

Quality Assurance of Higher Educational Institutions through Accreditation – A Study

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Abstract

In the global arena, the assessment and accreditation process of university / institution / programme / course has become a mandatory and dynamic for the Quality Assurance of education. This is due to several factors, such as the increasing trend of the internationalization and globalization (including liberal cross-border and trans-national educational imperatives) of education, the impact of technology on the educational delivery, the increasing private participation in higher education, the increasing number of courses and student enrolments, the expansion of distance and e-learning education, the emergence of a multicultural workplace environment, etc.

Relevant studies have shown that there is no common agreement or criterion that can be used in the accreditation and assessment of higher education. There is a strong need for open-ended, well-structured assessment programs in order to accredit different courses. However, designing and formulating a standard and uniform accreditation process is a complex and difficult task. In this paper several issues regarding the accreditation and quality assurance of higher educational institutions are discussed considering NAAC, NBA, and ABET system of accreditation which most of the Higher Education Institutions in India presently follow.

Key words: Quality Assurance, Accreditation, HEIs, NAAC, NBA, ABET, Outcome based, Washington Accord

Introduction

Accreditation is a process in which certification of competency, authority, and credibility are presented. Accreditation is a process of quality assurance and improvement, whereby a programme in an approved Institution is critically appraised to verify that the Institution or the programme continues to meet and exceed the Norms and Standards prescribed from time to time. Accreditation provides quality assurance that the academic aims and objectives of the Institution are honestly pursued and effectively achieved by the resources currently available and that the Institution has demonstrated capabilities of ensuring effectiveness of the educational programme(s), over the validity period of accreditation.

The primary purpose of accreditation is to ensure quality control and quality assurance, commonly with reference to a certification system in the areas of education, training, testing, etc. In some countries, this function is performed by an agency of the Ministry of Education, while in several industrialized countries, it is undertaken by a confederation of voluntary agencies or professional societies. There are debates across continents as to who sets the standards for quality. The accreditation system prevailing in various countries provides a measure of educational quality. Accreditation is the principal means of quality assurance in higher education and reflects the fact that in achieving recognition, the institution or program of study is committed and open to external review to meet certain minimum specified standards and also seeks ways to enhance the quality of education.

The Accreditation generally involves three steps with specific activities.

A self-evaluation process conducted by the faculty, the administrators and the staff of the institution or academic program, resulting in a report that takes as its reference set of standards and criteria of the accrediting body; (ii) A site visit,

conducted by a team of peers, selected by the accrediting organization, which reviews the evidence, visits the premises and interviews the academic and administrative staff resulting in an assessment report, including a recommendation to the accrediting body; and (iii) Examination of the evidence and recommendation on the basis of the given set of criteria concerning quality and resulting in a final judgment and the communication of the formal decision to the institution and other constituencies, if appropriate.

Accreditation of Higher Educational Institutions in India

Looking at the global trends, the World Bank estimates that India will become fourth largest economy in the world by 2020. Globalization has and will further open up new opportunities for India as it has the advantage of having largest growth of population falling in the working age group of 15-64 (747 million in 2010 which is estimated to increase to 882 million by 2020). The country needs to provide knowledge and skills of global standards to this huge population through education and training. Hence, there is a need for a large number of the country's existing universities and colleges to be upgraded to quality standards. To achieve and contribute to the above Vision of the country, the entire education system, especially Higher and Technical Education System have a major role to play as India progress towards becoming a knowledge economy [2].

Accreditation is compulsory for all universities / institutions / programmes in India except those created through an act of Parliament. Without accreditation, "It is emphasized that these fake institutions have no legal entity to call themselves as University/Vishwavidyalaya and to award 'degrees' which are not treated as valid for academic/employment purposes. According to the UGC Mandatory Assessment and Accreditation of Higher Educational Institutions Regulations - 2012, all higher educational institutions, including Universities, Deemed-to-be Universities, Autonomous and Non-Autonomous Colleges, which have completed six years of existence (or have 2 batches passed out), should apply for accreditation within six months.

There are plans to provide additional funds for highly accredited institutions. This is a move to accord recognition to the quality and excellence of education imparted to students and to enable students and parents to make an informed choice.

