

INFORMATION TECHNOLOGY AND ADVANCE COMPUTING AND THEIR INTERACTION FOR HEALTHY EDUCATION, TEACHING AND LEARNING: THE IKM APPROACHES

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ABSTRACT

IT and computing technologies really changes the entire world of information management, more clearly the information transfer cycle. Today with the help of computing and IT education and educational activities no doubt have got wider. This education informatics is also called as Education Technology. Normally Education Technology helps in knowledge identification, selection, organization and proper delivery to the students, teachers, researcher depending upon need. The Edu Tech model may be full text based or partial. This paper describe so many aspects of Information Science like application of IT in educational field; more clearly Education Informatics, advantages, some new education models are also described briefly in this paper.

Keywords: Information Technology, Digitalization, Education Technology, Computing, Information Management, Knowledge Delivery, Education Informatics, Information Science Practice.

INTRODUCTION

Information Technology is responsible for Information processing related job with the help of tools, techniques and technologies. Information Technology basically a study and academic area as well as practice field for information activity with the help of various kind of technologies like database technologies, multimedia technology, information security, networking technology ,software technology and so on. There are so many present teaching learning areas where IT can be implemented like class room teaching, online teaching, LCD projector, display, web enabled education systems and so on. For creation of virtual class room also it is required.

OBJECTIVES

1. The main aim of this study includes:
2. To gain knowledge about Education Technology and Education Informatics;
3. To learn about the contemporary IT and computing application and utilization in the field of Education;
4. To know about the emerging education informatics scenario ;
5. To know about E learning and its present requirement;
6. To learn about the new Educational model, its development and application with the help of IT;
7. To find out some new IT based Knowledge delivery model in Indian scenario;

8. To find out the main challenges and issues related to IT application in knowledge delivery and storage.

METHODOLOGIES

For doing this research work several ways were considered and used. We considered the website of UGC (government of India) to know the status of the universities in India. The link from there took us to know the status of using IT in their organization. We also handled the primary source of information and the journal in the field of Education, Information Technology to judge the IT integration with educational field. Expert's comment was also an important gradient in this study.

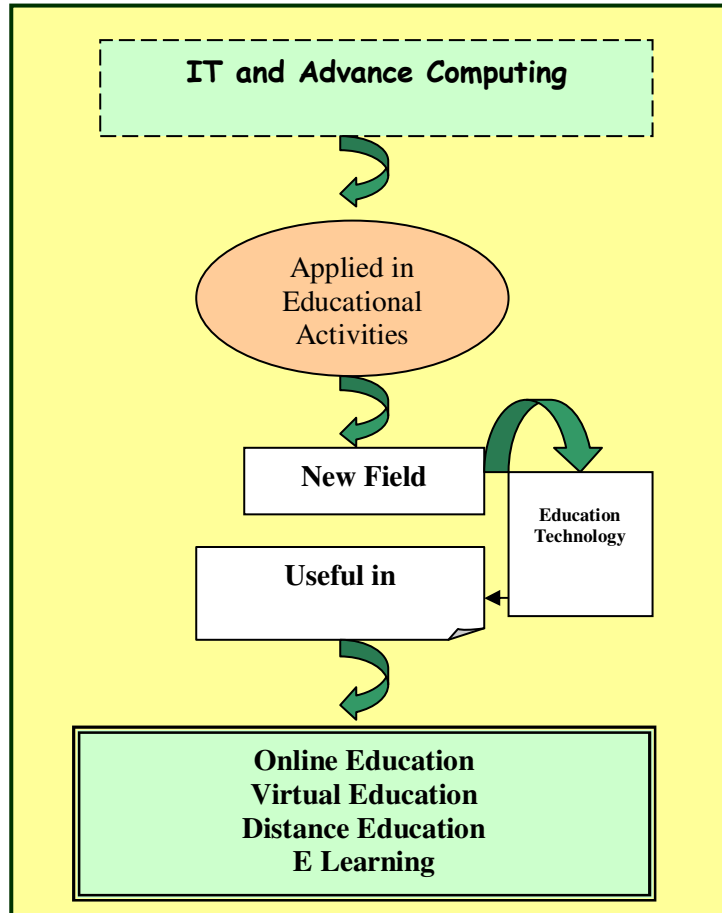


Figure 1. Education Technology and new Educational Mode

Information Technology and Advance Computing

Information Technology is an Applied Science and Technology field dedicated to the information collection, selection, organization and management with the integration of several computing tools and technologies like- software systems, multimedia technology, networking technology, database systems and so on.

On the other hand advance computing is a computing approach in which several modern and advance computing aspects deal like soft computing, cloud computing, parallel computing, grid computing. These computing approaches help in teaching and learning process. Cloud

computing is no doubt promoting e-learning, virtual and online campus and related facilities in many ways.

