

E-Governance in Education Sector

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Abstract

Education is one of the most important factors in achieving the development goals of the country. It is the key to the national development. In India Education has seen massive growth in recent years. On one hand, this growth promises to produce more skilled individuals to fulfill needs of ever growing Indian economy and on the other hand it poses a huge challenge for the governing bodies like UGC, AICTE and others to maintain or improve the quality of education. An integrated Higher Education Service System (HESS) at a national level can be one of the key Information and Communication Technology initiatives to help India become a provider of world-class education. This system can provide deep visibility to governing bodies at a university and student level to analyze their performance and hence gear up for future requirements. On the other hand E-Governance solution in the field of educational sector has changed the way administration is being done now. The solution incorporates whole data and processes of an educational Institution into a unified system, making the process uncomplicated, well-organized and error proof. The solution is designed to make the system user-friendly, time saving and cost saving also. Many of them are flexible enough to adapt to the changing educational environment efficiently and quickly. E-Governance helps in improving transparency, providing speedy information, dissemination, improving administrative efficiency and public services in all the aspects of education. Educational institutions may have various requirements that include computerization and management of processes such as registration, admission, student information, classes, time table, transport, attendance, library, salary and expenses, examinations, performance, grades, hostels, security and reports. Many of the software providers allow their clients to choose from the available modules to suit their needs. In this paper, an attempt has been made to discuss the concept of E-Governance and use of latest application and initiatives in education sector.

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Good Governance

The concept of effective governance is not new, it needs to be thoroughly innovated to be able to effectively deal with the new challenges confronting us. In this context, e-governance can facilitate in improving transparency, participation providing speedy information, dissemination, improving administrative efficiency and public services in all the aspects of education. Governance is not only participatory but also accountable and transparent for the smooth functioning of the system.

Concept of E-Governance

E-governance solution in the field of educational sector has changed the way administration, which is designed to make the system user-friendly, time saving and cost saving also. Many of them are flexible enough to adapt to the changing educational environment efficiently and quickly and effectively. It is an integrated solution in the education sector that facilitates the processing and maintenance of large volumes of information such as: registration, admission, student information, classes, time table, transport, attendance, library, salary, expenses, examinations, performance, grades, hostels, security, reports, management, transport, staff details and fees among various departments in an institution.

E-governance enables the Government and Citizens to access easily, to improve new class of quality of services and to provide multi-channel service delivery system. The vision of e-governance is to transform service delivery through the use of IT and Multimedia.

E-governance can be defined as delivery of government services and information to the public using electronic means. Such means of delivering information is often referred to as ICT. Use of ICTs in government facilitates an efficient, speedy and transparent process for disseminating information to the public and other agencies, for providing services, and for performing administrative activities.

E-governance requires several elements of good governance, such as transparency, accountability, participation, social integration, public financial management reform and development. It includes a very broad range of services for almost all segments of society. The most common areas of e-governance applications a

Need of e-governance?

The purpose of implementing e-governance is to enhance good governance. Good governance is generally characterized by participation, transparency and accountability. The recent advances in communication technologies and the Internet provide opportunities to transform the relationship between governments and citizens in a new way, thus contributing to the achievement of good governance goals. The use of information technology can increase the broad involvement of citizens in the process of governance at all levels by providing the possibility of on-line discussion groups and by enhancing the rapid development and effectiveness of pressure groups. Advantages for the government involve that the government may provide better service in terms of time, making governance more efficient and more effective. In addition, the transaction costs can be lowered and government services become more accessible.

Benefits of e-governance in an education sector

The benefits of e-governance in an educational sector are improved efficiency, increase in transparency and accountability of educational administrative activities convenient and faster access to services, and lower costs for administrative services. The multi-faceted benefits of e-governance can be described as under these points:

- Increase the efficiency of the various departments and reduces duplication
- Preparation of reports becomes easy and quicker.
- Harassment of the students is reduced.
- Easy online information and submission of forms and payment also becomes almost immediate.
- The management, faculty members, students and administrative staff get connected to the each other more easily leading to enhanced efficiency in delivering service by the way of faster dissemination of information that on a very low cost.
- Equal opportunity to access to information is provided regardless of one's physical location and physical disability thus removing distance barriers.
- Leads to significant reduction of transaction costs, time, space, and manpower.

Educational Administration

Educational Administration is a discipline within the study of education that examines the administrative theory and practice of education in general and educational institutions and educators in particular. The field ideally distinguishes itself from administration and management through its adherence to guiding principles of educational philosophy.

According to Graham Balfour "Educational administration is to enable the right pupils to receive the right education from right teacher, at a cost within the means of the state under conditions which will enable the pupils best to profit by their training."

