

## ICT FOR EDUCATION

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**Abstract:** Digitalisation is a new concept which will open a gateway to knowledge for teachers, student and worldwide. ICT are changing the world we live in and the way we learn to live. Digital arena changes, teaching and learning through its potential as a source of knowledge, a medium to transmit content. ICT helps for learning, organising teamwork, managing classrooms, activity and create conducive environment, balance between using technology and traditional method. ICT make a track with the present in near future. It enhances the whole education process and make strategy to fight with different and challenges. It provides easy access to learning and being used extensively to facilitate universal education. In digital age teacher is facilitator in student learning. So in 21 century digital technology plays a vital role in education system as well as services Information and communication technologies (ICT) have become commonplace entities in all aspects of life. Education is a very socially oriented activity and quality education has traditionally been associated with strong teachers having high degrees of personal contact with learners. But with the world moving rapidly into digital media and information, the role of ICT in education is becoming more and more important and this importance will continue to grow and develop in the 21<sup>st</sup> century. ICT helps in improving the quality of education stating that information and communication technology is an important instrument that can transfer the present isolated, teacher centered and book-centered learning environment into a student-centered environment. ICT can change the traditional concept of learning process and the components of ICT should be integrated in the education program me in such a way that teaching should be enabled to face the new demands and improve the efficiency and effectiveness of education at all levels in both formal and non-formal settings. ICT not only enhances the learning experience of student but also helps them develop the skill essential to participate effectively in the world of affairs. ICT aims at transferring the old traditional paradigm of learning to the new paradigm of learning. Thus, we must accept the new paradigm and technology in teaching learning process. Educational institutions need to develop strategies, plan to improve teaching-learning process and ensure that all teachers are well prepared to use the new tools for learning.

**Key Words:** Digitalisation, ICT, mainstream schools,

### 1. INTRODUCTION:

ICT makes dynamic changes in society. It is influencing all aspects of life. The influences are felt more and more at schools. Because ICT provides both students and teachers with more opportunities in adapting learning, teaching and managing the individual needs, society is forcing schools to aptly respond to this innovation. It provides newer and more effective ways of mitigating some of the challenges being faced by the educational system of the country. These technologies distinguish themselves by their rapid evolution and revolution, continuously changing the modes of engagement with them. A decade long infusion of computers, and more recently ICT, has demonstrated varying impacts on learning. In the current information age, educational institutions are expected to play a crucial role as the engine for knowledge generation and learning environment. In this regard ICT becomes the vital means to facilitate this task. ICT has become an essential part of our everyday life, accordingly this integration in school improvement is not only for the purpose of teaching and learning, but also for educational management use, it has become one of the most effective factors in the school improvement. ICT plays a vital role in improving the functional effectiveness of school system. In this unit we will be discussing about how ICT can help the school administrators improve various administrative tasks of schools

### 2. SCOPE OF ICT IN ADMINISTRATIVE & MANAGEMENT WORK:

Computers can be used extensively for educational administration. The following are some of the areas where computers can be used for effective educational administration.

- General Administration
- Pay Roll and Financial Accounting
- Administration of Student Data
- Inventory Management

- Personnel Records Maintenance
- Library System

Information and Communication Technology (ICT) plays a vital role in supporting powerful, efficient management and administration in education sector. It is specified that technology can be used right from student administration to various resource administration in an education institution

Sharad Sinha (2008) mentioned the various administrative challenges for Indian education system of the 21st century as given below:

- Global and local challenges Sharad Sinha (2008) mentioned the various administrative challenges for Indian education system of the 21st century as given below: Universal and individual challenges
- Balancing between traditional and modern approaches
- Long term and short-term considerations
- Competition and equity challenges
- Extraordinary expansion of knowledge

As a part of strategy, the author mentioned that these challenges could be overcome with the proper usage of technology. Moreover many studies revealed the need for ICT integration into administrative activities of higher education institutions. The many ways of introducing technology in education institution administration are the following (Caroline Salerno 2009):

- Sending e-mail notices and agendas to staff, rather than printing and distributing them
- Submission of lesson plans through e-mail
- Foster technology growth by asking parents to write e-mail addresses on medical forms.
- Insist that all teachers create a class Web page
- Attend technology conferences to see what other schools are doing, what other teachers are doing to integrate technology, and what principals are doing to encourage the use of technology in their schools and classroom
- All day-to-day activities of the institution (General Administration)
- Staff administration

Olive Mugenda (2006) said ICT fosters the dissemination of information and knowledge by separating content from its physical location. This flow of information is largely impervious to geographic boundaries allowing remote communities to become integrated into global networks and making information, knowledge and culture accessible, in theory, to anyone. It is also mentioned that ICT enhances day-to-day management of institutions and the various functional areas in which it could be used are specified below:

- Timetabling
- Student admission and Tracking
- Financial Management
- Medical services
- Procurement and Store management
- Data distribution and management

