Role of Information and Communication Technology (ICT) on an Educational system for Quality of Education in Totality

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Abstract: In developing countries information and communication technology has played very important role in the development of education development. ICT is widely perceived that conventional education is now not meeting the emerging needs of higher education development. The paper discusses the significance of Information and Communication Technologies in the Educational sector. With the emergence of ICT's, there has been a rapid change in the way information is exchanged and how people communicate. There has been lot of innovative tools and ways of gathering and sharing information that would have been seem impossible few years back. Digital literacy has become a key in 21st century skill. What country should do is to prepare the students of this generation to cope up with the demands of the new digital age where there is a growing dependency on digital content instead of paper-based content through providing facilities in terms of infrastructure and opportunities to learn through ICT. The paper throws light on changing perspectives of education, quality of higher education, quality of life, demand for public and private education, distance education system, the use of ICTs for on and off campus education and learning and the challenges in effective use of ICT by students in India.
Keywords: Communication, Higher Education, Learning, ICT, Quality Education.

I. Introduction

Quality education assurance from any university system is built by three pillars-faculty, infrastructure and curricula. Hau (1996) argues that quality in higher education and quality teaching in particular, springs from a never ending process of reduction and elimination of defects. The most important of which is the quality of faculty and its continued competence updation. Similarly, the Quality of an education system has usually been defined by the performance of its students and graduates - the output. In practice, inputs into teaching are generally easier to measure than output, so quality has been gauged by inputs. It is however better to measure quality from both input and output. Quality education is therefore the education that enhances cognitive achievement, prepares students to become responsible citizen, attitude and values relevant to modern society and accommodates modern market oriented skills to traditional home made values and need. To provide quality education there should be a dynamic equilibrium, which bring knowledge and skills to the education aspirants to equip themselves to meet global needs and challenges. Today, the challenge is to maintain international competitiveness and in that context higher education and research sector calls for a fresh look. If quality of education is not taken care of then the process of empowerment will be faulty and imperfect. Nowadays, education sector especially offering distance education encounters quite a good number of constraints affecting quality education. So there is an urgency to focus on quality and relevance of distance education.

II. Objectives

1. To introduce need based and advanced concepts in teaching, research and professional development.
2. To integrate and coordinate teaching, research, extension and quality education activities in various faculties of the University.
3. To build up confidence among the students with the use of ICTs for on and off campus education and learning.
4. To disseminate information and communication technologies developed to students.

Changing Perspectives of Education:

The teacher is like a gardener who tends to the flowers (students), prunes and shapes them into marketable products. In a relatively static society, where the technologies and markets are stable for sufficient periods of time, the gardener metaphor was a valid one. But in a rapidly changing society, the teacher and student are both explorers. The skills sets required are a solid grounding in basic skills (basic science and disciplinary skills, communication and information management skills, self learning skills) that provide the capabilities to adopt to change. The teacher then is more like the leader of an expedition who ensures that students are trained in basic climbing skills and handling equipment. The teacher and students are then partners in learning process.

Certain Parameters for Quality Education:

- Educational reforms and ability to adopt a sincere work culture.
- Recruitment of teaching positions strictly on merit by open competition on all India basis.
- Orientation programme is must for the newly recruited teachers, so that he/she can get exposed to the field of educational technology.
- Creation of innovation to develop enterprising minds among students.
- Keeping institution free from political interference.
- Job oriented curricula that focus on academics and experiential learning.
- Effective institutional management and alumni relations.
- Creating and offering faculties to faculty exchange programme.
- Networking with other universities, sharing of resources and expertise.
- The administrators of the universities should be from academic streams as far as possible.
- Selection of Vice-chancellor-the leader of the University System should be made based on his/her dynamic captaincy because this position requires high academic attainment and man management skills.
- Creation of corpus fund.

Quality Assessment in Higher Education:

There are three levels at which the issue of quality is dealt with.

