

**THE ROLE OF ICT IN ADMINISTRATION, TEACHING,  
LEARNING, EVALUATION AND RESEARCH IN  
HIGHER EDUCATION**

Paper

By

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Recognizing the growing importance of information and communication technologies in all aspects of people's lives, the present paper outlines the design of the application of ICT as a powerful tool for quality enhancement in the institutional practices such as administration, teaching, learning, evaluation and research.

Quality assurance and enhancement is the continuous process, for which Internal Quality Assurance Cell (IQAC) has been constituted in most of the accredited colleges. IQAC has evolved mechanisms and procedures for the predefined objectives, by formation of the corresponding committees<sup>1</sup>.

Effectiveness of IQAC is brought in by setting goals; monitoring and analyzing results by feedback & improving accordingly by modified mechanism. Overall SWOT analysis of the institution is done, considering the peer team report by NAAC. Redressal of grievances or issues identified as hurdles to the progress of the institution is also expected to be taken care of.

Via such extended activities the IQAC is made effective which may serve as a powerful tool for efficient administration in the institution<sup>1</sup>. The effectiveness is brought in by coordinating the activities of each committee via academic calendar<sup>2</sup>. The activities covered in the calendar were suggested to be published in the form of academic Newsletter<sup>3</sup> covering the innovative methods of teaching<sup>4</sup>, consultancy services<sup>5</sup> and the participation<sup>6</sup> of the students and the activities undertaken by the cluster group under the leadership of the lead college<sup>7</sup>. There is a crucial role to be played by the Head of the institution and the coordinator of IQAC<sup>8</sup>. The principal and coordinator should work proactively with full democratic and open approach towards execution and implementation of the evolved innovative mechanisms. Quality and excellence are results of team work led by the leaders like Principal and Coordinator of IQAC. However the leaders should work on the guidelines of IQAC with proper realization of the democratic role of IQAC and accountability of their own role.

In all these efforts of the team towards TQM of an institution, there is a very significant and potent tool in the hands of every stakeholder namely ICT. The present work proposes some guidelines to implement ICT for enhancement in the quality of administration, teaching, learning, evaluation and research.

### **ICT in Administration:**

The day to day college administration can be made less laborious and fast by application of ICT for the same. It starts with the awareness in the staff of the office for the application of ICT with full convinced minds and prepared heads and hands to use the technology without any prejudices and healthy approach for learning and acquiring new skills. The following are the enlisted areas where the ICT has crucial role to play for enhanced quality in the administration.

1. Online admissions: The admission procedure starts with filling of the admission form, and continues with the preparation of roll call, merit list, filling of fees, deposits, different concession forms, application for the library card, data needed for different scholarships, class wise attendance register etc. When the admission is done online, it is very easy to prepare the merit list according to the categories, gender and marks obtained in the previous examination by using datasheets of MSExcel combined with a specific admission programme.

2. One window-one minute service: To speed up the process of providing different certificates to the students, there can be a single window to accept the request for the certificate, searching for the required record, collecting fees, and issuing the copy of the required certificate in a short span of less than one minute. This can be done by any person in the office even in absence of the regular clerk having the charge.

3. Recording of student attendance: The recording of the student attendance can be done by connecting the computers from each class by LAN. The teacher gets in the class, opens his own class roll-call and records the attendance of the period which is submitted immediately to the college office and the irregularity of any student consistently for the class is marked immediately.

4. Issuing of books by library: The online submission for the search of any book by name of the author or the title etc is done effectively by using ICT. The request for the particular book is done by the student which enables the student to know the availability

of the book, the person presently having the book and also the waiting number of him/her for the book. The record of the books read by the student also can be registered by creating his own account for accession of the books by his personal Identification number which is created at the moment of his admission in the institution. The use of the CCTVs in the library also makes it easy to have a watch on the activities in the library which will be helpful for the security of the precious books. A Xerox copier in the corner of the library will be available for the students to get the pages Xeroxed. Ebooks are also made available for the students in the internet centre. It is expected to connect the centre with WAN so that the high speed internet can be accessed even from the distance by the students using their own note book PCs.

5. Musters for the non-teaching staff: The admit machines equipped with the biosensors for finger impressions are being used in some institutes to record exact time of joining the duty by the employee.

6. Security of the campus: The metal detectors at the entrance and CCTVs also represent a big concern for the security of the institute. The security guards are equipped with the walkie-talkies and mobiles with GPRS systems for enhanced security of the campus.

7. Feedback from students: There is an provision of submitting queries and suggestions regarding the services provided by the college like hostel, canteen, refreshing rooms, recreation centre, study room and also regarding the performance of the teachers by students in the form of feedback filled by the students online with their own secret code for hiding their identity keeping the authenticity of the information provided by them.

