INTRODUCTION

The present age and our times particularly lay much emphasis on economic development. The contemporary economy and its growth are sustainable only through the use of the latest technology. Consequently, only the technically qualified people can generate more and more wealth because of self-generating characteristics, which is inherent in the system itself. The system of Technical Education has simultaneously suffered deterioration with the advancements. A big gap has arisen between the aim and the system. The utilization of the ultimate product of the system suffers in many directions and the details of which would be investigated through the present study. Technical Education almost all over the world has a uniformity in its broad classification and implementation. In India, it is a four-tier system starting from imparting technical education about various skills which is entrusted to the industrial training schools/institutions, popularly known as Industrial Training Institutes (I.T.Is). The product of this system usually performs as a skilled craftsman or a skilled worker. The task of second level of imparting technical education has been assigned to the polytechnics in India and most of the polytechnics are producing middle level technicians whose role is supervisory as well as that of the skilled technician. The third level of technical education in India, is the responsibility of Engineering colleges. The product of which is expected to perform jobs of more diverse
nature from upper level supervision to research and development. It is assumed that the product of the degree level engineering colleges gets trained for a greater responsibility than the first two levels of technical education. The fourth level is usually assumed to be the extensions of the third level i.e. the product of Engineering colleges. However, with the advancement the four levels are now being integrated with open options of continuity and / or cessation at any one of these stages.

**THE HISTORICAL PERSPECTIVE OF TECHNICAL EDUCATION IN INDIA**

In India, Polytechnic Education, as an organized system, started in early 50s. In 1947, when India became independent, there were merely 53 polytechnics. Since then, it has witnessed a phenomenal expansion by more than 30 times. Polytechnics were envisaged as institutions to train manpower for middle level supervisory positions for the growing industrial activities in India. Development of heavy, medium, tiny and small scale manufacturing industry; development of infrastructure in terms of electrical power, transport, irrigation, water supply etc. and the corresponding development of the service sector have been amongst the major thrusts of the successive Five Year Plans. Thus, there has been a phenomenal industrial development whereas upto early 1950s even a pin and a torch bulb were imported. Today India undertakes indigenously the building of ships and
airplanes, the most sophisticated electronic equipment, heavy machines of all
types, high rise buildings with the corresponding infrastructure, a variety of
equipment for the defense forces, building of mountain roads, world class
tunnels and bridges, launching of rockets and satellites and sophisticated
computer software etc. The technical manpower trained at the polytechnics
has been a backbone of earlier developments. Indeed, many of the
entrepreneurs who, over the years, set up a large number of small scale
industries, some of which today have grown into large enterprises in all parts
of India, are the product of polytechnics. All this is meant to indicate that
polytechnics have the potential to play an important role in supplying
technical manpower in India.

Though the polytechnic education system has expanded
manifold yet, by and large, it has remained rigid and unchanged. At the time
of establishing polytechnic education system in the country, the concept was
to provide for a middle level position in the technical manpower spectrum in
between the graduate engineers and the craftsmen. Over the years, with the
development of industry and technology, the scope of this middle level
technical manpower expanded both horizontally and vertically.

The liberalization and globalization of economy during the 90s
has brought revolutionary changes in all sectors of development especially in
industry and service sectors. It has become imperative for the industry and
the world of work to update their resources and practices constantly for meeting with the competition within the country and abroad. Some of the aspects of the above are: Introduction of automation and use of latest techniques involving computer hardware and software; quality assurance of manufactured products as well as services, satisfying the clientele and catering to increased consumer awareness; and the necessity of meeting the challenges of short lead time, product life and uncertainty in demand. The impact of development in Information Technology to accelerate the accuracy, consistency and efficiency in storage and retrieval of information, computation and analysis and many other aspects of trade and manufacture, has resulted in the trade and industry adopting various applications of engineering and technology in all functional areas. This has led to new challenges in competency profile of technician manpower working at different levels. The achievement of this necessitates a new outlook towards the resources and the curriculum, which form the essential components of any educational programme.

With a view to make economic changes operative Government of India in the recent past initiated measure towards drastic changes in industrial structures, processes and policies. Some of the visible trends and impacts include grater concern for quality, collaboration and joint ventures,
technology up-gradation and automation, greater stress on education and training, hiring part-time workers and consultants, and improving work environment. These changes in industrial and economical developments are necessitating changes in polytechnic education system as well. Towards this end, the Government of India launched a massive project with the assistance of World Bank for strengthening Technical Education. Although, considerable headway has been made with these inputs, yet there is sufficient scope for quality improvement of polytechnic education for achieving excellence.

In Haryana, when it came into existence on 1st November 1966, there were merely 6 polytechnics and technical institutes imparting technical education to 1140 students. But since then, the state has witnessed a phenomenal expansion with an increase in the number of Polytechnics to five times. Today, there are 32 polytechnics and technical institutions imparting technical education to about 5615 students. Out of these 32 technical institutions, 16 institutions are Government, 04 are Government aided and the remaining 12 institutions are self-financing and out of these 32 institutions, 04 are exclusively for women.

Majority of the polytechnics in Haryana offers three years diploma programmes in engineering as well as non-engineering courses. These diploma programmes can be classified under the following categories:

- Diploma programmes in other vocational fields like Modern Office Practices, Library Science, Medical Lab. Technology, Pharmacy and Industrial and Personnel Management etc.

- Diploma programmes in applied arts/crafts like Interior design, Architectural Assistantship, Commercial Practice and Stenography.

The above programmes are offered essentially through one of the following modes:

- Fixed and Linear modes (Full time programmes)

- Multi-point Entry and Credit Systems (MPECS)

Duration of full time programmes is generally three years after 10+ as entry qualification. Some of the diploma programmes for vocational disciplines are of two years duration also. A few polytechnics offer diploma programmes on Sandwich pattern in which industrial training is interlaced in between academic studies. Some polytechnics situated in industrial belts or
big towns offer Part-time diploma programme to facilitate continuing education of working craftsmen or for those engaged in industry/field having 10+ qualification. These programmes are of four years duration. The classes are held during evening for about 15 hours of contact per week. A small percentage of polytechnics also offer Post diploma/advance diploma programmes in specialized areas. The duration of these programmes is one and half years and two years, respectively, after a diploma programme.

The survey of the Indian scene as well as Haryana scene shows a comprehensive picture of manifold development in spreading of Technical Education. However, this picture is not complete because a major Problem of Placement of the product of Technical Education Department has crept into the system and this problem is generally not given due attention.

A cursory survey of last 8 years conducted by the author of the thesis has shown that tentatively only 50 per cent of the total product get suitably placed after acquiring the training from the polytechnics in Haryana. The obvious link between the economy and technical education gets frustrated due to this low placement. The data of placement of some of the polytechnics has been shown below (Refer to Exhibit: 1.1)
Exhibit: 1.1 Placement of polytechnics graduates from 1992-93 to 1996-97

<table>
<thead>
<tr>
<th>Name of Polytechnic</th>
<th>No.of students passed</th>
<th>No.of students employed</th>
<th>Percentage of placement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Govt.Polytechnic, Sirsa</td>
<td>459</td>
<td>166</td>
<td>36.16</td>
</tr>
<tr>
<td>Govt.Polytechnic, Sonepat</td>
<td>248</td>
<td>99</td>
<td>39.91</td>
</tr>
<tr>
<td>Govt.Polytechnic, Nilokheri</td>
<td>1248</td>
<td>448</td>
<td>35.89</td>
</tr>
<tr>
<td>Vaish Technical Institute, Rohtak</td>
<td>230</td>
<td>69</td>
<td>30.00</td>
</tr>
<tr>
<td>Govt.Polytechnic for Women, Sirsa</td>
<td>165</td>
<td>49</td>
<td>29.69</td>
</tr>
<tr>
<td>Govt.Polytechnic, Ambala</td>
<td>295</td>
<td>94</td>
<td>31.86</td>
</tr>
<tr>
<td>BPS Mahila Polytechnic, Khanpur Kalan</td>
<td>182</td>
<td>64</td>
<td>35.16</td>
</tr>
</tbody>
</table>

From the above figures of PLACEMENT, it may be concluded that not even a single polytechnic has got even 50 per cent placement of Pass-out students, whereas every polytechnic in Haryana has been provided with facility of Industry-Institute-Interaction Cell i.e. expected to play very important role in the placement of the students but much of its working has remained confined to paper work instead of its direct involvement and relationship with the consumer. More importantly, it can be very easily observed that this cell assumes its role in a limited prospective, as it does not realize the necessity of its intervention in the training. Practically, the cell has not been able to take off properly and hence led to poor placement.
This thesis undertakes to investigate into the problems of placement of the diploma-holders of various polytechnics of Haryana. The survey about the placement presents a poor picture as the percentage of placement of the diploma-holders has not crossed 50 per cent. Though some attention is being paid towards this aspect but serious thought is still lacking, particularly, because institutions have not gone into the total factors relating to placement. Only employment factor is being given attention believing that some attempt at securing jobs of the pass outs can be a reply. This is a misconception because the placement has got to be carefully defined and seen in the totality of its perspective. The process of placement does not begin after the passing out of the diploma holders by the students. The importance of placement must be seen from the beginning of the diploma when a candidate joins the institution. The three years period of a student in a technical institute must take into consideration the training aspect because only a preparedness and preparation during these three years can help in solving the problems.