- At the national level, University Grants Commission is responsible for the co-ordination and maintenance standards of higher education.
- At the institutional level, colleges and the university departments make attempts to deliver quality education. There is an arrangement for the performance evaluation of teachers in the institutions.
- At the provincial level, the State Government needs to monitor the quality through the process of accountability of the university to the State Govt.
- It is the responsibility of affiliating university to assure the quality of education in colleges and post-graduate departments of the university.
- For various technical and professional disciplines various Professional Councils have been entrusted with the responsibility to maintain standards of higher education.

National Assessment and Accreditation Council (NAAC):

Impact of NAAC (National Assessment and Accreditation Council, 1994) - Established by UGC:

- Generated more interest and concerns about Quality Assurance among the stake holders of Higher Education.
- Created better understanding of Quality Assurance among Higher Education Institutions (HEI's).
- Triggered Quality Assurance activities in many of the Higher Education Institutions.
- Helped in creation of institutional database of the accredited institutions of Higher Education.
- Helped other funding and regulatory agencies to take some of their decisions based on the assessment outcomes.

NAAC has identified the following seven criteria to serve as the basis of assessment procedures:

1. Curricular Aspects
2. Teaching-learning and Evaluation
3. Research, Consultancy and Extension
4. Infrastructure and Learning Resources
5. Student Support and Progression
6. Governance and Leadership
7. Innovative practice

The Demand for Private Education:
• Government affects the demand for private education.
• Many countries face many challenges in common:
– budgetary constraints
– high population growth rates
– increasing urbanisation
– low per capita incomes
– globalisation
– high demand for education
• Public education is under pressure:
– disparities in access to education (e.g., girls, rural, poor)
– low enrolment ratios
– poor quality of public education
– poor quality of public spending
– education already a high proportion of the budget.

ICT - Good Practices in Higher Education:
There are seven principles of best practices in higher education:
1. Good practice (GP) encourages contact between students and faculty: through communicating technology - ICT;
2. GP develops reciprocity and cooperation among students: as no.1 with colleagues-collaborating learning;
3. GP used active learning techniques: tools and resources; time delayed exchange; real time conversation;
4. GP gives prompt feedback: email; performances; critical observations (video);
5. GP emphasizes task on time: attractive/motivating; efficient; distance learning- busy schedules; access to learning opportunities;
6. GP communicates high expectation: real life problems- set challenges; publishing;
7. GP respects diverse talents and ways of learning: different ways of learning can be enhanced with technology.
Hence, good practice in higher education requires incorporation of technology everywhere.

The use of ICTs for On and Off Campus Education and Learning:
        Information and Communications Technologies (ICTs) are useful in education and learning especially for lowering overall costs and improving quality of the learning experience both on and off campus. As of now ubiquitous availability of new ICTs such as smart cell phones and Internet connected tablet computers even in rural areas is a major paradigm shift. Yet, many of these Institutions especially in the South have found it difficult to leverage ICTs in their educational activities. These Institutions are finding it difficult to invest in the necessary infrastructure, software, hardware, skills, connectivity and content and use ICTs to cater to learners who are not or cannot attend on campus and access potential learning opportunities. This failure to use ICTs, primarily because of lack of policy support and investment from the State, preempts the wider role of education institutions in enabling rapid development of knowledge based activities especially by the youth and women engaged in vocations. The State now has an additional cross-sectorial role across its urban and rural development and telecommunications sectors and for which it may not have the necessary experience and wherewithal to execute.

Political commitment for new roles and academic excellence
An important consideration in the context of political and social commitment by communities, societies and countries that are in the catchment of Institutions to provide the necessary investment, support, leadership and policies in the transformation of Institutions to take up new roles in transforming ICT, knowledge systems that benefit their own development and pursue academic excellence. These, especially political commitment, are many times in short supply for educational Institutions of the South.

