HIGHER EDUCATION IN ENGINEERING AND TECHNOLOGY – THE PRESENT SCENARIO

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Abstract. The Higher Education system all over the world in general has over the years been evolving and changing to meet the essentialities of its citizens. In order to improve and sustain, standard efforts are put in to create better atmosphere for reaching higher echelons. Education systems that are introduced enhances the social, environmental and quality of the country in general. The type of education and access to education has a direct relationship to the economical development and the country's progress. Though we could see progress happening but we have to ensure that quality education is provided. With specific reference to India, we have at present 6,415 engineering/technology institutions with an intake capacity of 1,844,642 students at the under-graduate level. At times it seems that due to mushrooming of technical institutions in India, the challenge in maintenance of quality in technical education takes a very serious dent. In fact this issue remains upper most in the minds of the students, the parents, the faculty and the industry alike. There is a strong correlation between a country's competitiveness and the quality of education, more so of higher education. Developing nations like India should start to explore and exploit its excellent potential and move forward, to attain a higher level of quality in engineering education, by strengthening its talent. The various quality assurance approaches and models that are in place elsewhere in the world could be studied, compared and applied in shaping the national vision.

Keywords: higher education; Indian scenario; regulating bodies

Introduction

It is essential that the universities/institutions adopt transparent and better methods in modernizing higher education through studying the challenges and priorities for better transfer of knowledge to the students (Othman & Othman, 2014; Chhokar, 2010). In order to play this part effectively in this fast changing world our present technical education scenario in India requires to be, studied and analyzed. To initiate analyzes in this direction, a survey was conducted among the section of the student community as well as with various faculty members and quality experts to gather knowledge on the status of quality in the privately funded institutions and

to determine the causes affecting quality of Indian engineering education. Certain solutions have been suggested for correcting of these causes.

Quality is a subjective term, which is more sectors specific and could be defined as "meeting the requirements often with value addition"(Lodge & Bonsanquet, 2013). Definition of quality in Higher education is "stakeholder relative". In this sector there may be many stakeholders like "students, employers, teaching and non teaching staff, government and its funding agencies, accreditating bodies and the community at large" each with their own criteria and perspective(Watts & Robertson, 2011). The broader literature on service quality generally includes two basic tenets. Firstly, that service customers are active participants of the service delivery process and secondly that the quality of the service experience as perceived by the customer of the service is dependent on the extent to which their expectations of the service is met. This is particularly true of education. The higher education process is seen as representing a transformation through the "analytical and critical development of the student". Throughout this transformation the interface of student and lecturing staff is one of joint participation in the achievement of an agreed learning program's goals and objectives. Indeed, certain authors on the subject of student participation have opined that they should be seen as "partial employees" of tertiary institutions, or even "co-producers" of their own education. However it follows from this that unless students perform their participatory co production roles effectively, the desired outcome of the service provision are unlikely to be realized (Cabble & Willetts, 2011). Such a view suggests that students should therefore be actively managed to ensure that their participation and expectations facilitate the educational service encounter and the achievement of its desired outcomes. It is clear that in managing the student participation in the education process, the quality of the experience as perceived by them will depend on their values and expectations (Ray, 2010; Kabicher et al., 2009). It has been shown that the values and expectations are positively associated with student participation through their perceptions of service quality; their perceptions of the organizational climate in which the service takes place and the extent of the customer satisfaction and the level of beneficial outcomes perceived by them to have been achieved.

There is a big need to improve the quality and standards. The real challenge cannot be under estimated. Educational systems are now perceived like organizations, and by exploring the similarities and differences with others in other environments new paths are being explored in order to achieve efficiency, accountability and quality. But in education perhaps more than in other sectors, what is most important is that the accessibility to education has to be accompanied from a parallel accessibility to an environment of quality. The policies framed should achieve the utility value; there should be a systematic approach.

Quality management has become increasingly essential in almost all the organizations (Goetsch & Davis, 2016). ISO 9001: 2000 versions adopt Total Quality

Management philosophy with stronger emphasis on customer satisfaction and an effective process-oriented approach focusing on continual performance improvement relating to management responsibility, resource management, product realization and measurement, analysis and improvement (Chi & Gursoy, 2009). The concurrent ISO standardization movement in the industrial scene has highlighted the need for accrediting technical education programs, especially in terms of their role as the main suppliers of technically qualified human resource.