The concept of imparting technical education must weigh that the aim is economic and not knowledge in isolation. The students have got to be trained in the faculties of multi-purpose dimensions. Besides the attitudinal and behavioral correction, the students have got to be prepared for
a wider participation in the organizations. He/she has got to be technically trained to control at various levels the man as well as machines. For the control of the machine he may be trained to be a jack of many trades with the availability to crossover to many floors. Simultaneously, the training should be motivational towards entrepreneurship and self-sustenance, because the placement would increase only through entrepreneurship. The pass-outs must be motivated to be self-dependent and enterprising instead of trying to be absorbed in the already existing system. This chapter would show that only entrepreneurship could be an answer to malaise of unemployment, underemployment and exploitation. The concept of entrepreneurship must be changed from the traditional one that makes too many expectations from the external factors. In the traditional scenes an entrepreneur is expected to be a person of exceptional quality, but the present-day concept must include even the ordinary in its fold.

The fields are still wide open, but the training, being unidimensional, fails to deliver the goods. The diploma holder can be suitably trained to take up the service assignment in Haryana and perhaps in India. Training in this field is ignored and has been left to the ill-qualified people who may acquire skills on their own. But some importance has been given to the training to the teachers under the World Bank Project Scheme. An
increase in the infrastructure facilities has taken place but the students have yet to get the gains of this infrastructure. The relationship between the teachers and the students follows a traditional path without practically employing the new gains of the department through the World Bank schemes. The probe shows the machinery and equipment, training of the teachers acquired recently, is yet to be used for the benefit of the students in their training and placement. Thus, the training suffers from the lack of its role in the placement.

The author ventures to go into all these details in the forthcoming chapters. The survey of the literature shows that mostly the placement aspect has been ignored or it has not been studied in a holistic manner. The minute and very important aspects have not been undertaken in those studies. Attention has been paid only to classroom curriculum whereas this thesis probes into the total scene by exploring the gaps in the training, employment and finally placement.

The cardinal concepts are being ignored by the scholars. Technical education means and aims to prepare its clients for a keen competitive world of economy and not for merely acquiring some skills and jobs. A technically qualified person is expected to participate in the complexity of industrial and organizational economy through his skills acquired during the training and improvised afterwards according to the need.
of the floor. Flexibility of his training is once again emphasized for such an important role. The present study aims to suggest the ways to bridge the gaps resulting out of mis-concept that certain development and certain changes in curriculum can serve the purpose of placement or a class-room teaching can help in getting the pass out employed.
REVIEW OF LITERATURE

All professionals have to keep abreast of the latest discoveries and trends particularly in their relevant field so as to help them to fulfill their goals and objectives. The direct and indirect related literature is the key to the large store house of the published knowledge which may open doors of sources of significant problems and explanatory hypothesis and provide helpful orientation for definition of the problems, background for selection of procedure and comparative data for interpreting the results and stimulating one’s thinking and helping him to take relevant direction in the field of research.

Keeping in view the importance of review of related literature, this investigator has gone through some literature dealing with placement and training matter. Rather not very many studies have come to be completed directly on the subject of Placement to the Diploma-holders of Polytechnic-graduates. On other related aspects like Curriculum, Practical Training, Continuing Education, Industrial Training and Industry-Institute-Interaction to eradicate the problem of placement, there are a large number of research studies available. We are presenting here Indian as well as western studies under the review of those studies, which directly or indirectly have bearing on our study.
With the rapid growth of science and technology the main task of technical institutions is to prepare the students to face the problem solving situations in the industry. The industry expects to get trained manpower to improve the productivity and quality.

It has been experienced that by and large, practical training of technicians has not been given due attention, it deserves. As such, until and unless proper practical training is provided to the polytechnic-graduates, proper placement can not be attained by them. Therefore, to meet the requirements of industries and developing requisite capabilities in the students, polytechnic education should establish the relevance of the offered curriculum. Industry should be considered as equal partner in training, curriculum design and in its implementation and development of the polytechnics.

The Abbott Report (1937)\(^1\) recommended that every province should make a survey of educational needs of its industries both Public and Private sectors and accordingly courses should be designed.

Technical Education Committee of Central Advisory Board of Education (1943)\(^2\) stated that the primary function of technical education is to satisfy the needs of industry and commerce and these institutions must form a linkage between technical education and industry.
Ministry of Education and Social Welfare – working group on Technical and Vocational Training (1959)³ stated that polytechnics should be established as near as possible to industrial area to facilitate industrial visits and training to their students and staff.

Ministry of Education and Social Welfare – Report of Special committee on Re-organization and Development of Polytechnic Education (1971)⁴ strongly recommended that industries should be fully involved in curriculum design and its implementation, representation in policy making, providing industrial training to polytechnic teachers, undertaking joint research work and inviting experts from industry for extension lectures and discussion on typical problems of the shop-floor.

The report of Special Committee on Reorganization and Development of Polytechnic Education (1971)⁵ also identified the main functions of technicians as Erection and commissioning of engineering structures, equipment's etc. engineering drawings and detailing; maintenance and repairs of engineering plants and machinery; assisting engineers and scientists in design, development and research, inspection and testing, serving, controlling production and control, works study.

Raina, K.B. et. al (1973)⁶ indicated that majority of polytechnics do not offer any continuing education programme for enhancing the knowledge and skills of working people nor do they offer any
consultancy services to the industry. Teachers lack their professional rapport between the polytechnic and world of work.

Mitra, C.R. (1975)\(^7\) expresses in his study that the shift has to be taken place from a mere-end-loading teaching learning approach to developing learning to learn skills or in other words, the end should be to develop learner entrepreneurs. A learner entrepreneur is one who is desirous of learning. This objective of education should not be seemed in teaching knowledge or information but methods of how to acquire them.

Report on Working Group on Technical Education (1978)\(^8\) suggested adoption of polytechnic by industry, organizing continuing education programmes for industrial personnel by technical institutions and starting of courses on sandwich patterns.

In addition to above, professional experts of various committees have provided many suggestions from time to time for linkages between the industry and institute and some of the important recommendations are:

- Courses should be offered on sandwich pattern where part of the time should be spent in industries for gaining job-related experience.
- Project activities should be encouraged and given due importance in course offerings. Such projects should be of practical significance.
- Emphasis should be given on the development of higher order cognitive abilities rather than loading students with lot of information.
- Creation of relevance of the subjects of the study to increase students' motivation and interest through use of meaningful learning exposure in industrial process and practices.

- Emphasis should be given on development of total personality of students rather than only imparting knowledge through teacher based activities.

- Creation opportunities for applying knowledge and skills in a variety of real life situation.

It will be noticed from the above recommendations that there has been considerable emphasis on the industry-institute interaction.

Chandrakant, L.S. (1982) indicated that technical education in India whether at the college or polytechnic levels has developed under the university perspective with little or no interaction with the world of work and has become a close social system.

Chandrakant, L.S. (1982) expressed that there was never any great rapport between industry and polytechnics. Though industry did not hesitate to employ polytechnic diploma holders to meet its manpower needs, after giving them whatever in-plant training it choose to sandwich courses have brought some polytechnics and industrial organization together in a cooperative relationship but much still remains to be done in this respect. A large proportion of the industrial organizations (over 60 per cent) expressed
that the fault mainly lies with institutions because the later are not particularly interested in developing and expanding the sandwich systems. They also felt that the faculty of institutions are mainly concern with theoretical studies and have not developed any perspective about industrial problems as a sequel, there is a lack of relevance in what the institutions are doing to actual needs of industry as well as lack of motivation in the faculty for industrial cooperation.

