 scheme, it emphasized education for survival, stability
and mutual happiness. Besides it also aimed at producing qualified citizens who lived a helpful life in their societies (NEC, 1991).

However, during the past decade, changes were too overwhelming for both individuals and society to cope with properly. The concepts towards education were also affected by such changes as the state believed that education will be the most important process to enhance individual development and to enable the citizens to cope with changes appropriately either present or future changes. Thus, the present National Education Scheme was passed into law in 1992, and promoted the concept that education is a continuing process which lasts throughout life, both in a school related system of education and through the learning process form the way of life.

In addition to the objectives, it can be noted that the objectives of 1992 scheme aims to enable human being to develop their quality of life, lead a peaceful social life, and make a proper contribution to national development in accordance with contextual changes of nation. In addition, to achieve the proper proposed objectives, the goals of education emphasize balance and harmonious development of the individual in four aspect, wisdom, spiritual development, physical development and social development (The Office of the Prime Ministry, 1992).

According to the National Education Scheme, its structure is based upon a 6-3-3 plan, with six years of primary education, three years for lower elementary education, and three grades for upper secondary schooling (see Figures 1.7 and 1.8).
Figure 1.7 Educational System Structure For Thailand (1977)
Figure 1.8 Educational Options For School Graduates (Thailand)
**Pre-School Education**

Children who are aged 3-5 year may or may not enroled in pre-school (pre-primary) education programmes which are essentially designed to enhance social, physical, emotion, and intellectual skills prior to entering formal education. It is interesting to note that at this level of education, it is not compulsory. Thus, a large number of pre-primary programmes are operated privately, without public funding or support.

**Primary-Education**

Under existing compulsory education law, children are required to attend at least six years of primary school. The normal starting age is six or seven years, with the compulsory requirement ending at age thirteen or fourteen (Educational Planning Division, 1991). However, for more information, it should be noted that at the present time, there is legislative reform which will increase the compulsory requirement to nine years. Bangkok Post (November 10th, 1994) reports that the expansion of basic education from 6 to 9 years was indicated as a priority in the Seventh Plan, the goal being to increase the transition rate from primary to secondary school from 46.2% to no less than 75% by the end of plans’ duration (1992-96). It now appears that the expansion of compulsory schooling for all the Thai youth to a nine year base will become a reality during the 1995-96 fiscal year, with special emphasis being given to the targeted groups.
Secondary Education

It aims to provide appropriate academic and vocational knowledge consistent with the student’s age, needs, interests, skills and aptitudes, traits which ultimately will reflect the individual’s contribution to the society.

In addition to the promotion of secondary education, Tongsopit (1990) mention that the Thai Government has taken special effort to promote secondary education and to guarantee equal opportunities for all youths. Besides, at the present time, vocational education and training is being given much more emphasis than in the past.

Even though the Thai Education System is highly centralized but the secondary school curriculum allows for decentralized control to regional levels, including classroom instructional materials development in secondary vocational subjects, and in life experience areas at the primary level. As a result, the curriculum utilized is significant more flexible than that of the past, allowing some 60 per cent of the instruction to include elective subjects. Practical (Vocational Education) subjects make up about-one-third of the compulsory portion of the plan.

After completing the secondary schooling, graduates are provided with several options for furthering their education as follows:

1. Teacher training
2. University instruction
3. Vocational/technical schooling
4. Military/Police training
5. Music/Dramatic Arts instruction
Vocational Education and Training

The vocational education and training in accordance with the 1992 National Scheme of Education aims to enable learners to develop vocational knowledge and skills useful for working both as entrepreneurs and as paid workers, and to make decent living. Vocational education and training in Thailand can be organized in both formal and non-formal system. For the vocational programmes offered in the formal school system, it is the crucial means for a development of occupational knowledge and skills relevant to each level of education from primary to higher levels. By contrast, vocational education and training in the non-formal system is short-course training in specific occupations for those who need to upgrade their knowledge and skills.

