ROLE OF A.I.C.T.E. TO ENSURE QUALITY IN THE CHANGING SCENARIO

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ABSTRACT

The Technical Education system in India is modelled on straight jacket pattern, which is too rigid allowing little choice for the students in opting for minor areas of study. With globalisation and liberalized economy, new trends are emerging in employment market. The trend shows that the graduates from technical institutions with adequate management background and exposure to information Technology are in greater demand. There is need for AICTE to play a leading role in creating awareness on the necessity for evolving a pattern which suites the changing scenario. The council should evolve an effective mechanism to identify the emerging areas in various fields of technical education and identify requisite changes in curriculum along with the required inputs to improve the quality.

Technical Education is a predominant factor for human resource development as it plays a crucial role for the economic development of the Nation, particularly at the time, when the national goal is globalisation. The Technical Education System in India has witnessed an "impressive" and phenomenal growth in terms of quantitative expansion during the last one and half decades. This is an oft - repeated statement in several speeches/ articles. While no one can contradict the phenomenal growth, whether it can said to be impressive is highly questionable. The number of institutions that have sprung up in the recent past cannot be taken as an index of achievement or progress, since poliferation at the expense of quality is to be reckoned as a retrograde phenomenon.

Although the observations & suggestions made in this paper are with reference to the engineering courses, these are equally applicable to other areas of study under the purview of AICTE.

The pattern of curriculum in technical education in this country has been a straight jacket system and too

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rigid, all courses being compulsory, allowing practically no flexibility in respect of choice for the students. No doubt, there are a few courses offered as electives but only to the extent of 5 to 10 percent. Even when electives are offered they are restricted to the major area of study. With globalisation sweeping all over the world, the traits and attributes of fresh engineering graduates considered to be desirable are undergoing a major change. In the process of recruitment of fresh engineering graduates, most of the multinational firms look for adequate exposure to information technology, training in management and skills in computer applications, besides in-depth knowledge in the major area of study. The changing scenario of employment opportunities for engineering graduates in particular, demands greater degree of flexibility in the curriculum pattern. The introduction of the concept of categorising the fields of study under major and minor areas is long overdue in this country. Allowing as many as 25 percent of the subjects under the minor area would go a long way in meeting the requirements as per the new trends if, for instance, a total of forty subjects is required to be completed for the award of the Bachelor's degree in engineering, 20 subjects could be included under the major area, 10 subjects under the minor area and other 10 could be devoted to the core area. The choice of subjects under the minor area could be thrown wide open, leaving plenty of flexibility to opt for any combination of subjects in the areas such as information Technology, Computers, Management, other branches of engineering and even humanities. If a candidate desires to go in for greater depth in his own major area of study, there is no reason why he should not be allowed to take 3 or 4 additional subjects in his major field in place of subjects under the minor area. A scheme of this type could certainly imply considerable increase in the work load and the need for larger number of teachers. But then this is the price we have to pay for improving the system.

The existing system does not allow any freedom for the student to complete the requirements of the degree at his own pace. Introduction of the credit system, assigning credits to each subject and specifying the total number of credits to be earned for the award of the degree, is an important issue on which attention is to be focussed. Transfer of credits earned from one institution to another and also from distant education system to formal education system is to be promoted. Universities in advanced countries are prepared to assign credits for subjects studied in our country (after suitable assessments), whereas similar recognition is not forthcoming between different Universities within the national boundaries.

It is well known that some of the foreign universities are offering distant education courses in this country with the provision for transfer of credits so earned. While several difficulties may have to be encountered in implementing this at the undergraduate level, yet, it is worthwhile pursuing this objective in

view of the facility it offers. The credit system is eminently suitable for in-service candidates working for the post graduate degree by accumulating credits earned in different modules from time to time.

The document on National Policy on Education, 1986, dealing with one of the important aspects of much-needed flexibility observes as follows. "In view of the present rigid entry requirements to formal courses restricting the access of a large segment of people to technical and managerial education, programmes through a distance learning process, including use of the mass media, will be offered. Technical and management education programmes, including education in polytechnics, will also be on a flexible modular pattern based on credits, with provision for multi-point entry ....." There is tremendous resistance to the implementation of multiple entry system and this is a result of built-in rigidity of the straight jacket system. Introduction of the credit system is a prerequisite for the implementation of multiple entry and multiple exit pattern. Such a pattern will also permit students who graduate from a particular branch of engineering to shift to another branch particularly in emerging areas. Granting autonomy to deserving institutions will also help such institutions to overcome the defects and deficiencies inherent in affiliating system and will enable them to implement several aspects of flexibility outlined above.