Fishwick (1983)\textsuperscript{11} indicated in his study that even since technical operation in industry became based on scientific and technological principles, it has been considered essential that engineers and technicians should be educated and trained partly in educational institutions and partly in industry. Each partner in the process should attend to those activities for which it is best suited. Although educational institutions and industry have been described as partners, it is also true that their relationship has to be similar to that of between a supplier of goods and his customers. A satisfactory relationship is fostered when a supplier understands fully the needs of his customer and when the buyers are aware of the constraints within which the supplier has to operate. This mutual understanding could be developed only through amicable exchange of requirements and experience.
of both sides. Further more, these exchanges must be continued to keep up this technology.

Mondke, V.V. (1985)\textsuperscript{12} in his paper on “Linking University Industry Cooperation” at BITS Pilani describes that just as a medical student undergo internship in a hospital, the practice school system of education, similarly require students of engineering, science and humanities to practice their professions during the educational years.

Kulkarni, P.D. (1985)\textsuperscript{13} states that teaching learning process takes place at class room level consisting of a process, inter-related and interacting parts (physical, human, information, financial and energy sources) to transfer a given input from the environment (i.e. students from the school with certain amount of knowledge, skills and attitudes into an output desired by the environment i.e. trained technicians as per requirement of world of work.

Malhotra, M.M (1985)\textsuperscript{14} presented in his paper the issues and problems, a model for curriculum design, procedure for task analysis, organization of objectives under units of the study, instructional time and structure of the programme which an institution may plan to undergo for the training programmes.
National Policy on Education, M.H.R.D. (1986) makes the following recommendations to make the technical education relevant to the world of work:

- Technical and management education programmes including education in polytechnics would also be on a flexible modular pattern based on credits, with provision for multi-point entry;

- Active interaction between technical or management institutions and industry will be promoted in programme planning and implementation, exchange of personnel, training facilities and resources, research and consultancy and other areas of mutual interest;

- Selected institutions will be awarded academic, administrative and financial autonomy of varying degrees, building in safeguards with respect to accountability.

Ministry of Human Resources Development (1987) has described in its report that in 1973, the Apprenticeship Act was passed and it then become incumbent on industry to provide for apprenticeship placement upto one year for students passing out from technical institutions at both the degree and diploma levels. However, only 15-20 per cent of the passed out from technical institutions are able to take such training. The number of industries which can offer appropriate training, the location of technical
institutions vis-a-vis centers of industrial development, resistance to mobility between geographical regions are some of the factors that inhibit apprenticeship training opportunities.

Ministry of Human Resource Development (1987)\textsuperscript{17} in its report has indicated that industry is accelerating the pace of modernization in order to increase productivity, realize higher levels of production and to remain competitive on the basis of dual criteria of cost and quality. This has been accomplished by a quantum leap in technology by way of introducing automation, computer aided design, and manufacturing CAD-CAM, use of new materials and installing pollution preventive system.

Ministry of Human Resource Development, Government of India (1987)\textsuperscript{18} pointed out in its report on the strategies for implementation and agencies involved in industry-institute-interaction and activities of Industry-institute-interaction at National level, state level and institution level, targeting and scheduling, resources and monitoring and review mechanism.

Technical Teachers Training Institute, Chandigarh (1988)\textsuperscript{19} According to a survey conducted in 1969, over 55 per cent of teachers in position have had no industrial experience; about 24 per cent have had industrial experience of at least two years but less than 5 years, and only 20
per cent have had industrial experience of 5 years or more which in many cases, was acquired three decades ago. This is one of the main reasons that much of the teaching in the polytechnics is theoretical and not backed up by actual practical experience in the field or industry.

Technical Teachers Training Institute, Chandigarh (1988) in its report also revealed that there is not much interaction between the Directorate of Technical Education and industry in most of the States, except that a few industrial/field executives are represented on the State Board of Technical Education. Majorities of courses introduced in the states are not as a result of scientific assignment of manpower needs. The plans formulated in most of the states are often not data based. The above has resulted in mismatch between the polytechnic education and world of work.

Malhotra, M.M. et.al. (1989) indicated that Govt. should lay down the need for participation of industry in technical institution as a state policy. He further states that the extent, to which participation of industry will become voluntary and effective, will depend upon the merits the industry sees in such participation. Improved product from the technical institutes, no doubt, will be a factor that would attract the industry towards such participation. It is only fair that technical institutions should throw open the
use of their facilities round the clock and take up the challenge of understanding projects of change for improvement in the productivity of industry. This will improve the utilization factor of the facilities of technical work and thus their cost effectiveness. In addition, Govt. should provide some sort of relief to industry in income tax on the expenditure incurred for participation in the management of technical education system.

Subramanian, R. and Mittal, L.N. (1989) revealed that majority of polytechnic teachers do not have any industrial experience nor do the teachers have any ongoing interactions with the industry.

Saluja, H.L. (1989) stated in his study that continuing education of working people, if taken up by the polytechnics, will be helpful in establishing linkage between the polytechnic and industry. At the moment not enough documentary evidence is available which would be reported as successful activity in this area. He further states that 10 to 15 per cent of polytechnics offer four years part-time evening diploma courses for working people. Polytechnics generally do not offer any continuing education programmes for working people. Part-time diploma courses are a repetition of the day courses while certainly helping the working people to improve their qualifications and, thus, these courses do not update the practical competencies of the students.
Subramanian, R. (1990) reported in his paper that consultancy projects in technical institutions can improve the knowledge, skill and attitude of a technician in a mass volume. He pointed out that consultancy services is one of the important component of Industry-Institute-Interaction and that can motivate the management to introduce such services in the polytechnic levels.

Malhotra, M.M. Tulsi, Satwant Kaur (1990) reported in a case study about the resources, curriculum design, examination and certification, admission criteria, student staff strength, instructional processes, management processes, relationship with industry and institution outcomes etc. They also identified the contextual factors relating to the different aspects of training and management that could contribute to the quality of a technical institute.

Malhotra, M.M. et.al (1990) revealed in their study, “Content analysis of examination question papers”, that students in general are given an overall choice of about 50 per cent in answering questions in a subject. The questions are mainly directed to students recall of information. Numerical problems are of such types where students are to put in data, know formula and make calculations.

Mittal, L.N. (1990) reported in his paper that the practical training to technician in industry is more meaningful and useful. It helps in
advance planning and management. He identified the responsibilities and the obligations of the institutions and industries in this regard. He expressed that minor and major projects exercises are very much beneficial to students and teachers and industry.

Jain, V.K. (1991)\textsuperscript{28} asserted in his paper 'on the objectives of interaction programme, achievement, major deficiencies in the existing mode of interaction and the suggestions for improvement'. He pointed out that interaction can be productive if necessary groundwork is done and planned meticulously and organized with effective monitoring and realistic time scheduling.

Mittal, L.N. (1991)\textsuperscript{29} presented the current scenario of Industry-Institute linkage and stressed the need for work linkage in the light of the development taking place in the world of work. He briefly describes the importance of practice school system of education as a means of linking teachers, industry and students. He recommends different types of workbench involvement of students and focuses various planning and implementational considerations. He also emphasizes the need for professional involvement of teachers and incorporating the principle of concept of use in education as essential curriculum effectiveness.

Rajendran, G. (1991)\textsuperscript{30} emphasized in his study on the adoption of institute by industries, changing in curriculum and syllabi,
compulsion of students training apart from passing of subjects, importance of job oriented courses and part time education programmes, insisting of quality products from the producers and educating the customers to accept only the good quality products

Rathore et. al (1992)\textsuperscript{31} identified in their study the programme and activities which can be undertaken by the polytechnics to promote entrepreneurial activities. They also formulated the strategy for promotion of entrepreneurship.

Mittal, L.N. (1992)\textsuperscript{32} in his study on “Interactive Net Working for Polytechnic Industry Interface - A System Design”, designed interactive networking system between the polytechnic and industry at instruction level. He disclosed that interactive net working is the term which has been used for a continuous mutual dialogue between the polytechnic and industry for education work linkage for effective curriculum implementations and improvement and sharing of physical, human and informational resources for the mutual benefit. He further revealed that this design of net working system would improve the efficiency of technician on-the-job in the world of work.
Sharma, D.D. (1993)\textsuperscript{33} suggested a model in his book for ‘Small Entrepreneurial Management.’ He described the management product market segmentation, buyers behavior, product planning, pricing policies, distribution policies, advertising and sales promotion, salesmanship, sales management, sales forecasting and marketing research for small entrepreneurs.