### **3. IN STUDENT ADMINISTRATION ROLE OF ICT:**

Communication of academic details of student to their parent's guardians through media Communication is important to inform parents about school activities. It is also a vehicle for developing awareness and understanding among parents of their role in the learning and development of their children. It is also an opportunity to learn about the children in your classrooms. Communication between schools and families is essential for building trusting relationships that foster parental involvement. Parental involvement in schools and social institutes is necessary for youngsters to develop successfully and to make decisions that will have positive outcomes for their future. The role of new ICTs in improving parental involvement in schools and social institutes and uncovers barriers that prevent usage of technology to promote communication. As society becomes increasingly dependent on technology, schools are investing more time and money in technological means of communication. Access to computer and Internet technologies is increasing all over world in work places and schools. Both educators and parents are provided with access to electronic communication. It is well established that building home-school partnerships is a powerful avenue for increasing the satisfaction of parents and the community with schooling and for improving schools. Parents'

involvement in their child's education is a key factor in the child's scholastic success. Parental participation ranges from paying little or no attention to too much attention. As the teacher, he/she must help manage the parental participation so that students are accountable for their own learning. **Social Networks.** It is possible to use social networks like Facebook, Twitter or MSN to communicate with parents. It is possible to make groups in Facebook and share information with the parents. Parents can communicate with each other of the class of their children. They can share pictures, valuable information, etc. Facebook is not so difficult to work with and a lot of parents already have a Facebook account.

**Online Groups and Forums:** Communicating with parents are made easy using forum and e-mail groups like Google groups and Yahoo groups. The school can create specific group of parents using Google or Yahoo services to communicate each other and among parents. It is also possible to share files among the group members.

**SMS and Instant Messaging:** School can send SMS to the parents when the child is not at school. So, the parents will immediately know if their child is playing truant. When the school must send an urgent message for parents, school can send a collective SMS, warn parents or an individual SMS to contact a specific parent. Now days instant messaging service like what's up is very popular among teachers, students, and parents. The simplicity of this tool makes it easy for sending information to parents. Specific What's up group could also be formed for taking up discussion on a specific issue.

**Activity:** Create a what's up group of your friends and discuss about how ICT can be used for communicating with parents.

#### 4. IN GENERAL ADMINISTRATION ROLE OF ICT:

**Importance of school records:** School records keeping includes the fact that school records tell the history of the school and are useful historical sources.

- Tell the history of the school and are useful historical sources.
- Facilitate continuity in the administration and management of a school.
- Facilitate and enhance the provision of effective guidance and counselling services for students in the social, academic career domains.
- Provide information needed on ex-students by higher and other related institutions and employers of labour for admission or placement.
- Facilitate the supply of information to parents and guardians for the effective monitoring of the progress of their children/wards in schooling or performance.
- Provide data needed for planning and decision making by school heads, ministries of education and related educational authorities.
- Provide a basis for the objective assessment of the state of teaching and learning in a school, including staff and student performance by supervisors and inspectors.
- Provide information for the school community, the general public employers as well as educational and social science researchers for the advancement of knowledge.
- Enable school heads to collate information on pupils and staff for decision making by higher authorities, the law courts security agencies and other related government agencies when occasion demands.
- Provide a mechanism such as the school timetable for the productive management of time and coordination of school work and activities.
- Serve as data bank on which both the school head and staff and even students can draw on.
- **Potential of ICT in Record Keeping** The usefulness of keeping school records with Information and Communication Technologies (ICT) is for the following reasons:
  - **Administrative Efficiency:** One major setback in achieving the educational objective of the secondary education is inefficiency of the principal in keeping some records. With the introduction of information and communication technologies such as computers, digital libraries, e-mail, internet and so on where information are stored and disseminated, principals can do better in keeping records, and become effective and efficient in performing their prescribed roles as administrators.
  - **Availability of Information:** Information and Communication Technologies will help maintain adequate and accurate records in our schools and make it available with ease.
  - **Easy Retrieval:** It also leads to easy accessibility and dissemination of information on school records, will become available for national planning, financial budgeting, effective implementation of the educational programs and policies.

School record keeping is all about information collection, storage, retrieval, use, transmission, manipulation and dissemination for the purpose of enriching communication, decision-making and problem-solving ability in the school system. It is therefore necessary that this process be as accurate and accessible as possible. Using ICT in

keeping school records will help to facilitate and enhance the administration of the school towards achieving the goals of the secondary education.

### Some Important School Records

- **Admission and Withdrawal Register:** This is a permanent record book into which is entered information regarding the entry and exit, including the details of the education and progress of each pupil that ever passes through the school.
- **Attendance Register:** An attendance register is a book in which the presence or absence of students in a school is recorded on a daily basis. It is a statutory record that must be kept by every school. This record is kept on individual class basis. The class teacher is the custodian of this record.
- **Log Book:** The log book is a historical record of events that have significant effects on the schools' activities.
- **The Visitors Book:** The book is meant for recording the visits of important personalities, including officials and from the ministries of education or other related government agencies or any other school related visitors.
- **Staff and Students' Personal Files:** It is necessary that the school should have as much information on every teacher and student as possible without violating their privacy.
- **Cumulative Record Folder:** Students' cumulative record folder is a storehouse of information on students' cognitive, affective and psycho-motor development.