In addition, it should be highlighted that apart from the stated objectives mentioned, the Present National Education Plan also reflected the aims of vocational education and training by stating to prepare the workforce to meet the needs of each community and society.

Under such arrangement, the process begins as early as the elementary level, where children are trained in work habits and application relating to training assignment. In this connection, at the secondary levels the students focus more on career skill development in terms of interests and aptitudes.

At the higher education stages, the schooling aims at more specialized skill training. For out-of-school vocational education, it may provide short courses for
equipping the individual with certain working skills, for extra training, as for filling career job gaps. The organizations which offer vocational education programmes within the Ministry of Education can be identified as follows:

1. The Department of Vocational Education (DOVE)
2. Rajamangala Institute of Technology
3. The Department of Fine Arts
4. The Office of the Private Education Commission
5. Teacher Education Department
6. The Department of Non-Formal Education

The organizational arrangement for these organizations is displayed in Figure 1.9.

Figure 1.9 Ministry of Education Organizations (Thailand)
In general, the basic issue facing each of these agencies is the matter of preparing capable workforce for meeting the job needs of the respective country's economy. Specifically, the present study focuses on the role which the Department of Vocational Education plays significantly in the education and training of youth and adults for meeting the workforce needs. Therefore, its role and responsibility is highlighted in details.

Department of Vocational Education (DOVE)

It was officially established in 1941 with the aim to provide a wide range of vocational training programmes in order to produce manpower at various levels to meet labour market demands. Its courses and training programmes are offered covering five major fields as follows:

1. Trade and Industry
2. Commerce and Business Administration
3. Home Economic
4. Art and Crafts
5. Agriculture

There are fifteen divisions within this Department which function to provide course work and training in DOVE, including The Technical College Division (Technical Colleges, Ship Building Colleges, Industrial and Ship Building Training Centre), Vocational College Division (Vocational Colleges, Commercial Colleges, Arts and Crafts Colleges, and Business Administration Colleges), Agricultural
college Division (Agricultural Colleges, Agricultural Engineering Training Centre, Agricultural Training Centre, Fishery College), and Industrial and Community Education Division (Polytechnic Colleges, Industrial and Community Education Colleges). The organisational structure of DOVE is presented in Figure 1.10.

**Figure 1.10 Organizational Structure of DOVE**
These institutions are located throughout the country and the numbers of division institutions are as follows (Education Planning, 1993):

<table>
<thead>
<tr>
<th>Division</th>
<th>Number of Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical College Division</td>
<td>80 institutions</td>
</tr>
<tr>
<td>Vocational College Division</td>
<td>40 institutions</td>
</tr>
<tr>
<td>Agricultural and Community College Division</td>
<td>48 institutions</td>
</tr>
<tr>
<td>Industrial and Community College Division</td>
<td>64 institutions</td>
</tr>
</tbody>
</table>

According to the certificate and diploma offered by DOVE institutions, the courses directly relate to job preparation and training and are presented in Figure 1.11.

1. Certificate in Vocational Education

It is a 3-year programme for grade 10-12. Admission is through competitive entrance examinations established for students who complete lower secondary education.
2. Diploma in Vocational Education

It is a 2 year programme extended for students who have completed the certificate programmes. Admission is also through competitive examination for certificate holders.

3. Diploma in Technician Education

It is a 2-year programme for students who have completed upper secondary education (grade 12) and have little or no technical background. Admission is through entrance examinations.

4. Higher Diploma in Technical Education

It is a 2 year programme for students who have completed the diploma in vocational education. According to an admission, it is through entrance examination.

5. Certificate of Vocational Education

It is a one year programme for this programme and offered by the institutions under the Industrial and Community College Division for students who have completed lower secondary education (grade 9). Admission is also through competitive examination.

6. Short Course programme

It is a 225 hours programme offered under the Industrial and Community College Division. The prerequisite for admission is the completion of primary education. No entrance examination is required, a certificate is awarded at the end
of the course work.