AICTE will have to play a crucial role if the rigid straight jacket system now in vogue all over the country is to be replaced by a system flexible enough to respond to the changing needs. Besides bringing in flexibility into the system, the need of the hour is to ensure suitable changes in the curriculum reflecting the emerging areas with built-in exposure to diverse fields of knowledge and skills. AICTE should evolve an action plan to implement these changes.

In recent years, there has been a huge spurt in the demand for educational facilities in the area of computer science and engineering due to vast scope for development and export of software. Institutions are unable to cope with the requirement of properly trained faculty in adequate numbers. As a consequence, substandard teachers are being recruited in large numbers who in turn are contributing to the output of very low quality. The unprecedented opportunities available for exporting software from this country perhaps do justify opening of computer science courses in several institutions but the problems of inadequacy of faculty and woeful fall in the standards need to be tackled with a sense of urgency. Preparation of lectures by experienced faculty drawn from reputed institutions for presentation through video cassettes can be of great help under the circumstances. The AICTE should draw up a scheme for preparation of course material by experts to be presented in class room in Audio-Visual form. Further, "Learning resource centers" could be

established in the institutions providing access to the students and the faculty as well to get the required lesson on the monitor with the flick of a switch. Building up infrastructure with several monitors being available in each learning centre may be expensive and such activities deserve financial support as part of a National scheme. Offering on-line courses in the area of computer science, in particular, should also be taken up on a priority basis.

Imparting practical bias to students in technical institution through training in industries still remains a dream due to lack of proper linkages. Sporadic efforts by a few institutions in this regard have been made with varying degrees of success but in large majority of the institutions the beginning is yet to be made. Success stories in respect of introduction of sand-wich courses at the diploma and degree levels as well or establishment of "Practice school system" need to be noted and effective steps should be taken for organising practical training by evolving and adopting models suitable for a particular institute. When a large number of institutions seek to adopt the practical training in some form or other, finding placement for training can be a formidable problem. Apprenticeship Boards can play an important role in helping the institutions in this aspect. The magnitude of the scale on which placements have to be found is so frightening that it cannot be implemented without AICTE playing a coordinating role.

Faculty training serves as an important input for raising the standards but unfortunately its need in higher education is not appreciated. This situation has been remedied to a certain extent by U.G.C. by establishing academic staff colleges in several Universities. However, there is need for establishment of well equipped Academic Staff Colleges exclusively for technical teachers. The services of renowned teachers with valuable experience and expertise, after their retirement may be induced to serve as faculty members of such institutions under the Emeritus professorship scheme of the AICTE. The scheme of visiting professors of in-service teachers of Technical institutions may be extended to serve in these Academic Staff Colleges. Arranging orientation lectures for fresh teachers, identification of drawbacks in teaching methodologies of individual teachers and imparting pedagogy of education technology should not be the only activities of these institutes. Preparation of course material in audio-visual form, preparation of model curriculum taking into account the latest advances and development and evolving new designs for laboratory equipment to make the experiments more meaningful should form an important part of the activities of these institutions. AICTE should take the responsibility for creating infrastructure for these academic staff colleges for technical teachers.

As a part of examination reforms advocated by several of the policy

making bodies, adoption of internal assessment together with semester system deserves special attention of all concerned. The study habits of the students are largely moulded by the examination system which they have to go through. When each individual teacher is vested with power and authority to assess and award the grades in a decentralised way, the students are bound to pay proper attention to the instruction in the class room or the laboratory work. Teaching without regular feedback regarding the extent to which the teacher is able to put across his ideas effectively, is absolutely meaningless. Under the complete internal assessment system, the teacher has the opportunity to decide for himself the frequency and the type of tests to be conducted, which will ensure regular feed back. The teacher also gets the opportunity to make the students pay due attention to the grasp of basic principles and fundamentals through carefully designed tests. However, all this will mean a greater sense of responsibility and commitment on the part of the faculty members. If complete internal assessment system is to be acceptable to the student community, total transparency has to be ensured. The failure stories in implementing this scheme are many. Greater accountability of the teachers that this scheme brings in, is probably the most important factor contributing to the resistance for effective implementation. The opponents of the system keep saying that the scheme cannot be sustained under Indian conditions. Such a statement is derogatory to culture, commitment and ethos of our Nation.