In India, there are two main independent external agencies who allot accreditation status to HEIs. They are

1. National Board of Accreditation (NBA)
2. National Assessment and Accreditation Council (NAAC)

However few HEIs in India have obtained accreditation from "Accreditation Board for Engineering and Technology (ABET)".

Need of Accreditation

Accreditation of educational Institutions/programmes is a global practice and its need has been felt by various developing and developed countries for one or more of the following purposes.

1. Funding decisions
2. State recognition of qualification/ certification of professionals
3. Accountability of Institutions to stakeholders
4. Encouraging self improvement initiatives by Institutions
5. Quality assurance of educational programme

Accreditation may be summarized as a process, based on professional judgment, for evaluating whether or not an educational Institution or programme meets specified standards of educational quality. Its primary purpose is to assure prospective students and public that graduates of an Institution, conducting various programmes, have achieved a minimum level of competence in their chosen fields of study, thus serving as a form of consumer protection. In many countries, accreditation is the legal responsibility of ministry of education or other governmental agencies

Impact of Accreditation

The purpose and impact of accreditation goes far beyond quality assurance of University / Institution/ programme. Major impacts of accreditation system are summarized below.

1. Encourages quality improvement initiatives by University / Institution/ programme
2. Improves student enrollment both in terms of quality and quantity
3. Helps the Institution in securing necessary funds, Enhances employability of graduates
4. Facilitates transnational recognition of degrees and mobility of graduates and professionals
5. Motivates faculty to participate actively in academic and related Institutional/departmental activities
6. Helps create sound and challenging academic environment in the Institution
7. Contributes to social and economic development of the country by producing high quality manpower

National Assessment and Accreditation Council (NAAC)

Background

The National Assessment and Accreditation Council (NAAC) was established in 1994 as an autonomous institution of the University Grants Commission (UGC). It comes under the overall supervision of the Ministry of HRD, Government of India. The mandate of NAAC as reflected in its vision statement is in making quality assurance an integral part of the functioning of Higher Education Institutions (HEIs). It was established in response to recommendations of National Policy in Education (1986). This policy was to "address the issues of deterioration in quality of education" and the Plan of Action (POA-1992) laid out strategic plans for the policies including the establishment of an independent national accreditation body-consequently, the NAAC has its headquarters at Bangalore. It has been entrusted with the responsibility of Assessment and Accreditation (A&A) of Colleges and Universities in India. NAAC has been engaged in redesigning its on-going methodologies of Assessment and Accreditation, based on its own field of experience, its shared knowledge with other International Quality Assurance Agencies and the quality imperatives in the changing context of world-wide higher education scenario after several consultative meetings with academia and educational experts, feedback responses from various stakeholders and due approval by the competent Authorities of NAAC.

Features of NAAC

To ensure external and internal validity and credibility, it is important to ground the QA process within a value framework, which is suitable and appropriate to the National context. The accreditation framework of NAAC is based on five core values: Contributing to National Development, Fostering Global Competencies among Students, Inculcating a Value System among Students, Promoting the Use of Technology and Quest for Excellence. NAAC assessment lays focus on the institutional developments with reference to three aspects: *Quality initiative*, *Quality sustenance* and *Quality enhancement*. The overall quality assurance framework of NAAC thus focuses on the values and desirable practices of HEIs and incorporates the core elements of quality assurance i.e. internal and external assessment for continuous improvement. The NAAC at present gives accreditation for institutions as a whole. It is applicable for Universities, Arts and Science Colleges as well as for Engineering Colleges. It is not given for individual degree programs; the rating is for an Institution / University as a whole.

Criteria for obtaining accreditation through NAAC

The criteria-based assessment of NAAC forms the backbone of the A&A. The seven criteria represent the core functions and activities of an institution and broadly focus on the issues which have a direct impact on teaching-learning, research, community development and the holistic development of the students. The NAAC has identified the seven criteria to serve as the basis for assessment of HEIs:

The Key Aspects identified under each of the seven criteria reflect the processes and values of the HEI on which

assessment is made. The questions under each of the Key Aspects focus in particular on the outcomes, the institutional provisions which contribute to these and their impact on student learning and development.