Prerequisites for Quality Education in Distance Education System:
i.   **Quality faculty:** means a teacher not only be a knowledgeable person having authority on the subject he or she is specialized but also be a good researcher. He or she should give emphasis on such research work which would be aimed to solve the problems of higher education in India.
ii.   **Quality student:** means meritorious, committed and self confident students.
iii.   **Quality supporting staffs**: Sincere, dedicated and disciplined non-teaching staffs are needed for smooth running of a good institute.
iv.   **Infrastructural facilities:** means infrastructural facilities up to the standard for facilitating practical, experimental and infrastructural entrepreneurial exposures.

v. **Identical course curricula**: Need based, up-to-date, job oriented, industry oriented/accommodative, science based practical courses should be adopted.
vi. **Regularity in Examination and Evaluation**: For smooth functioning of the academic system, methods of examination and evaluation which are time tested and more beneficial for the students should be adopted.
vii. **Teacher student interface**: means better understanding and co-ordination between the teacher and the taught which would help the students to understand the problems in a better way and the teacher would be able to complete their teaching in time.
viii. **Quality administration:** means an administration which functions effectively, an administration which is vibrant, sensitive and progressive.

Constraints in Assuring Quality Education:

The education sector offering higher education encounters quiet a good numbers of problems affecting quality education, a few very commonly perceived constraints and also perhaps generally encountered difficulties in operations of quality education.

ix. **Shortage of qualified faculty**: It is widely argued by the academicians, scholars and researchers that one of the major problems of the open universities in this country is the shortage of quality faculty members. Such depletion of faculty strength without replenishment has further aggravated due to starting new programmes without considering suitability of staff position. Other important dimension in the quality of faculty is the inbreeding of faculty, numbers of faculty with highest qualification from other Universities of the country and abroad is far less nowadays. Besides it may be due to recruitment policy of several states prevents appointing non-natives of the state.
x. **Lack of quality students**: For the progress of the education sector, meritorious, committed and self confident students are needed. In the era of market economy, it is the money which controls the students' career. There is a general tendency that majority of students sit in Common Entrance Exam and top order successful students take admission in medical and engineering courses and the rest ones usually opt for general courses.
xi. **Research and professional development**: Research and higher education are complementary to each other. Research and ongoing professional development of teachers are directly related to quality and is an integral part of teaching. The volume and quality of research, needless to mention, are not worth mentioning. This not only can adversely affect the production and dissemination of new knowledge on technology but also the goals of national and human development. Research activities in Universities are constrained by such factors as inadequate financial support, lack of industry and corporate support in research, and lack of incentives for research etc.
xii. **Financial constraint**: Financial constraints stand as a big hurdle for academic development and quality assurance. It is evident that universities are starved with operational funds, which affects the quality of academics, research and development. Sometimes University is unable to disbursed salary to the faculty and staff members in time.
xiii. **Lack of faculty monitoring and evaluation (M&E)**: In most of the universities there is no such mechanism for faculty monitoring and evaluation. It cannot be denied that faculty evaluation help the teachers to develop self and improvement in teaching and quality education.
xiv. **Pressure to the leader**: For fostering quality education, effective leadership is required. Vice-chancellor is the leader of the University system having the ability to transform vision/mission into reality. A very few current university leadership could be said to satisfy such competencies. Sometimes due to pressure and non-cooperation from different corners he/she cannot work in best possible way to arrive at fruitful conclusion. Sometimes he/she has to surrender even the academic autonomy resulting poor quality education in the system.

III. Conclusion

A number of measures have been taken for quality improvement in higher education which includes the development of infrastructure, curriculum, human resources, research and extension and establishment of centers excellence, interdisciplinary and inter-institutional centers. Besides regulatory measures have also been taken to bring about structural reformation and ensure quality in higher education. In spite of all these efforts, the Indian higher education could not climb the quality ladder in totality so far. This situation is not for want of any recommendation or policy decisions. Notwithstanding the fact that quality is always relative in nature and there is always a scope for its improvement if we have positive thinking and proper spirit. Our positive energies now could have been speared for some other issues how to achieve quality. Discipline and continuous practice of teaching and research has received consideration among academics and policy-makers. This needs to engrave confidence in our teaching, research and extension for the generation of new knowledge of technology in higher education.

Acknowledgement

Reference

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