7. Short Course Training

Institutions under the Technical College Division, Vocational College Division, and the Industrial and Community College Division are responsible to offer a variety of short courses in different areas. In addition to the courses offered, the time frames range from 6 to 225 hours. It should be pointed out that local need dictates the scope and content of this training.

8. Vocational Training programmes for General Secondary Students

It is the responsibility of the institutions under the Industrial and Community College Division to offer vocational programmes for general secondary school students who select vocational areas as their major, minor, or elective subjects.

9. A Special Vocational Education Programme for Young Farmers

The programme is designed for upgrading young farmers between the ages of 15-25 years of age. It leads to the awarding of a special certificate which is equivalent to the certificate in vocational education.

10. Agricultural Short Course Training

All institutions under the Agricultural College Division offer short course training which is 7-8 days in length. The course content varies according to local needs.
11. Mobile Extension Unit

According to DOVE's policy, mobile occupational units are given through institutions under the Agricultural College Division in order to serve rural and farming communities. Normally, the range of the training is 3 days.

To keep abreast of current advanced technology, DOVE has established a number of programmes relating to skills development and cooperative ventures. Recently, there are models and programmes which are being implemented through DOVE to facilitate effort of coordination and collaboration between public and private sectors.

11.1 One-the-Job Training Model

This model is being implemented by institutions under DOVE in order to provide students with experiences which are relevant to their respective programmes of work. In addition to the agreement between DOVe and private sector businesses concerned, the private sector concerning the contract will arrange for students to be trained in direct work. Spontaneously, students who participate in this model have public institution to evaluate and supervise the training.

11.2 Joint Corporation Model

This model aims to produce workers in selected fields which have a current need with the private sector businesses.
11.3 Dual System Model

This model is established in imitation of the German traditional Dual System through the generous assistance of the German Government. It, therefore, is expected to be crucial means for yielding fruitful outcomes as this model has proved to be quite effective in bridging the gap between general education and gainful employment in Germany. Thirteen DOVE colleges are presently utilizing this model. Under such agreement, they are under agreement to send students to such training. It should be pointed out that students who participate in and complete the Dual System Programme will be provided with a Certificate of Vocational Education.

11.4 Cooperative Teacher Training-Student Model

This model permits private sector companies to visit schools for purposes of providing staff and others about new advanced technology. Furthermore, it also permits companies to have students participate in on-site visit for purposes of career orientation. For more information, under this model, institutions may borrow up-to-date equipment, allowing students and classroom teachers to exposure to modern hardware and software being utilized in the private sector.

11.5 Cooperative DOVE-Other Units Model

Based on the agreement, institutions under DOVE are allowed to provide training for upgrading employees of private companies or factories.
11.6 Part-Time Student Job Model

This programme allows DOVE and private companies to cooperate in planning for students to gain more experience and make money while they are in institution. Thus, under this arrangement, companies concerned will provide jobs to students on a part-time basis, usually during peak sales seasons.

11.7 Company Support Programme

Under the arrangement between institutions under DOVE and private companies, private sectors provides equipment, machines, and funds in the form of scholarships to students and institutions.

11.8 Advisory Board Programme

DOVE and private sector agreement permits private companies to consult with institutions under DOVE and encourages relationships between institutions and related organizations.

11.9 Labour Market Advisor Programme

According to this respective programme, students and graduates from institutions under DOVE are provided with job market information and career placement data. Much of the orientation for the students includes preparation for job interview and pre-job counselling. Under this arrangement, private companies and industries are invited to institutions to assist in this effort and to conduct job interview with prospective employees.
To smooth the functioning of all models operated the mutual understanding and benefits between the private and public sectors (DOVE) should be systematically established for future planning and development in the management of cooperative effort between DOVE and private organizations. It is expected that the future workforce in Thailand will be qualified and meet the needs of that economy for the 21st century. However, the use of contractual agreements with the private sector is crucial to the education and training of a skilled labour force. Thus, all parties concerned need to discuss the concerned issues for benefit of Thai society and economy as a whole as it is realized that a nation's workforce is important to social development and economic growth. National Economic and Social Development Board (1991) also suggests that a greater cooperation will be made between public agencies and the private sector and that there will be more private sector involvement in the management of skill training.