Granville and Miller (1993)\textsuperscript{34} reporting in the findings of a series of national seminars conducted by ISTE indicate that in the present set up for regulation of technical education by different agencies at the national and state levels, many cases of delays, ambiguities and uncertainties are experienced in the functioning of technical institutions and especially in the establishment of new institutions. In some cases, it is overlapping of authority with the resulting conflict and clash of interest. In others it is the ineffectiveness of the present set up with the resulting delays and uncertainties and in some others it is the total absence of effective control by an agency with the resulting confusion and lack of direction for technical education.

Kulandai Swamy (1993)\textsuperscript{35} in his paper described that “Real desideratum in higher education, in general and engineering education in particular, is the absence of academic leadership. We have no doubt, produced scholars, researchers and teachers, but we have not produced great
educationists. We have engineers; engineering teachers, but no engineering teachers to develop a healthy process institutional development and management system at the state level.

According to Srinath (1993) Curricula of engineering degree programmes have become highly science based with far less orientation to engineering design. This is one of the factors that has led industrialists in the country to go for imported technology and employing degree holding engineers for keeping their machines running and for interpreting the blue prints supplied.

Technical Teachers Training Institute, Chandigarh (1993) in its project report make suggestions for eradicating the problem of shortage of quality teachers in polytechnics and their professional and career development:

**Professional development:**

- In order to overcome the problem of large vacant positions in the polytechnics and to attract and retain quality teachers, who are motivated, it is important that a stock of potential teachers for polytechnics is built up from among fresh high achieving diploma
holders. Identifying high achieving diploma holders can do this and training them through three years integrated technician trainer degree programs conducted at Technical Teachers Training Institutes.

- To attract and retain good teachers in polytechnics, it is necessary to have a salary structure equal to that in engineering colleges and a flexible staff structure providing for adequate opportunities of career growth;

- Provide more number of senior cadre positions by changing the present structure for career advancement. Career growth can be provided by review and appraisal mechanism and flexible staff structure to suit the specific requirements of the institutions depending upon the type of programmes and activities undertaken by them.

- Professional development and career advancement of polytechnic teachers can be achieved through Initial and/or Induction Training; training for job related/professional development; training for horizontal and vertical mobility.

**Career advancement:**

For career advancement, institutions need to set up a faculty appraisal system to assess the level of performance and professional
competency of the teachers. Every teacher can put up a case for enhancement of his pay package periodically for consideration by the institutions.

Bhattacharya, S.K. (1994)\textsuperscript{38} reported in his paper ‘Validation of teaching learning systems’ where institutional training is followed by the students internship in industry using a functional curriculum and having emphasis on development of job related practical skill and learning to learn skill. He designed a teaching learning model for student and teacher and suggested a schematic of the interactive teaching learning package. He also designed an institutional plan for the study.

Malhotra, M.M. (1994)\textsuperscript{39} discussed in his article "Challenges Faced by Technical Education." He presented the issues bearing on the quality and efficiency of technical education management like curriculum relevance, instructional quality, professional and career development of people in the system, quality assurance and accountability, proper restructuring of technical education for improved efficiency, relationship with industry and institutional autonomy.

Malhotra, M.M. (1995)\textsuperscript{40} in his paper, ‘Excellence in Managing Technical and Vocational Education’ has described that the involvement of Industry in providing industrial training to students undergoing sandwich training programmes has been a policy initiative of some technical institutes.
Studies of such institutions and those where experiments have been conducted to provide structured practical training to students in industry during vacations have indicated that the graduates of these programmes have been qualitatively better and more suited to the world of work.

Scheetz, Leo Patrick (1973) has studied on “A comparison of personnel information storage and retrieval systems for the placement services of selected universities”. The broad purpose of the study was to develop a recommended model personnel information storage and retrieval system for placement offices. In analyzing personnel data systems in placement offices, four specific purposes were examined. The examined purposes were to:

- Study the present personnel information storage and retrieval systems used in selected major universities.
- Compare the data processing model information storage and retrieval system developed and implemented at Michigan State with systems in operation at other selected major universities.
- Determine the advantage and disadvantages of the personnel information storage and retrieval system used as Michigan State University.
- Recommend a model information storage and retrieval system that appeared to be worthwhile and desirable for major universities.
The study of personnel information retrieval systems in the surveyed placement offices revealed that there was extreme variation in the number of graduating students and alumni candidates registered, per cent of each placed and per cent of graduating students registered for placement by placement office and by surveyed university.

The comparison of Michigan State’s model system with the other surveyed retrieval systems revealed that Michigan State’s system was one of the largest placement operations surveyed and the only centralized university placement office.

When determining the advantages and disadvantages of Michigan State’s model system, it was found that Michigan State’s system was quick to use and more manageable with large numbers of candidates.

The recommendation for a model information storage and retrieval system revealed that twenty-eight items were recommended for inclusion in the model system. But in recommending a physical model personnel data retrieval system for placement offices, it was determined that a single operational system was not appropriate for all placement offices.

Roth, John Martin (1973) \(^{42}\) has studied on “Employment and suitability of training of graduates from Njala University College, Sierra Leone, 1966-1970. In this study the problem was to analyze the employment history and selected opinion of all persons who had completed the
requirements of one of the degree or certificate programs at Njala University College, Sierra Leone, from 1966 to 1970. More specifically, the problem was to conduct a systematic follow-up study of the graduates to collect evidence regarding (a) employment histories of the graduates, (b) evaluations by graduates of certain aspects of their educational and training experiences while at the University College, (c) the degree of job satisfaction and its relation to selected variables, (d) attitudes toward working in agricultural occupations, and (e) the employers' evaluations of job performance and their projected needs for similarly trained manpower.

The findings of the present study suggest that it may be valid for use with selected population in cross-cultural research.

Winn, Kristine Ann (1973) has studied on "An Evaluation of the industrial opportunities institute to traditional job placement programmes for public aid recipients." In his study, an evaluative research study was implemented to compare the outcome of the Industrial Opportunities Institute (IOI), a job-attitude and placement programme for unemployed public aid recipients, with traditional job placement programme in Macon County, Illinois. The evaluation was based upon two of the stated goals of IOI: (1) placement into full-time employment; (2) the development of a more internal locus of control. In addition, home, family and interpersonal attitudes and behaviours were compared.
In this study the significant employment data differences indicated that the IOI programme, with its emphasis on inter-personal interaction and psychological growth, was more successful in achieving its goal of job placement. The results were discussed in terms of the differing emphasis and focus of the Industrial opportunities Institute, Work Incentive Programme and Illinois Department of Public Aid programmes. The IOI structure appeared to provide the necessary in-depth involvement and learning to develop and reinforce those behaviours that enable public aid recipients to move into competitive employment.

William J. Mosley (1973) has studied “The disproportionate placement of black children in special classes and prejudice among white prospective teachers.” The purpose of the study was to investigate racial prejudice on the part of White teachers as it affects the educational placement of Black children. The questions of primary interest in this investigation were:

- Are White prospective teachers prejudiced against Black children in terms of the educational placements they recommend for them as compared to placements they recommend for White children with similar learning and behavior problems?
- Do White prospective teachers in regular and special education differ in racial prejudice on a direct measure of prejudice.

- What is the relationship between the racial prejudice of White prospective teachers as determined by an indirect and a direct measure of prejudice.

Further in this study, the investigator has concluded:

- White prospective teachers were not prejudiced against Black children.

- White prospective teachers in regular and special education did not differ on an indirect measure of prejudice.

- A direct measure of the prejudice of White prospective teachers was not related to an indirect measure of their prejudice.

Hasan Muhammad Malik (1973) has worked on “A Study of Racism and Sexism in Career Counselling Job Selection and Placement by Vocational Rehabilitation Counselors in Alaska, Idaho and Oregon.” The purpose of this study was to determine whether or not the counselor’s race and sex influenced the vocational guidance and placement efforts of state agency vocational rehabilitation counselors.
Vocational rehabilitation agencies are federally funded, state operated social service programmes that have a major function in enrolling and placing people in employment in the United States.