### • Students' Report Sheet/Card

1. It keeps data on students' academic performance in termly basis.
2. It assists in monitoring students' academic progress.
3. It is a compliment to cumulative record folders.

### • Lesson Notes/Plan

1. It gives information on what a teacher plans to teach the students at a period of time.
2. It clearly shows the teachers' level of preparedness and their level of competence.
3. It challenges teachers for the task ahead.

• **Scheme and Record of Work Book:** It reflects estimate of academic work which teachers expect to accomplish in each subject based on number of lessons they will have during each term. Pertinently it shows the ability of the teacher to organize the year's work and his/her resourcefulness and enthusiasm regarding the progress of the pupils.

### • Staff Time Book and Movement Book

1. They provide information on when staff report and or close at work.
2. They promote regular attendance and punctuality
3. They help checking truancy and gross indiscipline in staff.

• **Transfer and Leaving Certificate:** Transfer and leaving certificate is the formal exit of the student after completion of study or leaving during the course of study in a school.

• **Library records:** The library will have many records like stock register, issue register etc. Many of the routine function of the library can be automated using library management software.

• **Stock register:** it is the record of all equipments and materials available in the school including the laboratories

### • Cash Register

1. It is a record of financial transactions in schools.
2. It gives information about income and expenditures.
3. It promotes accountability and prevents corrupt practices.

“School Management Tools” Interactions sharing ideas and communications with teachers, parents, alumni and community members become the major part of school management. School management includes admission of students to various courses, assigning subjects and classes to teachers, maintaining records, communicating with parents, preparing various certificates, analyzing various data etc. It should help all the stake holders in participating actively in decision-making process. The functions of a school manager are to manage the school and formulate policies that best suit the needs of the school as well as the overall interests of the students. A manager is responsible for school planning with a view to creating learning environment for their students and nurturing talents.

**Fedena:** Fedena or project Fedena is an open-source school administration software that largely focuses on handling records. It is based on Ruby on Rails. It was initially developed by a team of developers at Foradian Technologies. The project was made open source by Foradian, and is now maintained by the open source community. Website: <http://www.projectfedena.org/>

• **Ascend SMS:** Ascend SMS is an entirely free full-program school administration software made for Catholic and Independent schools. Ascend SMS offers a complete package. From offering a health management system for the

school nurse to a mobile app for parents to a simple discipline reporting system. Even though Ascend SMS is free for many schools, to avail that facility school must be listed in their system. Website: <http://www.ascendsms.com/>

• **School Tool:** School Tool is a cloud-based open-source school administration software made for schools in the developing world. It provides educators gradebooks, skill assessment documents, class attendance sheets, and daily participation journals along with organization features including applications like Google Calendar, and a great report card generator. School Tool was made with Python, and is run on Linux Ubuntu. School Tool comes with its own web server and database. To make sure all the necessary components are installed correctly, it is distributed, through Ubuntu Linux. But there is a draw back for School Tool.

## 5. ASSISTIVE TECHNOLOGY (AT) AND INCLUSION:

Inclusive classroom is an important part of equal opportunity in education. Demands for inclusive education have increased and fostered major changes to schooling and education. Students with disabilities are educated alongside their peers within the local community therefore mainstream schools are required to adapt to accommodate a diverse group of students with a variety of needs. **Assistive Technology (AT)** devices can decrease students' isolation and allow them to become part of regular subject area classrooms. Assistive technology then becomes a tool that provides a method for an individual who is experiencing a disability or other issue to still participate in a classroom. The application of assistive technology in schools for students classified as having a disability is required through laws such as Individual with Disabilities Education Act (IDEA). As the inclusive education of all students occurs more frequently within the standard classroom, then it becomes important that the knowledge/experience base for all teachers needs to be expanded to incorporate assistive technology approaches and accommodations. Mid to Hi-tech Assistive Technology:

- Digital recorders
- Digital books
- Graphing calculators
- Electronic math worksheets
- Portable or adapted keyboards
- Mobile technology, e.g. tablets, iPods, iPads, smartphones, MP3 players, etc.
- Reading systems that utilize a computer, scanner etc.

## 6. CONCLUSION:

This study has identified a comprehensive set of functional areas of Information administration. It was found that current level of usage indicates a clear integration of ICT for managerial or information-based administration in higher education institutions. This study reveals that demographic factors do not have major impact on Information administration in higher education institutions it was also evident from the validation of the path model that all the functional areas identified have an influence on Information administration. This reveals that enhancing the usage of ICT on these functional areas and especially for general administration will enable enhancement of overall information administration in higher education institutions in the realm of global competitive environment. This study could serve as a base for education planers to deploy Technology based administration in higher education institutions

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