The All India Council for Technical Education, set up to oversee the growth and quality of technical education, established the National Board of Accreditation (NBA) in September 1994. The NBA is charged with the task of evolving a procedure for quality assessment in the technical education sector, and especially to: (1) articulate the criteria for assessment of quality; (2) identify parameters to quantitatively assess these criteria assign appropriate program-specific weight ages for each (Iwaro et al., 2014); (3) validate the procedure by well-designed test runs; (4) establish appropriate benchmarks.

Accreditation

Accreditation is an important facet that announces that students passed from these institutions meet acceptable levels of quality (Hughes, 2012). Educational accreditation is a process of quality assurance; where by a program in an approved institution is critically appraised by an external body at periodic intervals to verify that the institution or the program meets the Norms and Standards as applicable and normally made with reference to local and internationally recognized standards through a process of peer review**.** Accreditation does not seek to replace the system of award of Degrees and Diplomas by the Universities and Boards of Technical Education. But, accreditation provides quality assurance that the academic aims and objectives of the institution are known to be honestly pursued and effectively achieved by the resources currently available, and that the institution continuous to follow the objective during the validity period of accreditation. Accreditation not only helps students in choosing a reputable college but also the other stake holder like the employers to know that you have a quality education.

Faculty perception

In the prevailing circumstances where there is only a limited availability of competent and talented teaching staff and where the Institutions are competing intensely in employing them, the trend of switching between Institutions has become a great challenge or threat to several institutions (Ponnuswamy & Manohar, 2014). Many of such people also desire a work place that stimulates and fulfils their professional aspirations, satisfies personal environmental needs and place which embraces them with the feeling of a family. Based on many researches, it is expected that in years ahead, workforce stability and excellent talent management will be

Institutions competitive edge. The successful institution will be only those who would be attracting highly talented employees in joining them and by retaining them for a longer period of time.

Student perception

The student communities in general and mostly, go with the information they are able to access from the past students of an institution. Students require a development that meets their needs, inclusive of cultural and social (Snapp et al., 2015). A good and quality conscious institution in the minds of the students is one which increases their knowledge for creating a better future through their operations, research and education programs. Accordingly institutions are expected to design and introduce a need based structure that would incorporate student participation with zeal and interest and which would ultimately increase the success of the institution (Kuh, 2009).

Concluding remarks

India's higher education system is the world's 3rd largest in terms of students. However, India has failed to produce world class Universities. Education being the driving force of an economy it is much more important that maintaining the quality requires serious attention more so when our country is presently witnessing the mushrooming of educational institutions. India needs technological education of the highest order. It is abundantly clear when we see the success of most of the developed nations in the world how the education system in their countries has evolved them into super powers. In order to move forward and attain a higher level of quality in engineering education, it is primary responsibility of educational institutions to go through various quality assurance systems and obtain necessary accreditation by the competent authorities.

As knowledge is power, more knowledge one has the more empowered one is. During the discussions with concerned educational experts in higher education it was understood that certain universities to which the private funded instructions are affiliated are probably satisfy only on the conduct of the examinations and the announcement of the results of the examination on time. They have otherwise no time to into quality of education that is being important. The other factor which was spelt was the lacunae found in terms of the present educational system, design and syllabus. The institutions take cognizant of the present scenario and provide perfect opportunity for developing talent, competence, desire, initiative and innovation in this educational arena which stretches beyond class room walls and even beyond the borders of the institutions. Courses should be designed in collaborative with industries. Industrial tie-up should be made compulsory and the link between the industries and institutions should be introduced for creating professionalism amount the students and faculty which will provide them a sound exposure to industrial practices.

As the overall scenario does not match with the global quality standards quality experts of various technical and engineering institutions feel that the higher education sector needs critical examination and that there could be some sort of mechanism to monitor the quality of education that is being offered in the privately funded institutions which has seen an unprecedented growth of late. This could be either done by the affiliating University or AICTE at regular intervals. Some even suggested that AICTE being a statutory body vested with the powers through the Act of Parliament, 1987, and responsible for coordinating, determining and maintaining the standards of institution can even appoint a resident professor on the role of the institution to take care of the above and safeguarding the interest of the various stake holders. AICTE could conduct critical appraisals and even rank the institutions based on a wide range of criteria and make this available to the public by publishing in the national press and media.

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