To ensure that the compass 1992 educational scheme can reach the objectives stated earlier, the Seventh National Economic and Social Development Plan (1992-96) has been implemented hand in hand with the proposed scheme. To be specific, this plan has four general objectives which direct its implementation as follows:

1) Maintenance of economic growth
2) Redistribution of incomes and decentralization
3) Acceleration of the development of human resources
4) Upgrading of the quality of the environment
From above, it clearly illustrates that economic growth targets represent a significant portion of this respective plan. It, therefore, is impossible to avoid the workforce development as it is the critical aspect influence the growth of the economy. Bangkok Post (December 9th, 1994) reports that industrial growth has exceeded the projections by advancing to 10.2 per cent in 1994, with estimates of 12.3 per cent in 1995. The overall growth rate (GDP) has remained fairly close to projection for the first years of the period, but is expected to reach 9 per cent by the end of the decade.

To remain a spontaneous speed of the overall economic growth rate, the vocational education and training is put into consideration. In this respect, the present scheme aims to enable learners to develop vocational knowledge and skills needed for working as employers and as employees to make decent living. In the meantime, the Seventh Plan (1992-96) also aims to speed up the provision of education relevant to the labour market demand, to promote equipped learners with knowledge and skills to become entrepreneurs (the Office of Prime Minister, 1992).

From the above view, it is an obvious evidence to us that Thai concept towards vocational education is as a vehicle for future entrepreneurs as well as brainy products. Thus, their future promoting learners will be future entrepreneurs or self-employment. At the same time, it will ease school leavers who have been put under pressure because of the widespread youth unemployment. In 1988, the number of unemployed was 928,000 or about 3% of the total labour force (the Office of the
Prime Minister, 1991). It, therefore, is no doubt alarming when the unemployment rate in 1991 was up to 4.1 per cent (U.S. Department of Commerce, 1993) instead of being decreased.

According to the concept towards education of Thailand, it also indicates that the political condition of the country in terms of the country's economic growth influences the concept towards its education, especially vocational education as any other countries. It is believed that the key to maintain or increase the country's economic growth is to redistribute the population's income. Thus, the access of formal and non-formal education for its population is put into focus. It is expected that by providing literacy and skills training for them, it will allow them to upgrade their capabilities to contribute to the society through meaningful employment and raise their incomes. It, therefore, can be concluded that through education, the population will improve the status and the quality of their lives and will, at the same time, be contributing well qualified members of the nation. Furthermore, the country's economic growth is also steady and possible to be increased spontaneously and systematically.

In addition, needless to say that Thailand has opened its doors to the outer world. It influences and gets influence by the system prevailing in other countries. Thailand has best intention to speed up the development in every field. Hence, vocational education needs to be analysed and checked and rechecked. It is with this view that the present study was undertaken.
1-2 THE PROBLEM

A number of researches have been carried out in the field of vocationalisation of education in both Western and Eastern countries. Generally, it is significant to note that the research priorities in the field of vocationalisation of education are the cost effectiveness of vocationalisation of education (Barooah, 1986; Mangat, 1988), the Organization and Administration of Vocationalisation of Education (Lee, et al, 1968; Livitan, 1963 and Venn, 1964; Soundaravalli, 1984; Thongplea, 1988), Vocationalisation of Education: Curriculum Development (Evan and Brandon, 1965; Deshamukhya, 1984), Programme Evaluation (Mishra, 1985; Advant, 1985), Guidance and Career Development (Campbell, 1968; Kakar, 1983; Tulsi, 1983), and Impact (Evan, Mangum and Pragan, 1969).

Apart from the areas highlighted above, a number of studies conducted focus on policy implementation through the educational system of many countries such as United Kingdom (Saunder, 1988). Brazil and Argentina (Gallart, 1988), Sweden (Markum, 1989), the Union of Soviet Socialist Republics (USSR) (O'Dell, 1988) Zimbabwe (Gustafsson, 1988) and India (Dewasthalo, 1980 and Deshamukhya, 1984).