The vocational rehabilitation counselors is unique because he has the option available to purchase whatever combination of medical, educational, specialized training or appropriate goods and services necessary to place his client in a job. Since the study dealt with ethnic factors it was not felt that a reliable sample could be obtained because of the varied demographic characteristics of the states involved in the study. Accordingly, the investigator examined the entire population reported as rehabilitated i.e. placed in an occupation, during the fiscal year 1972, in the states of Alaska, Oregon and Idaho.

In this study, the analysis of the investigator indicated that placement of clients in occupations was influenced by the clients' race, and particularly by the clients' sex.

White and non-white women were heavily concentrated in clerical and service occupations. White men were distributed throughout the range of occupational areas. White and non-white women earned significantly less money than did white and non-white men who were in similar occupational areas.
The percentage of non white clients who were placed in jobs by counselors in Alaska and Oregon was greater than the proportion of non white indigenous to those states, but an inverse situation was operational in the state of Idaho.

James Lee Allan (1973) in his study “An Analysis of the Role of the Traditional Placement Office at State Colleges and Regional Universities”, investigated to establish the role of college placement in state colleges and regional universities. To accomplish this goal, a description and analysis of office functions, staffing, budgets, programming and the relative power and prestige of the placement directors was undertaken. Additionally, the types of formal evaluation commonly utilized to assess the effectiveness of placement programs have been identified.

The secondary purpose of this research was to identify creative and innovative procedure that has contributed to functional change within the field. The intent was to utilize such practices as models for placement office reform.
Based upon the literature and the data reported, the investigator has concluded as detailed below:

- There is a noticeable disparity between functions placement officers feel that they should emphasize and those they actually conduct.

- The majorities of placement directors indicate that they would prefer a more significant role in campus activities but have not been able to reach that goal.

- The most frequently mentioned shift in placement philosophy is toward career counseling and away from actual job placements. To date, the career counseling movement has taken hold at slightly more than one-third of the institutions examined.

- Innovative practices concerning the use of videotape, computers and alumni have been devised, but are not used extensively by placement officers.

- As a result of the restricted job market and high unemployment rate, placement services have become highly visible and vulnerable. Positive signs in staffing and budgetary allocations indicate, however, that the concept of placement and career counseling service is on solid ground at the present time.
- The role of the traditional placement office, and the placement director in particular, has not changed appreciably during the past five years.

This study also include major recommendations directed toward an improvement in role and the accomplishment of desired change:

- Each placement director should evaluate office and campus resources thoroughly to uncover time saving devices. A greater reliance on group counseling and the possibility of sharing other student personnel professionals could eliminate a large portion of the routine demands made on him.

- A more imaginative and aggressive approach to the promotion of placement services and alterations in procedures should become standard.

- The profession should adopt more consistent measures of formalized evaluation. The establishment of a representative placement advisory board could assist in fulfilling this suggestion.

- All placement directors submitting comprehensive annual reports to a central source for compilation and distribution could attain improved accountability.
Individual placement directors should embark on a self-improvement program aimed at the improvement of prestige and credibility. Publication, in-service programs, conducting pertinent research studies and initiating interaction with others on campus is appropriate measures in this regard.

David Joseph, LILL (1973) has studied on “An approach to the development of a marketing curriculum through a Delphi application among personnel officers of major united states corporations registered with the university of Alabama career Counselling and placement office”. This study provides undergraduate marketing curriculum planners, utilizing the University of Alabama as a laboratory, with information to assist in the design of a curriculum directly applicable to the needs of the business community. Continuous curriculum study is necessary for maintaining relevant programs in any field of study and keeping the business curriculum tuned to student needs and employer expectations is critical. It is a basic premise of this study that the best way to accomplish this objective is to question the men involved in the actual hiring of business graduates to arrive at a consensus among these experts on the question of what is the best preparation for a student who plans to follow a marketing career.
Further he has described that business firms hire the products (the students) produced by the schools of business. Satisfying the requirements of business for a college-educated person is a focal point around which business and marketing curricula might develop. This then provides the educational process with a market-oriented philosophy rather than a traditional production-orientation.

In this study, the 89 major United States corporations, which provided the expert panelist for this study, were those registered with the placement office at the University of Alabama. The respondents were the company executives taking part in the final decision on whether or not an applicant is hired.

The findings of the study suggest the panelists’ preference for students with a specialized education centering around four years of business administration. Courses both in liberal arts and in business that develop a student’s communication skills were rated highly. A student’s major field of study and competence in the hiring company’s particular field of activity are very important considerations when a student is being interviewed for employment.

Margaret Luken Alciatore.Ed.D, 1973 48 conducted study on seniors in the largest college at Oklahoma State University, Arts and Science,
and in a professional college, Education, were designated participants in a study to canvass consumer opinions of the quality of college instruction and to relate ratings received to student, faculty and class-room variables. Seventy per cent of the participants returned the four pages leaflet questionnaire, the data from which tested 32 hypotheses of relationships by means of analysis of variance, Duncan's Multiple-Range Test, and Chi-square techniques. In the findings, senior rates significantly higher those teachers whose personal and behavioral characteristics and whose teaching strategy and classroom atmosphere lends themselves to student rather than content-oriented teaching. Students dislike television courses but give a high endorsement to teachers who student pace their courses and who employ the student-oriented methods of discussion and inquiry. The significantly higher ratings given to teachers who specify objectives and grading criteria and who keep office hours and the concomitant lower rating given teachers who assign seats and who keep regular attendance demonstrated student preference for some organization but a distaste for rigid structure. All students (warmth, objectivity and knowledge of subject) prefer some qualities but student individual learning style is as important as general faculty qualities. The hypotheses that related student variables to student ratings were mostly rejected. However, the hypotheses that related faculty and classroom variables to student ratings were generally accepted.
Lowery, Charles Lee (1974) has studied on ‘The non-certified guidance associate: placement opportunities and implications for training.” The objective of the study was to determine the demand for non-certified guidance associates in non-public school settings within the State of Texas. This study also determined the competencies and skills required in various job settings.

Through observations, the investigator attempted to answer four specific questions:

- What are the job opportunities available for guidance associates?

- What work background or experience is preferred?

- What is the beginning salary range, relative to job settings?

- What are the specific competencies/skills needed to perform duties in various job settings

The findings of the study gave evidence that the competencies and skills desired by different institutions/agencies varied greatly according to the type of institution/agency involved. Possibly, when considering training for the guidance associate, priority should be given to the desires of the institutions/agencies offering the most job opportunities.
Mccaleb, Kenneth James (1974) has studied “Appraisal of adequacy of placement service processes in selected Illinois public community colleges.” The purpose was to appraise the adequacy of placement service processes in selected Illinois public comprehensive community colleges and identify and described conditions, which are essential for the development of optimal student placement services in public comprehensive community colleges.

As a result of the study, the investigator presents following recommendations for the ongoing operations of a community college placement center:

- The College Board of trustees and administration must both make a philosophical commitment and allocation of financial and human resources for the placement function as a centralized service.

- The student financial aid function and placement function should be assigned as full time positions and placed in separate facilities. The financial aid service would be identified as a function of student personnel services.

- The centralized placement service should be identified as a specific function of student personnel services. The full time individual responsible for the placement center should report directly to the chief
student personnel officer of the college. It is important that liaison be maintained with the Chief Academic Officer of the college.

- The placement center should be staffed with placement counselors, para-professionals and clerical personnel who are capable of providing a comprehensive placement programme.

- The centralized placement program should be organized in a manner which effectively responds to the needs of all segments of the student body including full time students, part time students, students enrolled in college parallel programs, vocational-technical students, and students enrolled in general education and continuing education programmes. It should also provide services for those that have graduated, or withdrawn from school, and other citizens residing within the community.

- The effective operation of a comprehensive placement service requires continual programmes and activities of articulation with faculty, administrators, employers, students and student-personnel workers.

- The establishment and maintenance of well-organized contact systems with business and industry is critical to the operation of community college placement services.
- The effective operation of a comprehensive placement service requires facilities specifically designed to facilitate ongoing placement processes.

- The establishment of a student-faculty committee to help guide the direction of the placement function and an advisory committee composed of area business and industry placement personnel to support the placement center are necessary for an effective placement service.

- To better serve the college district the placement center staff must continually develop and initiate the release of news items and publications to the college community and the general public.

- Six major processes are essential to the operation of a comprehensive placement programme: Organization, Orientation, Regulation, Consultation, Participation, and Public Relations. The arrangement of priorities for each process should be defined in accordance with the aims and objectives of the college and the academic service function.