The Assessment Outcomes

The assessment by NAAC takes a holistic view of all the inputs, processes and outcomes of an institution and thus the HEIs are expected to demonstrate how they achieve the objectives of the core values through the data and information detailed in the self study reports (SSR). The Assessment and Accreditation outcome includes a qualitative and quantitative component. The qualitative part of the outcome is the Peer Team Report (PTR) and the quantitative part includes a Cumulative Grade Point Average (CGPA), a letter grade and a performance descriptor.

1. Weightages

Taking cognizance of the diversity in institutional functioning, HEIs have been grouped under three major categories i.e. Universities, Autonomous colleges and Affiliated colleges and differential weightages are assigned for each of the seven criteria as detailed in the Table 1.

2. Grading System

At the end of the accreditation process each institution will be awarded a letter grade to represent its quality level along with its performance descriptor and accreditation status that is shown in the Table 2.

NACC can help to provide standardized education throughout the country with granting uniformity to all the institutions under it. It helps all to get the best education.

National Board Accreditation (NBA)

Background

The New Education Policy of 1986 recognized the need for a Statutory Body at the National level responsible for overseeing the growth and quality of Technical Education in the country. Accordingly, All India Council for Technical Education (AICTE) was established by an Act of Parliament in 1987. National Board of Accreditation (NBA) was originally constituted in September 1994, in order to assess the qualitative competence of educational institutions from Diploma level to Post-Graduate level in Engineering and Technology, Management, Pharmacy, Architecture and related disciplines. NBA conducts evaluation of programs of technical institution on the basis of laid down norms. NBA became an independent body in 2010.

Washington Accord

The NBA has become a signatory member of the Washington Accord (WA) from 1st July 2014. The Washington Accord is an international agreement among bodies responsible for accrediting engineering degree programmes. It recognises the substantial equivalency of the programme accredited by those bodies and recommends that graduates of the programmes accredited by any of the signatory bodies be recognised by the other bodies as having met the academic requirements for entry to the practice of engineering. WA is an agreement signed among six countries -- Australia, Canada, Ireland, New Zealand, UK and USA in 1989 -- to mutually recognize and accept the qualifications accredited by signatories. The Washington Accord now has 17 full signatories, namely: Australia, Canada, China, Taiwan, Hong Kong, India, Ireland, Japan, Korea, Malaysia, New Zealand, Russia, Singapore, South Africa, Sri Lanka, Turkey, UK and USA.

The WA, a robust accreditation system is being implemented by the NBA, New Delhi, with support from all the stakeholders (faculty, educational institutions, government, industries, regulators, management, students, recruiters, alumni and their parents) to ensure that the programmes serve to prepare their graduates with sound knowledge of fundamentals and to develop in them an adequate level of professional competence, such as would meet the needs of the technical profession locally as well as globally. The objective of the NBA is to assess and accredit professional programmes offered at various levels by the technical institutions on the basis of norms prescribed by the NBA.

Scope of Accreditation

The NBA stipulates, as per its latest December 2012 (June 2015 for UG Engineering Programs) Regulations effective from April 2013, nine different criteria, with points for each, totaling 1000. The NBA works on a Two TIER accreditation, for Diploma, UG and PG Engineering Programs; TIER-I is meant for Autonomous Colleges and Universities and TIER-II is meant for Non-Autonomous Colleges affiliated to a university. Both TIER - I and TIER-II have the same nine criteria and the same total 1000 points, but have different weights or points for different criteria, as given in the Table 3. In the TIER-I system, the criteria which are based on outcome parameters have been given more weightage, a non-autonomous institution may also apply for accreditation on the basis of TIER-I system, if they feel that their curriculum is capable of attaining the desired outcomes of a programme. In the TIER-II system, the criteria which are based on output-based criteria have been given more weightage. NBA has well laid general policies which will be the guiding principles for the accreditation of programmes:

Criteria and Parameters for obtaining accreditation through NBA

The NBA has evolved a framework of quality assurance containing a robust process ensuring highest degree of transparency and credibility – with little scope of discretion and subjectivity.

Accreditation Criteria and Weightages

The criteria that are considered by NBA during the process of accreditation of a programme are determined by the NBA's definition of quality of programmes and its relevance to the profession concerned. Each criterion relates to a major feature of institutional activity and its effectiveness. The criteria have been formulated in terms of parameters, including quantitative measurements that have been designed for maximally objective assessment of each feature. These criteria and weightages for UG and PG programmes are shown in the Table 3.

