Quality Practices and Accreditation in Higher Education Institutions: A Roadmap for Excellence in Engineering Education

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Abstract— **In the current scenario of educational system, there is an increasing demand for higher education in India. Particularly, there is exponential growth and competition visible among Engineering Institutions in coming days. To stand out, it is very important for undergraduate educational institutions to maintain high-quality standards. Accreditations like NAAC and NBA has emerged as potential tool for assuring the quality of educational institutions in India. Stakeholders started believing in these scores to judge the performance of the Institutions. Hence, it is mandatory for Higher Educational Institutions to maintain the high-quality standards will not only help in getting accreditation but also helps in the growth of the Institution. This paper presents the quality practices to be followed by the educational institutions to achieve maximum accreditation scores. A new mantra which has 10 key points are proposed in this paper which will help the higher educational institutions to follow it as a road map for achieving excellence in Engineering Education.**

Keywords— Quality practices; Accreditations; Engineering Education; Quality standards; Higher Education.

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I.   INTRODUCTION

The Indian Educational system has undergone transformative change in past few decades. The expansion of Higher Educational Institutions in India is rapidly growing. Many Universities, Colleges and Institutions has been established to meet the market demand. Especially there was tremendous change visible towards Engineering Education in India. On the other hand, due to more advancements in the technology and industry demands the expectations from the Higher Educational Institutions has gone up. To meet these requirements Institutions to come up with a strategic plan of fulfilling gaps. This plan includes following quality practices in the Institution.

Increased competition in the Educational Institutions has compelled to differentiate themselves in providing quality of education. Quality assurance serves as a branding tool for the Institutions to attract all the stakeholders in this competitive world. In this current scenario where all the institutions offer similar kind of academic programs, facilities and infrastructure, the quality of education and the assurance of that quality become game changer in a student's choice.

Parents who invest on the Institutions not only seek for the degree at the end of the program but also see how the institution is providing holistic development for their ward. Educational institutions should offer that experience to its stakeholders to attract them.

Stakeholders also expect some external bodies to give feedback on the Institutions which they have opted for.

Accreditations like National Assessment and Accreditation Council (NAAC) and the National Board of Accreditation (NBA) has emerged as potential tool for assuring the quality of educational institutions in India. Stakeholders started believing in these scores to judge the performance of the Institutions. Accreditation is a systematic process done by the external agencies to check the quality standards of the Educational Institutions. Accreditation serves several vital roles:

- It provides an objective assessment of an institution's quality.
- It acts as a benchmark, setting standards that institutions must meet or exceed.
- It serves as a stamp of approval that signifies to students, parents, and stakeholders that an institution meets or surpasses certain quality standards.

Institutions that receive accreditation not only gain a competitive edge but also demonstrate their commitment to delivering high-quality education.

II. SIGNIFICANCE OF QUALITY ASSURANCE

The term "Quality" is extensively used in the current scenario by all the stakeholders. Maintaining the minimum quality standards in the institutions is expected in order to run them for better outcome of the students. It demonstrates the commitment to excellence and ensure Academic excellence and also stake holders satisfaction.

The quality of education plays a vital role in producing global engineers to the society. There as several significant areas which demonstrates high quality standards in the Institutions.

A. *Student Centric approach*

Student needs holistic development along with academics. Giving freedom to students in showcasing their innovations through various activities help them in

understanding the current industry needs and also for their hands-on experience in doing engineering education.

B. *Learning Outcomes*

Major concern of a students is whether their journey in engineering education equip them with enough knowledge and skills need to attain global standards are not. The quality process which helps in assessing and improving the learning outcomes of the program. When students feel the essence of engineering in the Institution they are more likely to choose that institution.

C. *Employability*

Employability is the primary concern of the students and parents in the current educational system. Institutions focusing on quality assurance will produce graduate with high employable skills.

D. *Multidisciplinary research and innovations*

Providing Multidisciplinary opportunities to the students through training programs and certification programs helps students to move towards core and IT sector. Also providing platform to showcase their talents in the form of competitions and hackathons boost up the confidence among students. Internships and Scholarships also improve the learning skills of students enhancing their learning outcomes.

E. *Continuous Learning*

Every individual should believe to be a continuous learner. It is very important for a graduating engineer to update their skills in order to meet Industry requirements and latest advancements in the technology.

III. ROLE OF ACCREDITATION IN QUALITY PROCESS

Accreditation bodies like NAAC and NBA in India are becoming powerful tools to measure quality of education. One should appreciate the brilliant brains behind those bodies in preparing the manuals which include metrics and questionnaires in all the broad areas that are helping all the undergraduate institutions to deliver the tasks from

an accreditation perspective in order to maintain excellence in education.

A. *Impact of Accreditations on stakeholders*

There are many questions running through several brains in choosing the best college.

- Does this college curriculum meet industry standards?
- Does this college have quality faculty for effective teaching learning practice?
- Does this college have research publications?
- Does this college maintain quality infrastructure?
- Does this college support student activities?
- Does this college have good governance?
- Does this college provide placement opportunities, internships, skill development etc.?

The single replacement question for all these questions is "Does this college have an Accreditation?"