IT and Education: Education Technology

The Information Technology and Education Science and their integration create new technology focused content management field called Education Technology. Virtually Education Technology deals with both the educational and technological aspect. Practically Education Technology is actually nothing but the study and ethical practice of facilitating learning as well as improving performance by creating, using and managing tools, technologies, computing, Networking, Web and database technologies basically considered as important gradients for the successful Education Technology practices.

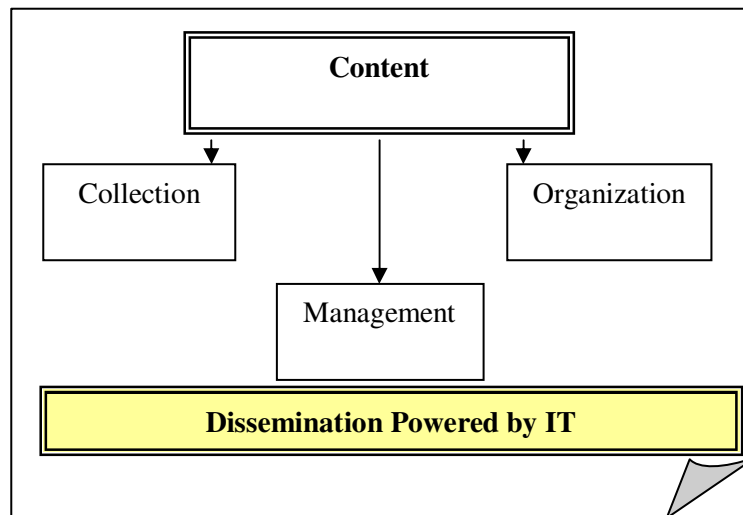


Figure 2. Education dissemination via Computing

IT and Advance Computing Based Education and Information Management: Emerging Scenario

- a. Online and virtual class room creation is possible with the help of ways.
- b. The projector, wide and large screen may be helpful in many ways.
- c. The web 2.0 and even 3.0 may be integrated to the entire arena of Education Technology.
- d. The online and streamed video website may be helpful in higher studies particularly in PG and research studies.
- e. Proper student and teacher relationship is emerging via smart phone or related devices;
- f. Sophisticated website and web portal for tutorial and assignment is a good option for ease of knowledge transfer cycle.
- g. Home work, assignment, student work and other educational activities with the help of Social Networking site is increasing day by day.
- h. Today most of the operating systems are able to perform or run e learning matters. So cross platform support is possible.

- i. The application of cloud computing is emerging and by this tool it is possible to virtualized the content of learning and even one can able to 'write on the brand' and even share the computer on standby mode.
- j. Students can now interact with the best business minds and entrepreneurs for the practical knowledge gaining;
- k. Dashboard facility is also being popularized by which one student can plan study of according to the need;
- l. The personality development, staff skill development can also possible to learn through ready and live video and chat systems;
- m. Modern advance computing tools also helps in content management and presentation many a ways.



Figure 3. Emerging Education Informatics

E Learning and Requirement

E learning and electronic learning is a kind of learning in which computing and other electronic gadgets and media play an important role. E learning is a most advance educational mode in which better interaction and effective communication is possible in between teachers and students. The most advantages of this mode is possible on distance education, this makes distance education much more effective modern and sharable. Basically e learning is included so many facets like online learning, distributed learning, virtual learning, network and web based learning and so on. The requirements for building e learning are:-

- a. Ready electronic content and knowledge or related facts;
- b. Electronic machine and equipment like server, network machine, computer, database for collection, management and dissemination of information;

- c. Able and qualified faculty members, industry mentors for better interaction with student and habituated with the computing and e learning environment;
- d. The professional trainings are also required for the student and user for using e learning strategies.

IT and New Education Mode

Information technology and other modern tools and technologies gives us new opportunities today, new emerging educational mode create a revolution for scientific courseware, teaching, learning and more over sophisticated content delivery. So, the emerging educational modes fully depend on IT and Emerging fundamentals:-

1. Online Academic Education:-Online education and its popularity is gaining popularity day by day. So many universities offers bachelor, masters and vocational training programmes through the online education mode. The main benefit of this system is the online mode admission, classes (content based and video), assignment, term end examination and even result declaration also. In India online education is mainly imported by SMU, IGNOU, CMJU, Annamalai, CVRU and some other educational players.