- Immediate and long-range planning based on objective appraisals of status and prospects is essential to the development of comprehensive community college placement services.
O'Hearne, John Joseph (1979) in his study on "The colleges selected by advanced placement program examination candidates and the quality of their performance on the tests" investigates the relationship between certain variables—institutional control, type, size and regional location—describing colleges in the United States that received reports of the scores of students who completed examinations of the Advanced Placement Programme (APP) of the College Board from 1968 through 1976. The study focused on a search for patterns among the number of colleges in several groups to which scores were sent; the quality of scores, indicated by the mean of the grades, sent to colleges in those categories; and the institutional affiliation of the college faculty and staff who served on APP Committees. The way APP candidates—able and ambitious secondary school students—apportion themselves among institutions grouped according to the variables of control, type, size and location offers another dimension of the phenomenon of stratification in higher education.

The study re-enforces the conclusion that there is a system of stratification in American higher education, and that privately sponsored institutions continue to be attractive for able and ambitious secondary school students.
Bashore, Robert Leroy (1979) in his study "Job Worthwhileness, Job Placement, and Job Satisfaction of the College Work Study Program Participants in the Virginia Community College System." The study was conducted to examine the aspects of job worthwhileness, job placement and job satisfaction of College Work-study Program (CWSP) students. Supervisors and aid administrators involved with the CWSP in Virginia community colleges. This research study indicated that use of proper placement procedures improved the changes of a student being assigned a worthwhile job as well as improving the performance of the worker. The improvement of worker performance and achievement as a result of having a satisfied worker was based on the research of Maslow (1954), Herzberg (1959), Smith (1960), and Friedman (1973).

The first finding of this study was that respondents expressed general approval of job worthwhileness and job placement procedures. The students, supervisors and aid administrators differed on their perceptions of the use of judgement, the amount of make work, the opportunity to establish hours of work, the perceptions of overall placement and the amount of responsibility that exists in work-study jobs.

The second finding related to students job satisfaction. Both male and female students' levels of job satisfaction were significantly lower than norms established for the job Descriptive Index.
The final observation was concerned with the relationship between the overall variables, overall job worthwhileness, overall job placements and overall job satisfaction. The three variables were related to a significant and meaningful degree with correlation coefficients above or near .50. This relationship indicated that it is important to have elements of overall job worthwhileness, overall job placement and overall job satisfaction included in college work-study jobs.

Southerland, Jesse Malon (1980) has studied on “A Forecast of the Critical Tasks for Educational Placement Officers in Higher Education at Four year Colleges and Universities.” The purpose of the study was to identify the critical tasks of an education placement officer for time period 1(0-5 years) and ii (10-20 Years), and to prioritize these tasks based on consensus so that the highest ranked critical tasks could be identified. A Delphi study was conducted to accomplish the above purpose. A panel of twenty experts in the field of educational placement were nominated and selected to participate in the study.
In the study eighteen observations were noted and these conclusions included a concern about the consolidation of placement operations.

Crouch, Larry Raymond, (1981) has studied on “A survey of placement Directors in Two year and Four year institutions of higher education in the United States.” The study was designed to determine, describe, and analyze selected factors in the educational and vocational careers of placement directors and to compare the placement functions performed and supervised in two educational settings. The two-year college and the four-year college and university, data were gained through the use of an instrument organized around the five research questions of the study. In the study, the placement directors did not believe that there was need for a specifically designed master’s degree program for placement directors (64.1 per cent). Although placement directors (46.0 per cent) were playing an active role in the formal instructional process, only 27.4 per cent had been recognized with the corresponding academic appointment. Moreover, significant differences were found between the two-year and four-year participants in the placement functions which the placement directors’ office supervised, the functions the directors personally performed, the functions that received the major portion of their time, and the functions on which they would prefer to spend their time. There were 56.0 per cent of possible 84
instances of statistically significant differences concerning these aspects of placement office functions.

White Mark Edward, 1981) 55 have studied on “Transfer of training: a study of teaching methods and positive transfer in Provo school district.” The purpose of this study was to determine if high school English and vocational education teachers in the Provo, Utah School District preferred the theory of transfer of training by formal discipline, identical elements, or identity of procedure. The purpose of the study was also to determine if these teachers were using teaching methods that were congruent with their accepted theory or theories. Finally, the study was to determine if there was a significant difference between the English and vocational education teachers in regard to these factors.

The results of the study indicated a significant preference for the theory of transfer by identity of procedure, followed by the theory of formal discipline. A lack of significant congruence was found between accepted theory of transfer and the teaching methods that were being used. There was also a significant difference between the congruence of the English and vocational education teachers in regard to these factors.

Dahl, Randall Wilson, Ed.d, 1981) 56 in his study “Early Predictors of Alumni Giving” determined whether and to what extent
selected pre-enrollment characteristics and collegiate career experiences of former students of a public university served to influence the fact and magnitude of the students subsequent behavior of making financial contributions to the institutions. Two groups of freshman male students entering the University of Kentucky during the fall semester 1965 were studied, including one group (N=186) of all such students who had made financial contributions to the institution (givers). And a comparison group (N=186) of former students who had made no financial contribution (non-givers).

The principal conclusions of the study include the following: (1) that pre-enrolment characteristics of former students appear to exert no systematic influence on subsequent giving behaviour; (2) that among selected collegiate career experiences, only undergraduate academic performance in general (and a closely associate measure of academic ability) can be systematically associated with subsequent giving behaviour; (3) that a substantial majority of the influence on the giving behaviour of alumni lies in factors other than pre-enrolment and primarily academic collegiate career experiences; (4) that the fact and magnitude of giving are distinct forms of giving behaviour differently influenced by similar factors (and probably responsive to dissimilar and even contradictory influences); and (5) that
Wong, Carl (1982) has analyzed the effect of two job search strategies upon the placement rates and job readiness posture of vocational entry-level adults. The purpose of this investigation was to determine if the characteristics of two different models of job placement had a statistically significant impact upon the respective groups of entry-level adult job seekers. The primary emphasis was to determine if a difference existed between the self-directed job placement group and the job development group with respect to their Job Readiness Posture (JRP) as measured on the Vocational Opinion Index (VOI), and their resulting job placement rates. Their composite scores on the VOI scale in two areas measured the JRP of the job search subjects: (1) attractive to work and (2) losses associated with obtaining and maintaining a job. It was determined that the majority of the subjects in both job search groups had positive JRP scores to indicate that they were ready for full-time employment. Further, the number of subjects who secured full-time employment during their active job search period determined the job placement rate.

The investigator found that there was not a significant difference in the placement rate of subjects with regard to the job search strategy used. Further, it was also concluded that the characteristics of the
two different models of job placement were equally effective with respect to the subjects’ job readiness posture, initial employment rate and job retention.

Miller, Dennis P. (1983) investigated “Job placement rates among students in urban secondary vocational health occupations programs” and analyzed the results of an innovative support programme for vocational health occupations students to determine the impact and relationships between the innovative support programme and the job placements of students. The aim of the support program was to improve the technical knowledge and specific job skills of students who completed the programme, thus, enabling them to be better trained for job openings upon graduation. Data for the study was collected for 105 high school vocational health occupation students who were given a letter of invitation to participate.

After analyzing the data the investigator suggested the following:

- A vocational health occupation student’s placement on a job, admission to post-secondary education or into the military was not dependent upon being in the 1982 summer Business Employment and Training (BET) programme.

- There was no significant difference in the rate of job placement between students in the BET and NON-BET groups.
- Nineteen of the 22 BET job placements and 22 of the 27 NON-BET job placements were entry-level positions. BET students were not placed above entry-level positions to any greater degree than NON-BET students.

- Employers who participated in the 1982 summer BET program did not show a preference for rehiring the Cincinnati Public Schools' vocational health occupations students when they graduated in June 1983.

  Job placement rates for each of the vocational health occupations groups paralleled the degree of competition from older and higher trained persons.

  Glaser, Margaret Lynne (1984)\textsuperscript{59} has studied "Job search training; its affect on self-esteem and placement." with the purpose to investigate whether or not self-esteem would increase as a result of job-search training and whether or not subjects who increased in self-esteem would have more success in the job hunt.