Research in Technical Institutions in the country should address itself to the live problems of the industry. In academic institutions, research is undertaken more for personal career advancement rather than solving the multitude of problems faced by the community and the industries. Gone are the days when individuals in isolation carry out worthwhile R & D activities. Inter-disciplinary approach and well knit team work are essential for solving complicated problems. Collaboration between institutions and industries in taking up R & D support are very meager. If the research problems being tackled are of primary importance to the industry concerned, the industry itself can take the entire burden besides sharing of physical facilities. The practical experience of engineers in the industry, coupled with the basic insight of the faculty from the institution, can provide the necessary stimulus for achieving success in R&D work. The interaction with industry, service and R & D organisations will be useful in forging strong linkages which in turn will prove to be highly beneficial to the students. The AICTE can play a catalytic role in this process by publishing bulletins, listing the R & D problem of interest to the industries and field organisations on the one hand and the expertise available in academic institutions on the other. This will facilitate establishment of separate cell in the AICTE for this purpose, may be

desirable.

Measures taken for implementing all or any of the suggestions made in the foregoing text are bound to make a significant contribution to the improvement of quality in technical education.

Quantification of the effectiveness with which a technical institutions is able to fullfil its mission, goals and objectives is a tough task. Any attempts made to achieve this, would serve the purpose of maintaining the quality and standards in the institutions. Apart from the overall assessment of an institution, an in-depth appraisal of the effectiveness of a program can be of great benefit to the institution for taking timely action in applying corrrective measures and can **serve** as a constant remainder to all concerned on the need for maintaining quality. This can be in the form of self-appraisal and appraisal by a committee of external experts.

The Indian Society for Technical Education (ISTE) initiated the work of preparing a detailed document on accreditation, on behalf of the MHRD, even before the formulation of the National Education Policy in 1986. The AICTE was made a statutory Body by an Act of Parliament in 1987. The responsibility of ensuring co-ordinated and integrated development of technical education and maintaining standards has been entrusted to the council by this Act. For the purpose of maintaining standards the council was empowered to "set up a National Board of Accreditation to periodically conduct evaluation of technical institutions or programmes on the basis of guidelines, norms and standards specified by it." The council after taking into account the experiences of USA, Canada and UK, reviewed the document on accreditation and incorporated modifications to make it consistent with the AICTE Act.

In pursuance of the provision in the Act, the National Board of Accreditation (NBA) was set up in the year 1994. The NBA evolved the criteria, methodology and procedures for carrying our the appraisal and accreditation of academic programs in technical education. The actual accreditation process was started in 1996 after conducting several exercises for (i). Creating awareness among all concerned, (ii). Training the experts in carrying out the process effectively, (iii). Validating the procedures by means of model tests on selected institutions and (iv). Establishing the bench marks. Transparency has to be an important and built-in feature of the entire process of accreditation as envisaged by NBA. If this is not ensured, acceptability and credibility will be at stake. In view of the massive task involved, the secretarial set up needs to be stengthened. Periodic review of the functioning of NBA itself is desirable. A detailed article on "Quality and Accreditation" outlying the functioning of NBA and comparison with accreditation bodies of other countries has been published in one of issues of this Journal.

There is perceptible impact of

accreditation process in creating awareness among the managements and faculty of the institutions on the need for striving hard to achieve excellence. The necessity for maintaining pressure on the institutions to do everything possible to maintain standards cannot be over stressed, particularly, at a time when mushrooming of technical institutions is causing concern not only among educationists but also the public, at large.

Identification of areas in which much remains to be done to bring about improvement of quality in technical education should be pursued vigorously by AICTE and meticulus planning for replacing conventional practices by forward looking ideas to suit the fast changing scenario is to be given top priority.

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