In this connection, it is worth mentioning that other areas of vocationalisation of education investigated by investigators from different backgrounds and interests pertain to the areas of attitudes, perception aspiration, interests, maturity, development with self-concept, intelligence, academic achievement and socio-economic etc.
Apart from various areas mentioned above, a comparative study was also conducted by many investigators such as O’Brien and Carole (1988) and Nascimento (1988).

According to an evaluative study, Psacharopoulos (1988) carried out his empirical evaluative study between Tanzania and Colombia while Chin-Aleong (1988) and investigated the curriculum diversification between Trinidad and Tobago.

In this regard, the results of this large scale empirical evaluation of diversified secondary school system in Columbia and Tanzania illustrates that even though schools with diversified curriculum (pre-vocational subjects) recruit more students than control or conventional schools but most of them came from poor family. Moreover, graduates from the proposed schools could not find job more easily nor did they earn more than graduates from control schools.

Hence, it may be seen that the investigators focus mostly on the economic relevance and the equity aspects. Unfortunately, the aspects of pedagogy and political socialization of the two mentioned countries are not put into consideration.

Chin Aleong’s evaluative study (1988) aimed to examine recent thrusts towards diversification of the secondary curriculum and pinpointed goals and modalities for different vocationalisation models. It indicates that these innovations were based upon responses to economic and labour market conditions and not grounded in empirical evaluation.
In addition, the investigators also provided an evidence on the labour market performance of graduates and concluded that insignificant labour market advantages did not justify the cost of pre-vocational subject.

To sum up, based on the two empirical evaluative studies concerning curriculum diversification, it may be concluded that it is a costly policy to introduce pre-vocational subject into the curriculum of general secondary school. Besides, if the goal is to help graduates to find a source of livelihood under disastrous labour market conditions, the policy is certainly doubtful. However, if this costly policy is still carried out for the concept towards "dualism", an evaluative study should be conducted before implementation.

Apart from the two evaluative studies mentioned above, Lauglo and Norman (1988) also conducted the evaluative study concerning curriculum diversification in Kenya. According to the findings gained from this study, it suggested that the programme of diversified curriculum should be launched as small-scale programme because it was costly and demanded logistics requirement.

Again, Thimmari: h, et al (1982) conducted an evaluative study to evaluate the overall demand for vocational skills in relation to the vocational courses offered in Karnataka. Interestingly, the findings of the study illustrated that the main problems in implementing the vocational programme arose out of the location of selected colleges, the staff position, the infrastructure facilities, the courses and other employment possibility after the completion of the training.
Besides, the findings obtained from the evaluative study conducted by Biswal (1992) also illustrate that there is a gap between the formulation of the policy of Vocationalisation of Education and its implementation at national level as well as in Himachal Pradesh State (India) in accordance with the following aspects.

1. The lack of the prior vocational survey before introducing vocational courses.
2. The lack of proper procedure used for admission.
3. Inadequate infrastructure facilities and teaching staff.
4. Poor co-ordination between schools imparting the vocational courses and other agencies concerned.
5. Limited scope for employment both wage and self employment.
6. Unfavourable attitudes of target group and number of community towards the programmes offered.
7. Lack of a proper management system.
8. Lack of adequate planing and finance.

Furthermore, the situation prevailing in India is more or less the same to what was happening in Nepal. In this respect, the findings gained from an evaluative study conducted by Belbase (1981) indicated that socio-cultural, economic, traditional administration and organizational factors were main obstructs preventing the functioning of vocational programme from achieving its objectives set.
It is worth highlighting that among many serious questions which are needed to be replied by all the concerned groups, there is a precise question towards the cost-effectiveness of vocational education and training in each country. In Thailand, a large number of researches reflected this view, for instance, Buripakdi (1988), Chaivej (1988), NEC (1982), (1985), (1987), Settaminit (1984), TDRI (1987), (1988) and Tunsiri (1987). The results gained from these researches indicated that even through Thai economic growth is steady, unemployment among vocational graduates has remained high. Well over half of graduates of the three-year vocational certificate course have continued their studies in the same occupational field for additional two years, obtaining a diploma. Six month after graduation, more than a quarter of diploma graduates remain unemployed, despite five years of costly technical preparation (Middleton, et al 1991).