The concept of educational administration may not be totally different from what we are familiar with in the concept of administration. Education at different levels has its objectives; the most important of the objectives that cut across all the levels of education is teaching and learning. It is the function of the school to produce educated and enlightened human beings who would be able to contribute positively to the development of the society.

Characteristics of Educational Administration

- Making all efforts and agencies work together in unison.
- Assisting in the realization of the aims and objectives of education.
- Rendering service to society in its progress and that of the individuals.
- Concerned with diverse human beings, the teachers, staff, students, parents and public, and coordinating of their.
- Concerned with all those activities undertaken, and fullest utilization of resources, for education.
- Its purpose through the procedure of organizing, ordering, facilitating and improving the efforts of people in the realization of the goals of education.

Government Initiatives

The communication technology is advancing very swiftly from single channel transmission in 1962 to 120 channels in 2005 and even more now. In education also, beginning with the use of Satellite Instructional Television Experiments (SITE) in 1974 -75, it has advanced to several

stages such as Countrywide Classroom (CWCR) for Higher Education in 1984, Gyan Darshan in 2000, and it has reached to now 24-hour Vyas Higher Education Channel and Eklavya Technology Channel in 2004. Technology has also advanced to enable 24 hours Worldwide Internet Communication.

Digitization and Electronic Books Management

Considering the impact of IT in every discipline, new technologies are emerging even in the library systems, giving way to e-books (electronic books), as well as digital knowledge centres and their access mechanisms. Online catalogues, full-text search and retrieval facilities, automated record keeping, computer-based decision-making and so on. A digital library could provide access to an unlimited number of copies at the “touch of a button”. A text or monograph, which is available in an electronic form that can be obtained electronically, with the help of ICT it is also easy to carry large number of e-books in pocket PC at one time. The main benefit of digitization service is that it cuts down the requirement of papers, saves office space and cuts down the time needed to process the same information. With this service, we can convert the physical data in form of papers, thesis, research papers, magazines, books, records, forms, mark sheet, survey data and others into the digital format which is readable by all computers and is easily processed by users.

- Use of scanner and other software tools to scan a page/file in to the computer and converting the scanned data in to readable/editable characters. Software includes OCR software. OCR stands for Optical Character Reader; they can read the data from image files.
- Use of computer typists/data entry operators as they are called to punch in the data on to a desired file format. (MS Word, Excel, Access etc) Both or either can be used for successful digitization works.

Digital data can be easily stored, backup copies can be maintained as well as distributed quite easily. Hence, with our digitization services the cost of further digitization goes down enormously. This also ensures faster and simple sharing of the data.

Benefits:

Universal service and access: Each library and information centre would be guaranteed, as a matter of public affordable access to and use of networking tools. Universal service policies for libraries have to be evolved to provide telecommunication facilities at affordable rates.

Intellectual property issues: This includes issues of copyright, which may support or inhibit the library's role as holder and lender and may, in some scenarios, even affect the ability of library members to freely browse material in digital formats.

The Developing Library Network (DELNET), promoted by the National Informatics Centre, Department of Information Technology, Ministry of Communications and Information Technology of the Indian government, is an example of e-governance in the field of library and information science.

The aims and objectives of DELNET are:

- to collect, store, and disseminate information from member libraries;
- to coordinate efforts for suitable collection development and reduce unnecessary duplication;
- to promote resource sharing among the member libraries through the development of a network;
- to create new systems in the field of library and information science;
- and to apply the results of research, offering technical guidance to member libraries, facilitating and promoting delivery of documents manually or mechanically, etc.

DELNET has actively engaged in the compilation of various union catalogues of the resources available in member libraries: it has also created the union catalogue of books, union list of current periodicals, union catalogue of periodicals, CD-ROM database, a database of Indian specialists, a database of periodical articles, a union list of video recordings, an Urdu manuscripts' database, a database of theses and dissertations, DEVINSA database, sample databases of language publications using GIST technology, and several other databases.

Wireless Campus (Wi-Cam)

In present scenario, campuses and educational institutes require connectivity for an expanded array of wireless computing devices and student services. Our Wireless campus (Wi-Cam) solution offers an innovative, holistic approach to campus communications that takes advantage

of emerging technologies. Our Cost-effective solution shall transform your campus into a future-ready, wireless-friendly environment.

Benefits of Wi-Cam :

- Greater Campus Safety.
- Improved Campus Communication.
- Anywhere Access to Academic Tools and Resources.
- Fully Hosted System.
- Students and Staff Access the Features Through the Web.