8. Record keeping: Keeping record of the personal files, pay sheets, pay fixation and placements and electronic scanned copies of service-books of the staff is well done by the office using ICT. To keep the data of all teaching and non-teaching members a master file must be maintained and should be regularly updated as and when some updating information received by concern member. The information is made available on the tip of the fingers ready on any desk, which saves time and also the attempts to seek the information.

9. Circulars and GRs: Staff file may be well maintained by keeping the required information like the circulars and Government resolutions on the institutional website. The Information regarding Orientation and refresher courses or NET/SET exams with the prescribed format of the application forms, if are available on the computers connected to printers, the application can be filled and printed or otherwise can be sent online through e-mail or fax to the destination.

10. Alumni association: The database of the past students of the institution can be kept ready for instant contact on the computer to facilitate the activities of alumni association.

To increase the quality of the administration, it is essential to complete the work well in time, to keep track of events and follow-up of the academic calendar, recording of day to day work such as pay roll, inward-outward register of letters to various authorities, keeping minutes of meetings, display of different notices etc. All this is made possible by developing or purchasing suitable software for the office automation and also the transparency in the administration can be achieved by publishing the information on the institutional website.

**ICT in teaching, learning:**

Teaching and learning can further be improved by replacing of conventional teaching instead of the usual age old method of chalk and talk for teaching by innovative methods<sup>4</sup> like Power point presentations and animations, modelling and simulations, video clips and using AV aids, LCD projectors etc. This enhances the learning ability of the student and also helps the teacher to elaborate the difficult concepts effectively within a short time span. Seminars of the students can also be arranged allowing the references to be done using internet and the presentations using high tech display devices as LCD projectors. Different online courses of the foreign universities are made available for the students in the internet centre in collaboration with the universities.

**ICT in evaluation:**

The evaluation can be made effective by keeping exercises and MCQs on the institutional websites with increasing level of difficulty. The online examination process is made available for the students at anytime and it is then possible to assess the competency of the students themselves objectively. The progress of the students can be

monitored by expertise teachers which are made available for guidance 24/7 via e-contact. The one to one conversation or question answer sessions can be effectively brought in by employing the technique of video conferencing. The teachers far away from the institution can be made available for the guidance. The syllabus, notes, practical sheets and study material framed and designed by the expertise teachers are published on the institutional website for the registered students of the institution. The results of the exams in the form of evaluation charts of every student also can be displayed on the website. The well equipped computer lab this way, may serve as a study cum evaluation and information centre.

#### **ICT in research:**

The reference work in research can be made fast and less laborious via use of InFlibNet projects & also by subscribing e-journals. The prescribed formats of the research papers and the guidelines of the renowned international journals is kept ready on the research computers which enable the researcher to publish their work and also track the progress of the same online.

#### **ICT for other services:**

**Placement cell:** The resumes of the students are prepared and stored in such cell. The updated database of the students passing out can help the students to be informed for the different placement opportunities. The collaboration of the placement cell with nearby employment exchange and the industries also can enhance the activities of the cell.

**ATM and Banking services:** The registered students of the institution can be provided with the ATM cards and zero balance facility by the collaborated branch of the bank, where the students may get the scholarships and assistance from the parents away from them. They also can apply for the Demand Drafts required for different purposes.

**Internet centre:** A well equipped internet centre cum cafeteria is a best alternative for the canteens, where the WAN / Wi-Fi connectivity offers the easy and instant access of the high speed broadband internet for the students, to act as a network resource centre.

**Net hostel:** The residential block of the hostel can provide the facility of the Internet for the students so that they may complete their projects and prepare for the seminars using their valuable time in the night too.

**Intercom connectivity:** Different units of the institution like hostels, staff room, ladies room, recreation hall, gymkhana, bank, Principal's room, office, library etc can be connected with intercom facility which allows instant communication between the stakeholders of the institution.

### **Conclusion:**

Each institution must work within the context of its own system to fit choices to what best suits its unique situation and culture. The advancement of technology and the way it is incorporated into a system is a dynamic process. Even within one institution, various units or courses may use different approaches. The approaches are hierarchical with the emerging approach as a beginning point of creating awareness among the stakeholders, actually applying the tools of ICT, integrating the various activities with complete coordination, transforming the routine procedures for enhanced quality and efficiency which help to perceive goal for the future of quality education. All it requires is only the enthusiastic, proactive and innovative approach of young teachers and staff towards the application of ICT and the consistent encouragement for their efforts by the Principal and Management.

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