In addition to the cost-effectiveness of vocational education and training in private institutions, Jimenez, Lockheed and Wattanawaha (1988) found out that in Thailand, private schools spend proportionally less on teachers than do public schools. Besides, the average total personnel cost per teacher in private schools was two-thirds of that for public schools. But surprisingly, there is higher student achievement and lower unit costs.

As economies develop and become more complex, and the changes in market, products and technologies lead to rapid change in the skill requirements of job, the importance of vocational education and training has to play a significant role. As a
result, the growing need for policy and institutional changes has been recognized by Thai policy makers through a review by the National Education Commission (NEC, 1985). The review proposed significant reorganization of vocational education and training as a whole in order to improve proper planning and adjustment to changing labour markets. Hence, the Sixth National Development Plan (1987-1991) called for improved quality and flexibility, and adjustment of the system to meet evolving skill needs in a changing economy (Middleton, et al., 1991).

It is interesting to note that the National Economic and Social Development Board (1991) stated that the Sixth Plan time-frame showed per capita income increasing from 21,000 baht in 1986 to 41,000 baht by 1991 and population growth rate declined to 1.4 per cent. Moreover, unemployment was reduced to 0.6 per cent which, in substance, meant that there was virtually no unemployment. In addition, during the period, the economic structure became more outward-oriented and internationalized and the Thai proportion of international trade to GDP increased from a level of 60 per cent in 1986 to 80 per cent in 1991.

To sum up, it can be concluded that the Thai economy grew beyond the expectations of the Sixth Plan period, with further expansion of investments and exports, making the nation highly competitive in the world market. As a result, the Seventh Five-Year National Economic and Social Development Plan (1992-96) has been, planned and implemented to cope with the changes in society and economy.

In this connection, the Department of Vocational Education (DOVE) has set
its guidelines and policy to carry out the vocational education and training under its responsibilities in accordance with the manpower production policy and the proposed National Economic and Social Development Plan. DOVE has issued the following guidelines and policy (DOVE, 1993):

1. Education for personnel development and career development

2. Science and technology education, innovation, development of indigenous technology, and their application to resource and career development.

3. Education for all

4. Curriculum development and learning resource network, diversity and flexibility of vocational programme in line with the demand of the labour market, availability of local resources, and promotion of self-employment opportunities

5. Personnel development to upgrade teaching and administrative skills in response to new technology.

6. Management and mobilization of resources for education

7. Incentive for and motivation of DOVE personnel through better welfare packages, such as housing for teachers and modernization of existing facilities.

In the light of the guidelines and policy proposed by DOVE, it seems that there is no study conducted to explore whether its function has been facilitated to achieve the guidelines and policy set. Generally, it is felt that large, bureaucratic, inflexible education organization will be inadequate and inappropriate for operating vocational education and training for the future needs of the country.
Besides, in addition to the studies mentioned earlier, some studies in the area of vocational education have been conducted in other countries. But no definite conclusion can be applied in the Thai context, especially in terms of cultural, political and economic factors. Moreover, the studies conducted in Thailand, do not provide precise conclusions that could be applied and adopted in the context of the Department of Vocational Education (DOVE) directly, apart from being out of date.

Hence, it is worthwhile to conduct an evaluative study to ensure that the functioning of vocationalisation of education under DOVE can go in line with policies set in the 1992 education scheme as well as the Seventh Development Plan (1992-96) regarding the vocationalisation of education. In addition, due to the advancement of modern technology and globalization, there is a need to evaluate the existing programme of vocational education and also to determine its future trends in Thailand. To fulfil this purpose, the following problem was selected for research:

**Vocationalisation of Education in Thailand: An Evaluative Study**

**1.3 SIGNIFICANCE OF THE STUDY**

It is expected that the proposed study will provide us a clear and comprehensive perspective towards vocationalisation of education in various aspects. The future programmes offered, therefore, can be planned and implemented
throughout the country effectively and meaningfully, especially matching with the
needs of labour market and the speed of rapid changes.