E- Learning

E-Learning is the use of technology to enable people to learn anytime and anywhere. E-Learning can include training, the delivery of just-in-time information and guidance from experts. E-learning covers a wide set of applications and processes including computer-based learning, web-based learning, virtual classrooms and digital collaboration. The e-Learning System has powerful capabilities for managing courses and tailoring instructions to meet student needs. Electronic learning or e-learning is a type of education where the medium of instruction is computer technology. It involves planned teaching or teaching experiences that use a wide spectrum of technologies mainly the internet to reach learners at a distance.

Benefits of E- Learning:

- E-learning has become popular amongst educationists because of its strengths and advantages provide the better access to educational resources from outside the institution on a global and instant basis.
- Increased and flexible interaction with student through e-mail and discussion forums.
- It is an opportunity for international, cross-cultural and collaborative learning. Communication capabilities allow students and faculty to discuss issues online, to schedule collaborative sessions and to form groups that enable teamwork across geographic boundaries and extend learning beyond the classroom.

Distance Education System

Since traditional education system was unable to cope with the current needs, therefore, Distance Education System took birth to cope with the current and future needs of the educational Development. The use of ICT has extended the scope of offering educational programmes at a distance. The off-campus delivery was an option for students who were unable to attend the classes regularly. Today many students are able to make this choice through technology – facilitated learning setting. This helps in time and cost saving and extending courses of choice to students of different backgrounds, cultures and perspectives. Learners are free to participate in learning activities at their convenience through online technologies. Eminent teachers from different parts of the country and abroad can be utilised for teaching at their convenience through mobile technologies and seamless communication technologies that support 24*7 teaching and learning like NPTEL (National Programme on Technology Enhanced Learning, India 2007), EKLAVYA Technology Channel, India, 2007, etc.

Radio Frequency Identification (RFID)

RFID is wireless technology that uses Radio Frequency (RF) electromagnetic energy to carry information between an RFID tag and an RFID reader. In recent years, automatic identification procedures have become very popular. Rapid development in information technology has brought a revolutionary change in the field of library system and services. RFID have been used to improve the quality of services and to theft detection in the libraries. It is used for library transaction, inventory function and theft detection system. The system provides an intelligent way for libraries to maximize their investment in RFID with optimized memory. RFID systems offering, and has built strong partnerships with library automation equipment providers to offer complete integrated solutions for libraries management.

Benefits of RFID:

- RFID tags replace both the bar code and EAS (anti-theft) device allowing for much faster conversion of library materials in new branches. In existing libraries, RFID tags can co-exist with existing EM anti-theft systems.
- Book returns can be automated with check-in.
- Fast on-the-shelf inventory allows for much better accuracy in collection management

Mobile phone Technology

The mobile phone and the Internet have succeeded in transforming our lives in ways that could hardly be envisioned a decade ago. Not only has the Internet revolutionized information dissemination, it has also exposed us to new ways of thinking and ideas.

Wireless technology can be used anytime anywhere for the teaching and learning process. 3G Mobile Learning is a great innovation in education offered by mobile technologies which decreases limitations of learning with faster access to the web. International Mobile Telecommunications-2000 is better known as 3G or 3rd generation communication system, it increase efficiency and effectiveness of teaching and learning process. Using ICTs into learning, teaching, and into the administration and management of educational institutions is becoming the need of the time. ICT offers a range of new possibilities for the administrators, teachers and students.

Conclusion:

The planning for efficient administration of educational institutions, increasing Global communication skill, to achieve the world class standard it is necessary to have a improved collaboration and access to information available in all the parts of the world are possible only by introducing IT in Educational Sector with e-governance as a security for maintaining standard. Today the IT has become an integral part of life of the people in the world. It is the time to applying the skill for the betterment of Indian educational system as well.

The e-governance needs security for smooth information flow, best practice database and enhanced capacity for information analysis etc, Government should support by enacting favorable legislations and updated amendments for maintaining standards in the educational process and improvements in the related field. It requires completely new infrastructure, procedures, policies and working skills for producing and collecting online information. With the advent of ICT, electronic governance is an emerging trend to re-invent the way the government works, becoming a new model of governance. Such a comprehensive and integrated system can also enable authorities to analyse the performance of one of the best performing institutes and compare it with other schools and colleges to identify the gaps. Also, the system can obtain

feedback from students to modify course curriculum if deemed appropriate by the authorities. This will allow all the low-performing schools and colleges to reduce the gap with better-performing institutes. It will be help in the betterment of the higher education in the country and increase the number of employable students.

Education system can fully equip our children to meet the ever evolving demands in today's highly-competitive environment; the education system needs to be made more efficient and effective by implementing e-governance. It is high time our educators think in terms of imparting what is known as life-long education, or, more aptly, life-long self-education

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