Under TIER-I, if a program scores 750 or above out of 1000 points, with a minimum of 60% in each of the nine criteria, it is given a full accreditation for 5 years. If the score lies between 600 and 750 (without any minimum requirement), then provisional accreditation is granted for 2 years.

In TIER-II, if a program scores 750 or more out of 1000 points, with minimum 60% in six mandatory criteria (1 and 4 to 8), it is awarded a full 5 year accreditation. If it scores between 600 and 750 points, with minimum 60% in each of the six mandatory criteria (1 and 4 to 8), the program is accredited for 2 years.

Accreditation Parameters

The parameters adopted by NBA for accreditation of programmes are based on initial capabilities, competence, skills, etc. keeping in mind the outcomes desired by the profession concerned. These parameters are called Graduate Attributes (GAs) and they vary from discipline and level to level. The present accreditation by NBA is more outcome based than output based. A dozen Graduate Attributes are defined by the NBA, in line with ABET [Accreditation Board for Engineering and Technology, USA], as expected outcomes from the graduates turned out by the program, namely;

1. Engineering knowledge:
2. Problem analysis:
3. Design/development of solutions:
4. Conduct investigations of complex problems:
5. Modern tool usage:
6. The engineer and society:
7. Environment and sustainability:
8. Ethics:
9. Individual and team work:
10. Communication:

11. Project management and finance:
12. Life-long learning:

In the present higher education scenario, it is hard to find these attributes in most of the engineering graduates. So, if programs of an institution are to be fully accredited and their graduates globally accepted, the institution should strive very hard to impart these GAs. A rigorous training is required, beginning from the very first year; periodical training for faculty also is needed in subjects and in skills [3].

Accreditation Board for Engineering and Technology (ABET)

Background

ABET was established in 1932 as the Engineers' Council for Professional Development (ECPD) by seven engineering societies: The American Society of Civil Engineers (ASCE), the American Institute of Mining and Metallurgical Engineers – now the American Institute of Mining, Metallurgical, and Petroleum Engineers (AIME), the American Society of Mechanical Engineers (ASME), the American Institute of Electrical Engineers – now the Institute of Electrical and Electronics Engineers (IEEE), the Society for the Promotion of Engineering Education – now the American Society for Engineering Education (ASEE), the American Institute of Chemical Engineers (AIChE), and the National Council of State Boards of Engineering Examiners – now the National Council of Examiners for Engineering and Surveying (NCEES).

ECPD changed its name to the Accreditation Board for Engineering and Technology, Inc. in 1980, and began doing business as ABET in 2005. In 1985, ABET helped establish the Computing Sciences Accreditation Board (CSAB), which is now one of ABET's largest member societies with over 300 programs, in response to a dramatic rise in interest of computer science education. ABET is the recognized U.S. accreditor of college and university programs in applied science, computing, engineering, and technology. ABET also provides leadership internationally through workshops, consultancies, memoranda of understanding, and mutual recognition agreements, such as the Washington Accord. ABET has been recognized by UGC since 1997.

Features

ABET deals with Outcome Based Education (OBE). OBE process focuses on what students can do or the qualities they should develop after they are taught. Both programme structure and curriculum are designed to achieve those capabilities or qualities. It discourages traditional education approaches based on direct instruction of facts and standard methods. Here there are total a-k TECHNICAL Graduate Programs, PROFESSIONAL Graduate Programs and GENERAL Graduate Programs which are listed below:

1. An ability to apply knowledge of mathematics, science, and engineering.
2. An ability to design and conduct experiments, as well as to analyze and interpret data
3. An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
4. An ability to function on multidisciplinary teams
5. An ability to identify, formulate, and solve engineering problems.
6. An understanding of professional and ethical responsibility
7. An ability to communicate effectively
8. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
9. A recognition of the need for, and an ability to engage in life-long learning: Teaching students that the underlying theory is important because the technology will change, coupled with enhancing their self-learning ability.
10. A knowledge of contemporary issues: The impact of globalization, the outsourcing of both engineering and other support jobs as practiced by modern international companies.
11. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Criteria to Attain Accreditation Through ABET

There are two distinct phases in the ABET accreditation process:

Assessment processes, which must be in place before a program's formal submission of a Request for Evaluation (RFE).

The 18-month accreditation process itself, which begins with a Request for Evaluation (RFE) submission.