B. *Why Accreditations?*

Accreditation helps in identifying the strengths and weaknesses of the institution. The budding institutions need to have awareness on all Accreditation manuals which helps in initiating various processes and practices. These processes and practices indirectly project quality assurance to the external world (Kohli, N. 2014, December).
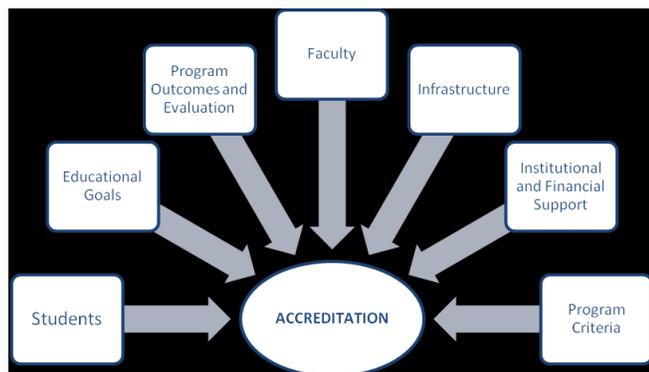

Fig. 1. Accreditation looks at

Accreditation looks at many parameters which is termed as metrics. There are quality and quantity metrics in the accreditation manual which focus on Students, Goals, Program outcomes, Faculty, Infrastructure, Institutional support and

various criteria's. Based on these areas there are various models available for quality assurance and to achieve accreditation.

C. *ABCDEFGHIJ - 10 key points to get accreditation to the Institution*

There are major areas which impact higher educational institutions in achieving stakeholders satisfaction and success of the students. Among hundreds of metrics/areas/parameters in accreditation, there are few high priority areas treated as mantras for educational institutions are given below:

A- Audits for quality check

B- Best practices

C- Curriculum design

D- Documentation

E- Excellence in education through OBE

F- Faculty strength & Feedback of stakeholders for continuous improvement

G- Governance

H- Holistic Development

I- Infrastructure, Innovations and Research

J- Just do it you are on the right path

1. **Audits for Quality check:** The awareness sessions help institutions to initiate various processes and practices. Internal and External audits help the institution to assess where they stand among all the other institutions. The audits by reputed and experienced people helps to correct themselves and to move in the right direction.

2. **Best practice:** Every institution in this competitive world should always strive to be fundamentally different from the other institutions. The initiatives have evolved into best practices witnessing significant outcomes which would not have been possible with the regular curriculum.
   Diversified interests and backgrounds of the students do not permit them to participate in the same initiatives to acquire professional attributes.

3. Curriculum Design: The curriculum design will never meet the requirements of the industry and also cannot fulfil the outcomes of the graduating degree which is termed as "program outcomes" in accreditation. In order to fill this gap, Institutions need to initiate various skills development programs that help students to understand the world.

4. Documentation: Survey says that Educational Institutions are lagging in documentation due to delay in process. Recognition by Accreditation bodies is not achieved for institutions due to improper documentation. Institutions should be mindful in preparing reports as per accreditation requirements.

5. Excellence in education through OBE: Outcome Based Education (OBE) is the current trending tool in achieving quality education to the students. Teachers are trained to adapt to current teaching methods and implement various innovative pedagogies for the better learning of the students. There are assessment methods initiated by the institution through attainment of Course objectives and program objectives.

6. Faculty strength & Feedback of stakeholders: Faculty is the backbone of any educational Institution. Qualified and experienced faculty always adds value to the development of the Institution. Continuous feedback from the stakeholders help faculty and institutions to do better and improve the quality of teaching and learning. Institutions should be ready with specific feedback mechanisms and take action frequently on the feedback.

7. Governance: Governance plays a major role in improving the quality of higher education (Zaman, K. 2015) . Good governance always directs the institution to move in the right direction.

8. Holistic development: The outcome of the graduating student is measured not only with graduation degree but also with all the attributes beyond academics to be successful in their careers. It includes extra and co-curricular activities which can be initiated in the institution.

9. Infrastructure and Innovations: Institution should maintain infrastructure as per regulatory norms as it creates ambience to move the institution towards Research and Development. Research in undergraduate students will transform the institution to the next level.

10. Just do it- Management's vision, Awareness sessions to all the stakeholders, Regular Audits, Governance, Leadership, filings, research and other extra and co-curricular activities will assure and make the institution stand towards quality assurance.

IV. READINESS FOR INSPECTION

The main component for achieving maximum score in the accreditation is Documentation and Institutional presentation. The clear documentation proofs for all the metrics in the accreditation to be presented before inspection team. Out of 3 days of Inspection, Day 1 Inspection will start with the presentation of Head of the Institution followed by the campus tour. Documentation of the metrics will be verified post lunch. Day 2 will be scheduled with "Interaction with stakeholders". Day 3 will be report writing and exit meeting with the team.

V. CASE STUDY ON HITAM

Hyderabad Institute of Technology and Management (HITAM) is the first educational institution in India with a silver rating from US Green Building council. HITAM is fundamentally different from other institutions with its initiatives and best practices. As the vision of the Institute is "To be a University which nurtures the students with competencies to become confident about their careers and contribute to the society", HITAM always work towards the holistic development of the students to fulfil the graduate attributes.

The unique practices at HITAM achieved NAAC accreditation with A+ and NBA to all the programs. Eminent people in governance and leadership made HITAM choose its right path. Internal Quality Assurance

Cell (IQAC) is active in quality checks with no compromise. HITAM believes in "Don't just study Engineering, Do Engineering".

Faculty of HITAM are trained on Outcome Based Education (OBE), Engineering Education Research (EER), IUCEE International Engineering Educator Certification Program (IIEECP) under IUCEE body and are successful in implementing and assessing various innovative pedagogies for better teaching and learning.

HITAM's values, policies and practices made the Institution a noteworthy example for "Quality assurance".

VI. CONCLUSION

In the current educational system, achieving excellence is becoming a challenge for Higher Educational Institutions. To become pioneer in the Engineering Education, it is required to maintain the high-quality standards. Accreditation is the powerful tool that helps any higher education institution to maintain standards. It helps Higher educational Institutions for streamlining the process and practices in the institution. This paper concludes that "Accreditation is not a grade, it's a process".

VII. ACKNOWLEDGMENT

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