  In this study the Tennessee self-concept Scale was administered to 90 continuing education students-45 experimental and 45 control subjects. Based on the observations he has suggested that research on job search training should seek to gain cooperation of government offices such as the employment services of welfare office.
Jabs, Robert Kurt (1984) has conducted a study on ‘college student employment in the united states’ with a view to provide a comprehensive national look at college student employment in the United States. The growth of college student employment over the fifty-three year period between 1929 and 1982 is striking in 1929 the ratio of college student employment to enrollment was 36 per cent and in 1982 it was 59 per cent. Since 1947 there has been a significant increasing trend of college students employed in the labour market. The actual quantity of students employed in 1982 was 6,463,000, which was 6 per cent of the national labour force. Some of the reasons are increasing numbers of part-time students, female students, older students, and minority students—the changing profile of the college student is influencing the employment trend. Data on four employment enrollment combination are reviewed: full-time students employed full-time, full-time students employed part-time, part-time students employed full-time, and part-time students employed part-time. The statistics indicate that most single men and single women students fit into the category of full-time students employed part-time, whereas the largest category for married and non-white students is that of part-time students employed full-time. Married student enrollment has dropped off since 1974 but the number of female college students has more than doubled since 1967 and the number of non-white students has shown a 250 per cent increase since 1967.
The investigator has recommended that the emphasis is on higher education maintaining the leadership role in the area of student employment. College student employment will increase in the future, and can make a significant contribution to the quality of higher education.

Marshal, Ann Ellen 1984) has worked on "Predicting job placement success in college graduates". In this study the investigator described that college students who are concerned about obtaining employment after graduation often report experiencing both anxiety and confusion about how to best make themselves employable. The career counselors to whom they turn for guidance may report that the graduates who obtain the best jobs have good grades, relevant work experience, extracurricular activities, impressive references, well written resumes, effective job hunting skills, self confidence, influential contacts, attractive appearance, polished interview behavior and numerous other assets. The average college student faced with a limited amount of time, energy and talent might well despair.

The major goal of this study was to test and correct a set of conceptual propositions regarding the determinants of job placement success in college graduates. The study proposed that job search success in college graduates was a function of applicant qualifications, applicant characteristics
and job search behaviour (specifically, use of job hunting resources and assertive behavior in contacting and interacting with employers).

In this study Job Search Survey (an original questionnaire which assessed variables related to the proposed determinants) was administered to 217 business administration majors just prior to their graduation from San Diego State University. A follow up survey evaluating graduates employment status and job satisfaction was sent out 90 days later. The responses to this follow-up report (by 186 graduates) provided data on the job placement success of the respondents.

Discriminate analysis of job search survey responses revealed that application qualifications (especially impressive job references, pre-graduation employment status and GPA in major) best-predicted job placement success. Job Search behaviour (particularly relating one’s experience to the jobs applied for asking questions in the interview and avoiding reliance on school employment listings) was the next most potent predictor and applicant characteristics failed to contribute significantly to the prediction of job placement success when used in combination with the other variables.
Wayne, Ed.d, 1986) in his study identify and rank, according to importance, criteria which could be on the statewide appraisal instrument for evaluating teachers in Texas for career-ladder placement. In this study, the investigator have found the following conclusions (1) Administrators judged the importance of various criteria in relation to the overall operation of a school system, whereas teachers judged the importance more from an individual classroom approach (2) There was a greater degree of consensus among administrators than among teachers on the importance ascribed to the criteria. (3) Administrators and teachers agreed that the most important aspect of education is what happens during the instruction of students' (4) both groups realized the importance of order and discipline to the learning environment (5) Administrators attached more importance to responsibilities outside the classroom than did teacher.

P. Joseph Wittmer, 1989) in his study compare the effects of three, one-half hour instructional approaches that could be used by career and placement counselors to teacher college students employment interviewing skills. The three treatment approaches were (a) counselor-led instruction (b) microcomputer-assisted instruction, and (c) videotaped instruction. The Employment Interview Rating Scale (EIRS) was developed by the investigator to measure the verbal and non-verbal behaviors of the subjects during videotaped, mock employment interviews following their participation
in the treatments. The EIRS was also used to determine whether subjects’ verbal and non-verbal behaviors were related to the hiring decisions of interviewers. The results revealed that none of the three instructional methods was more effective than the others in teaching employment interviewing skills to college students. However, the group receiving videotape instruction retained significantly more information than the other groups. It was also found that the use of videotape methods could be effective tools for career placement counselors in helping students to learn and retain information about the employment interview. Videotaping recruitment interview also can assist interviews in making hiring decisions when recruiting on college campuses.

Underwood Jackson (1990) has examined 'The attitude, knowledge, and motivation of faculty relative to their involvement with career planning and placement office at select four-year universities.' This study was aimed to ascertain the status of attitude, knowledge, and motivation of faculty relative to career planning and placement office and their functions and to investigate the relationship between those factors to faculty involvement with these offices. To accomplish the stated purpose four objectives and seven research questions were developed.

Finally, a random sampling of 300 Education, Engineering, and Business faculty were surveyed to collect demographic information and
data related to their attitude, knowledge, motivation and involvement relative
to the career planning and placement office and its functions.

The findings of the study indicate that administrators perceive
faculty in Education, Engineering and Business as involved, however, the
faculty view their own involvement as only slight. No demographic variables
were found to be related to either the administrator’s or the faculty member’s
perception of faculty involvement. However, a faculty member’s attitude and
knowledge were found to be positively related to their level of involvement.

Reed, Carolyn Sue, (1992) in his study “contemporary
foundation and organization for vocational-technical education in Sweden
and the united states” investigates the decentralization of Sweden’s
educational system and the reform in vocational-technical education. The
paper also examines economic and social ideology impacts of vocational-
technical education. The vocational-technical education in Sweden and the
United States has been defined on the basis of following four principles:

- business and labour as partners in vocational-technical education

- government policy and programme for vocational-technical education to
  promote employment.

- vocational-technical education is highly regarded and highly developed;
- on-the-job training is an integral part of vocational-technical education.

As observed, the implications of the above four principles have been that:

- Government increases the support for public image;

- increase effective involvement of business, industry, and labour;

- re-thinking on vocational-technical education in terms of structure of organization and administration; and

- Reorganizing vocational-technical education to reflect importance of apprenticeship.

Further comparative studies in international vocational-technical education in developed/developing countries are recommended involving: cost benefit analysis, planning and evaluation procedures, in service and pre service training, curriculum research and development, centralize versus decentralization of administration in vocational-technical and adult education and training.
Johnson, Mark Lee, (1993) in his study investigated by using three groups of learners, experimentally the relative effectiveness of traditional classroom lecture-demonstration and interactive video methods of instruction for teaching lesson material in human resource development, as measured by initial learning and retention. Group -A consisted of lecture-demonstration learners, Group-B consisted of interactive video doers. Group-C consisted of the interactive video watchers. Learners received lesson material over two units of occupational analysis for human resource development. The results of the study indicated that students receiving the material via interactive video scored significantly higher than those students receiving traditional instruction in both initial learning and retention at the .05 level. Furthermore, there were no significant differences in learning or retention for interactive video students who actually handled the computer controls and those who just watched the interactive video. Implications suggest that interactive video techniques can be used effectively to teach human resource courses.

It may be concluded from the review of various studies carried on the subject that most of the studies focused their attention in depth study into curriculum, practical training, industrial training and industry-institute-interaction.
However, no attempt has been made for the increase of placement of diploma-holders of Haryana State and, therefore, with this view the present study has been undertaken. It is expected that the present efforts would be a sincere one to identify the gaps exists in the process of placement of the diploma-holders in general and Haryana in particular.
CONCEPTUALIZATION

Before directly plunging into the central issue of the 'Problem of Placement' of technically qualified personnel in Haryana State, it would be pertinent to survey history and development of the term 'PLACEMENT'. Such an analysis would prepare us better to arrive at the necessary definitions which would be a key to the probing and understanding of the problem. At societal level, placement of individuals varies from a group to group and the placement of an individual intends to show the rank and role in the society. With the coming up of the modern organizational structures and industrialization the term "Placement" has acquired a very complex meaning and role. For the purpose of this study, the definitions relating to industry and other organizations have been taken up to arrive at a conclusive meaning, particularly, into two situations namely academics and industrial. The first group of definition relates to the teaching institutions. These definitions show the placement of the people in particular academia. These definitions would be useful for the purpose of relating to the training aspect of students of Technical Education Department to their placement aspect. Also these definitions take into consideration the role of Educators and Policy Makers who have studied the impact of environment on the students. This aspect includes the study
of Programme, Design and planning, Recruitment to students, Curriculum development and pedagogy and Programme evaluation and fine-tuning.