Furthermore, based on the findings gained from the present study, relevant
suggestions can be given in order to improve the existing programmes. Besides, in
the light of the above mentioned expectations, the study is planned to address to the
following questions:

1. What do the community and private sectors expect from vocationalisation of
   education under the responsibility of DOVE?

2. What are the crucial factors that motivate or influence passouts to change their
   job from one sector to another?

3. What are the attitudes of teachers, students and people concerned towards
   vocationalisation of education under DOVE’s administration?

Moreover, in the light of the following comment by the National Education
Commission (1991), the present study would be helpful in identifying the required
standard of quality of vocational education in the labour market:

Among the educated unemployment, it appears that the chance of
technical and vocational graduates to be employed is limited due to the
discrepancy between technical and vocational training and the required
standard of quality by the labour market.

For more information, the Nation (January 20, 1995) reports that according
to the World Bank’s estimation, for the decade 1990-2000, Asia will account for half
of the global GNP growth and half of the World's trade growth. Thailand, with its estimated GDP expected to reach or exceed 8 1/2 to 9 per cent each year throughout the current decade and beyond, will be a part of that growth. During 1995, Thailand's economy was expected to grow 8.5 per cent (GDP), the fourth largest rate in Asia. Thailand can increase its World market share of exports from the present 0.9 per cent to 1.7 per cent by the year 2000. In addition, Bangkok Post (January 7, 1995) also reports that by the year 2020, Thailand's economy is predicted to be the eight largest country in the world.

From the reports mentioned above, it is an evidence that these rates are very healthy. However, it is impossible to maintain the country's economic growth spontaneously unless the proposed growth is accompanied by changes in the social, political, and educational sectors. According to changes in educational sector, the vocational education and Training has to be put into the sole focus in terms of providing the further highly skilled workforce for the beginning of the 21st Century. In this regard, it is worth analysing and evaluating the existing programmes and function of DOVE as it is realized that if the quality of workforce cannot be accomplished through education and training, Thailand will continue to rely upon the importation of technicians and management professional from other nations in order to supply the needed talent for filling the work requirements of the government and the private sector. Otherwise, the economic growth will be struck and decline in its strength.
1-4 OBJECTIVES OF THE STUDY

The present study is undertaken for the following objectives:

1. To study the growth of vocationalisation of education in Thailand in historical perspective.

2. To study the functioning of vocationalisation of education at different levels in Thailand with special reference to the following:

   2.1 Objectives of the programme.

   2.3 Curriculum Development and nature of the vocational courses introduced.

   2.3 Admission procedures

   2.4 Enrolment of students

   2.5 Infrastructural facilities

   2.6 Instructional strategies and techniques

   2.7 Orientation and training of teacher

   2.8 Management and administration

   2.9 Role of non-formal and distance education in vocationalisation.

   2.10 Role of community and other voluntary organizations.

3. Placement and follow-up of passouts

4. To suggest measures for the successful and effective implementation of the programme of vocationalisation of education.
1-5 DELIMITATION OF THE STUDY

1. The study will be confined only to the Department of Vocational Education, Ministry of Education, Thailand.

2. The study will be confined to the students at all levels [(Certificate, Diploma and Higher Diploma (a degree)] including learners from non-formal system under DOVE.

3. The study will be restricted to only the Trade and Industry Field of Study. There are 9, 19, 3 areas for Certificate, Diploma and Higher Diploma respectively (DOVE, 1994).

1-6 OPERATIONAL DEFINITIONS OF TERMS

1. **Vocationalisation of Education or Vocational Education**: It refers to education and training under the responsibility of the Department of Vocational Education (DOVE) under non-formal and formal mode.

2. **Evaluative Study**: It refers to the study of existing phenomenon in relation to certain aspects of the programme.