Conclusion

As an Education system, quality is the hallmark of excellence and effectiveness in higher education. Every higher institution should define their quality policy and articulate their commitment to achieve quality in all their activities and implement the policies energetically. It might mean the difference between survival, and success and failure. Accredited programs/institutions will become attractive to prospective employers and students as well. Accreditation is rewarded with enhancement of tuition fees. The institution becomes eligible for receiving research grants, Autonomy and for becoming a Deemed-to-be University, provided certain other conditions are also satisfied. The institution moves towards building a Brand Name; facilitates mobility of its students to migrate to other countries for higher studies and/or for jobs.

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Table 1: Weightages given for different criteria

S.No.	Criteria	Universities	Autonomous Colleges	Affiliated colleges
1	Curricular Aspects	150	150	100
2	Teaching-Learning and Evaluation	200	300	350
3	Research, Consultancy and Extension	250	150	150
4	Infrastructure and Learning Resources	100	100	100
5	Student Support and Progression	100	100	100
6	Governance, Leadership and Management	100	100	100
7	Innovations and Best Practices	100	100	100
	Total Score	1000	1000	1000

Table 2: Performance descriptor and accreditation status

Cumulative Grade Point Average (Range)	Letter Grade	Performance Descriptor	Interpretation of the Descriptor
3.01 - 4.00	A	Very Good (Accredited)	High level of academic accomplishment as expected of an institution
2.01 - 3.00	B	Good (Accredited)	Level of academic accomplishment above the minimum level expected of an institution
1.51 - 2.00	C	Satisfactory (Accredited)	Minimum level of academic accomplishment expected of an institution
<= 1.50	D	Un satisfactory (Not Accredited)	Level of academic accomplishment below the minimum level expected of an institution

Table 3: Criteria and Points (Weightages) for UG and PG programmes under NBA

S.No.	Criteria	Points UG Tier I	Points UG Tier II	Points PG Tier I	Points PG Tier II
1	Vision, Mission and Programme Educational Objectives (PEOs)	100	75	75	75
2	Programme Outcomes (POs)	225	150	250	225
3	Programme Curriculum	125	125	75	75
4	Student Performance	75	100	100	100
5	Faculty	175	175	200	200
6	Facilities and Technical Support	75	125	75	75
7	Academic Support Units and Teaching - Learning Process.	75	75	75	75
8	Governance, Institutional Support and Financial Resources	75	75	75	100
9	Continuous Improvement	75	100	75	75
	Total	1000	1000	1000	1000

Table 4: Comparison of NAAC, NBA and ABET bodies of accreditation

NAAC	NBA	ABET
Uses Minimal Model	Uses input output as well as outcome based model	Uses outcome based model
Accredits educational Institution / university	Accredits individual educational programs	Accredits individual educational programs
No graduate attributes in particular are defined	12 Graduate attributes are defined as parameters	11 (a-k) graduate attributes are defined
3 Different weightages for criteria for universities, autonomous and affiliated colleges	2 different weightages for Tire-I (for autonomous Institutions) and Tire-II (for affiliated institutions)	Different criteria's for different courses / programmes and hence weightages are followed.
CGPA system (A, B, C and D grades) is used to award accreditation.	Accredited – 5 yr; Provisionally accredited – 2 yr; and Not accredited (3 ways of award)	Next General Review (6 yr); Interim Report and Interim Visit (both 2 yr.); Report extended and Visit extended (2 or 4 yr); Show Cause (2 yr); Show cause extended (2 or 4 yr); and Not accredited
At the beginning institutional eligibility for quality assessment (IEQA) should be obtained by the institution	At the beginning self assessment report (SAR) should be submitted.	At the beginning self assessment report should be submitted
NAAC works under UGC (university grants commission)	NBA works under AICTE (All India Council for technical education)	ABET works under CHEA (Council of Higher Education Accreditation)
NAAC focuses on physical infrastructure	NBA focuses on programmes and course content and outcomes	ABET focuses on programmes course contents and students
Applicable for Universities, Arts and Science Colleges as well as for Engineering Colleges.	Accredit Diploma level to Post-Graduate level in Engineering and Technology, Management, Pharmacy, Architecture and related disciplines,	Accreditor of college and university programs in Applied science, Computing, Engineering, and Technology