Similarly, Placement has been studied from the point of view of intellectual as well as physical and behavioral disabilities in the students.

The experts on the institutional placement of students have primarily confined themselves to sociological background of the students and the methodology and course-content of the institutions. These authorities have not given attention to central issue of placement of the students in the fields outside the academics.

In Industry and other organizations of employment placement has been defined from simply the angle of employment to the proper and suitable way of participation in the total economic affairs. According to Pigors, Paul and Mayers Charles, Placement has been defined as “the determination of the job to which an accepted candidate is to be assigned and his assignment to that job” but this definition takes into consideration only the employer and not the employed.

According to Davar S.Rustam, Placement means “Once an applicant is selected by an organization as a member of its personnel, the next duty is to place him in the right job and provide him with training and
development facilities needed for him to fit the present job as well as the future career chalked out for such individual. This definition also suffers from the same shortcomings as the definition given by Pigors, Paul and Myres Charles. It fits a person in a job giving importance to the job only and not to the person.

According to Ohmann O.A.,⁶⁹ “Placement in its simplest form, tasks given the hiring of ‘N’ men to fill ‘N’ different job vacancies, which man should be put on which job.

According to Dr. T.N. Bhagoliwal,⁷⁰ Placement means “assigning the right person from a group of already selected for hiring in a company, a specific job in terms of how his qualifications match its requirements.

Similarly, C.S. Venkata Ratnam, B.K. Srivasatva⁷¹ have defined that “Placement refers to assigning rank and responsibility to an individual, identifying him with a particular job. If the person adjusts himself to the job and continues to perform as per expectations, it might mean that the candidate is properly placed.
According to Leona Powell and Francis\textsuperscript{72} "Placement has been defined as "assignment of employees to job for which they appear best qualified on the basis of the selection technique.

Similarly, C.B. Memoria\textsuperscript{73} has defined the placement as "Once an offer of employment has been extended and accepted, the final stage is procurement function is concluded namely that of placement of the individual on the new job and orienting him to the organization.

All the above definitions also suffer from the same fallacies of training as all the authors have emphasized only on the techniques of selection.

Similarly, Monappa and Saiyudain\textsuperscript{74} have defined the meaning of Placement as "Increasing emphasis on human relations, attitudinal aspects and high employees turnover in the first few months of employment necessitate the best arrangement between the supervisor and new subordinate to help the employees to adjust and accept the other employees as co-workers. This definition takes into consideration the aspect of only human relation between the supervisor and the employees.

According to D.K. Lal Das,\textsuperscript{75} "Placement in the first job is to see how, the new entrant fits into that position. The purpose here is to fit in
the new employee to the job demands. Once a new employee is placed in a right job, it becomes necessary to provide him with training and development facilities needed to settle him into job. According to this definition, training aspect starts when an individual is selected and placed in the organization.

According to George Strauss, Leonard R. Sayles, Placement means "Finding the right fit between people and jobs has two components. Selection deals with finding the best people for a given job; Placement seeks the best job for a given individual. He has further described that larger organizations try to do both. By effective recruitment they hope to attract a large number of qualified applicants and then distribute them among various jobs according to their abilities. Most organizations continue to make placement decisions throughout an employee's career.

Similarly Ghosh, Biswanath has defined "Once the employee is hired, he should be placed on a suitable job. Placement has been defined as the determination of the job to which an accepted candidate is to be assigned and his assignment to that job. Placement aims at ensuring whether the individual has been selected is placed suitably on the job and does the job well. He has further stated that it is a check on the previous steps and the only way by which selection in future can be made more
efficiently. Just recruiting an employee to an organization is not enough. Putting the right man at the right job is equally important. Further Ghosh Bhushan has defined that “Scientific selection of works is correct placement of workers. Having selected the workers, the management will assign tasks to them. Every job must be entrusted to the best available man in the factory. The best man suited to a job will be one who has the aptitude, skill and training required for its efficient performance.

According to these definitions the process of placement begins only when an individual is selected for employment in an organization.

A look at some of the dictionary definitions is equally relevant to the study.

According to Noah Wester L.L.D: Placement means the act of placing or the finding of employment for a person or the setting of the ball on the ground in position in which the ball is set. According to Chambers, Placement means - placing or setting or assigning to a job. Likewise, according to Random House, Placement means the act of placing or the act of employment office or employer or the placing of the ball on the ground in attempting a place kick.
Similar to the earlier definitions all these definitions also ignored the training aspect of the placement. Training precedes placement and therefore, it is essential to arrive at a definition that includes training aspects also. In earlier definitions about the placement during the student life, it has been observed that placement starts from the student life itself. Right placement shall proceed from the right training. Therefore, for a technical student, placement includes his right attitude, right training and right placement after passing the diploma. For example, if a Mechanical Engineer gets employment in a school for teaching the primary classes, it means he is not properly placed because he has not got training in teaching. He will be considered properly placed if he gets employment in his field and only then he/she will be called properly placed. Therefore, for a technical student placement starts from the day when he/she joins the academic institution.

FOCUS OF THE PROBLEM

Undoubtedly, number of researches have been conducted on placement by the earlier researchers, but in case of the placement problems faced by the polytechnic-graduates no specific study has been taken up so far. And, therefore, the focus of the present problem would be on various aspects
pertaining to placement mechanism of polytechnic diploma-holders.

Prominently the proposed study will include the present system of placement, the efforts which are being made by the institutions for making linkages with industries in terms of the kind and quality of training imparted to the participants, the relationship between phenomenal increase in polytechnics institutions and decreasing trend in placement of the participants, involvement of industries in curriculum designs and their execution, the quality of graduates produced by these institutions in comparison to that of the requirements of the Corporate Sector and the system imparting the required knowledge to the students.

**OBJECTIVES**

In view of the discussion above, the present research endeavour has been designed to concentrate on the following objectives:

- To assess the relevance of education imparted by the Polytechnic Institutions in terms of the present requirement of the Indian Corporate Sector particularly after liberalization.
- By comparing the above, to know the gaps between imparted education and requirement of industrial organizations.
- To study and analyze the present placement system of Training adopted by Placement cells established by the polytechnic institutions.
- To make valuable observations to fill in the identified gaps in terms of the required kind of technical education to be imparted by the polytechnic institutions and consequently making the placement scene more effective.

LIMITATIONS OF THE STUDY

As the present research study in question has been completed by the individual scholar who is constrained in terms of time, financial resources and sufficient authority and clearly it has certain limitations. To explain the important ones, in this research endeavor whatever inferences have been drawn are based on the perceptions of the subjects and observations made by the researcher. Therefore, the limitations of the respondents and the prejudices of the researcher in making observations always influence the rationality of the interpretations. No doubt, the scholar attempted to compare both the situations i.e. the statements/information recorded by the subjects in the schedule and the actual behavior practiced by the academia working in the polytechnics/technical institutions located in the state of Haryana.

Though, the researcher was keen to have sample of academia of all the polytechnics of the state to generalize the inferences, but due to time, financial resources and personal limitations only academia working in the
eleven polytechnics/technical institutions and students studying in the polytechnics located in the state, have been included in the sample for collection of information required for the study. The researcher, however, noted that the subjects while imparting information either during discussion or in filling the schedules were found emotional and fearful and as a result they tried to conceal the real facts. However, author has tried to unearth the truth by observing behavior of respondents and also putting counter questions to them.

To maintain the consistency in terms of their responses to the various statements in the schedule administered to them, in a number of cases, the respondents were found providing wrong information. And in some cases due to the non-cooperation and unwillingness of the subjects, the desired level of accuracy of information was not possible. In spite of the limitations, the scholar with his sincere efforts, has tried to reach to the meaningful observations.

**ORGANISATION OF THE STUDY**

This work has broadly been divided into six chapters:

- The **first** chapter of the study includes the introduction of the problem, review of literature, conceptualization, focus of the study, objectives and limitations of the study.
- Chapter second is devoted to the origin and Indian scene of Polytechnic education in India, in the state of Haryana and brief profile of the sampled polytechnics/technical institutions located in the state of Haryana.

- Chapter three includes research design and methodology followed to complete the present study, criterion followed for choosing the observational units, tools employed for the collection of data. The statistical tools used for analysis of data are also explained in this chapter.

- Chapter four and five envisage a micro analysis of various objectives of the study.

- The last chapter sixth includes the macro view of the total situation and the summary of major observations and also recommendations to fill in the gaps found in the present system of placement followed by the polytechnics in the state.
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