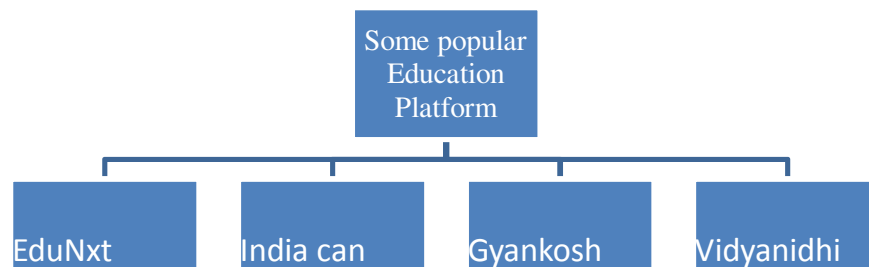


Figure 4. India's popular Education platform

2. E-Learning: - E- learning is also more or less like online education but this education mode does not guarantee to provide all the services via internet as like online mode. The CD Rom, recorded DVD, Pen drive, printed CD ROM based book is considered as valuable resource for this.

3. Distance Education: - Education is another important mode where postal services like Indian post and couriers services reserved first priority. In distance education mode one can get study material of their UG/PG and other courses. Many a times students get online admit cards, study material or result in this mode with the help of IT and computing like PTU, PU, SMU and so on.

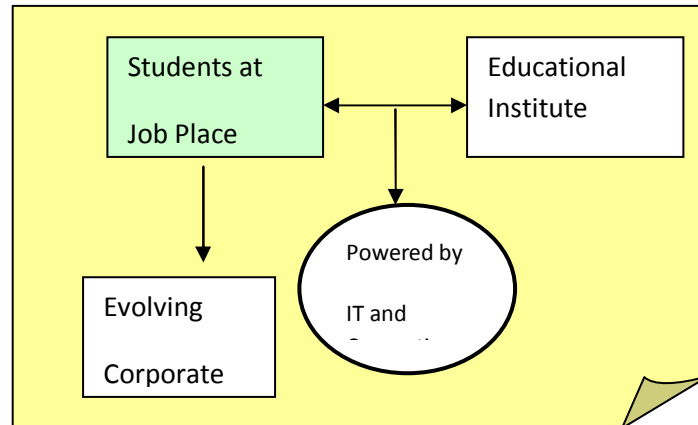


Figure 5. Origin of Learn while you Earn powered by Education Technology

4. Corporate Integrated Programmes / Education: - Today on site job training programme and educational opportunities are increasing in most of the organizations, census organization and mostly MNC. The main benefit of corporate and industry education programmes are the employee of concerned organization no need to go to the universities. Here university faculty members are teaching through the websites and satellite technology and students from the organization can interact with the teachers. However in many cases apart from online knowledge delivery the teachers also come to MNC or concerned organization for sophisticated knowledge delivery.

5. Private Education: - In private education mode, admission, content and course ware preparation, exam all are fully dependent on candidate. In some cases now private candidate can also get the benefit of IT and computing. Universities in this mode do not provide any study material but student may use online educational notes and files, articles as per the need.

New Model for Knowledge Delivery

Due to advancement of IT interaction and integration with educational aspects so many new knowledge delivery model is developed in India, particularly at the university level.

Edu Next: - Edu Next is university knowledge storage and delivery model developed by Manipal Group in collaboration with Microsoft Ltd. The main advantage of this model is easy content, fulltext, video availability and video chat with professional and academic staff. It is available round the clock and can be used by the registered user. The main advantages of this model are including 3 A's-Affordability, Accessibility and Appropriateness; 4 C's- Content, Collaboration, Communication and Computing.

E- Gyankosh: - This is one of the important digital repositories in Indian higher education established by the IGNOU which is able to storage, index, preserve, disseminate and share the digital learning system around the world online.

In India there are so many E learning solution provided like:-

- a. Techno score;
- b. Educomp;
- c. Sify;
- d. I prof;
- e. Youcan and so on.

FINDINGS

1. IT and advance computing specially cloud computing is emerging rapidly for virtualization of content and other resources;
2. Online educational mode and industry integrating education is emerged rapidly due to impact of ICT;
3. Finance and adequate Infrastructure is the main burden of ICT in Educational institution in India specially in state Governments universities;
4. IIT's and other need much more attention.

SUGGESTIONS

1. Apart from correspondence courses, the university should import online and e learning in the flexible education mode;
2. Universities, Colleges, Schools should start the e learning project using projector, wide screen and other IT gadgets;
3. Government should take immediate initiatives for establishment of new digital repositories;
4. There should be adequate IT drive programmes for the schools children and faculty member, old aged professor for building smooth ICT depended Universities.

CONCLUSION

IT and Information Systems truly changed the entire arena of Information Transfer Cycle chain around the world. The impact of IT and advance computing emerged during the 1990's and as a result now many educational modes are coming with various name viz. e learning, online education, virtual education, web based education and so on. Today gaining knowledge is not at all a big problem with the help of e learning. However online education programmes of the universities are giving opportunities to get higher academic degree with 'learn while you earn' or earn while you learn basis. This approach creates job with aliveness.

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