

Innovative ICT based Teaching, Learning and Evaluation in Higher Education.

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Abstract – Information and Communication technologies are currently being used in education to assist students to learn more effectively by providing teachers with access to wide range of new pedagogy. We can use ICT for all subjects for better understanding it also enhance subject learning. We need to increase access and bring down the cost of education to meet challenges of illiteracy and poverty. Education should meet the needs of variety of learners therefore Information technology is important. Using IT or ICT in education one can learn any time, one can use collaborative learning. Using multimedia in education e. g Audio visual Education , planning preparation, and use of devices it includes sight , sound or both for Educational purposes.

Key words - ICT meaning ,Definition ,Importance, Role of ICT in Higher Education, Innovative ICT based Teaching in Higher Education, Innovative ICT based Learning in Higher Education ,Innovative Evaluation in Higher Education, Use of ICT in 21st Century, Challenges of using ICT in 21st Century, Different strategies for applying ICT in Higher Education.

Objective- To find the different roles of ICT in Higher Education.

Research Methodology- This present study is based on Secondary sources like books , articles , thesis, University news etc. The method used is Descriptive Analytic method.

Findings –From this Descriptive Analytic Research method we can conclude that ICT plays major role in 21st century. Using and acquiring the knowledge of ICT students will become effective learners.

Conclusion- ICT is one of the major factors for producing the rapid changes in our society. Though it has many challenges in 21st century, but we can overcome this situation by giving proper Training to teachers .ICT can provide diverse options students with different styles of



learning .ICT has a great impact on our daily lives , it has become an integral part of everyday life for many people.

Meaning of ICT , Definition-

- ICT =IT + other media. It has opened new avenues like Online learning, E-learning, virtual university, E-coaching, E- Education, E- journals etc .
- ICT refers to technologies that provide access to information through telecommunications .It focuses on Communication technologies.
- It can impact student learning when teachers are digitally literate and understand how to integrate it into curriculum.
- ICT refers to technical tools and services that used operate network- based monitoring and control device , telecommunications , smart building management systems , audiovisual processing , transmission systems, broadcast media.
- Components of ICT are –Communication Technology

Cloud computing

Software

Hardware

Internal access

Data

Importance of ICT in Higher Education-

- ICT has become a fundamental requirement for modern society.
- ICT sector has both a direct and indirect effect on economic development.
- It can improve the quality of human life.
- It provides wider knowledge and can help in gaining and accessing information.



- It focuses on communication that includes wireless network ,internet as well as communication mediums.
- ICT provides quick access to affordable and better means of communication.
- ICT also aids people to overcome their disabilities. Screen reading or magnification Software assist blind or partially sighted people to work using an ordinary text instead of using Braille.
- ICT can improve security of the data.
- It is useful for research on space.
- ICT has increased transportation systems.

Role of ICT in Higher Education-

1. ICT helps teachers to interact with students.
2. It helps them in preparation of their teaching, providing feedback.
3. It helps in effective use of ICT software and hardware for teaching- learning process.
4. ICT may also be a significant motivational factors in students, learning and can support students engagement with collaborative learning.
5. It plays important role in distance learning .
6. ICT helps teachers in both pre -service and In -service teacher training.
7. It helps in effectiveness of classroom.
8. ICT used as an ‘Assisting Tool’.
- e. g. Making Assignments, Communicating , collecting data , documentation.
9. ICT is medium for Teaching and Learning.
10. Teacher training institutes can develop their curriculum using ICT.
11. Student- Teachers are transformed into self learners.



Innovative ICT Based Teaching in Higher Education-

- 1) ICT helps teacher to motivate students and growing interest in learning.
- 2) ICT helps teacher for organizational preconditions.
- 3) It is also helps teacher for personnel support.
- 4) ICT helps teacher to design educational environment.
- 5) ICT helps teacher to identify creative child in education institution.



- 6) It removes traditional method of teaching and prepare teacher to apply modern method of teaching.
- 7) Technology provides different assessment tools such as check lists, rating scales and rubrics to assess the 21st Century skills such as creativity, problem solving ,decision making , leadership skills such as criteria for project based learning.
- 8) Using Power point create presentation of lessons on different topics.
- 9) Using Microsoft excel create time table , class list , grade book , time live, work book and chart .
- 10) Using Microsoft publishing create student/ Teacher publications like news , letter , poster brochure.
- 11) Teachers have to be Blended teachers mixing digital activities and non digital ones.
- 12) For Higher Education we can use different Innovative Method of teaching using Information and communication Technology .

- 13) For **Languages** we can use **Gruffalo App** , is one example that allows children to record their voices in time with the story being told they can listen to their own voice throughout the story as it is being told. There are also others tools such as multi – link headphones , digital cameras , webcams , audio recording software , walkie - talkies , telephones that can also encourage the development of speaking and listening skills.
- 14) In **Mathematics** one can use ICT as a tool to perform calculations , draw graphs , and help solve problems. Using ICT as a tool , students can spend productive time developing strategies for solving complex problems and develop a deep understanding of the various Mathematics topics. Maxima is an **Algebra** solver Software . The Program is based on Computer Lisp and works with all POSIX principles such as Linux , Unix and BSD . For drawing it uses Gnuplot. Geogebra is a Math Software that is useful for both Teachers and Students.
- 15) ICT can provide access to a huge range of resources that are of high quality and relevant to Scientific Learning. In **Science** Microcomputer – Based Lab (MBL) tools can be used in Science inquiry and nature as a source of information.

Innovative ICT based Learning in Higher Education-

- When technology is integrated into lessons , students are expected to be more interested in the subject they are studying.
- Technology provides different opportunities to make learning more fun and enjoyable in terms of teaching some things in new way.
- Students can gain the skills they will need (while Learning) to be successful in the future.
- ICT helps teacher to motivate students and growing interest in learning.
- ICT encourages the students to have control on lesson , pace on succession , substance and input which upgrades proficiency of learning.
- Learning in a digital society brings new challenges to schools and since pupils will now be digital natives , schools must address these challenges .



- ICT enables self paced learning through various tools such as assignment , computer etc.



Innovative ICT based Evaluation in Higher Education-

- There are many forms for online assessment for example we can build tests in **Testmoz Software** ,use a variety of question types including multiple choice ,true/false , fill in the blank and essay.
- We can create a test or quiz using **Google forms**.
- We can use Classroom in school to streamline assignments , foster communication. Using Google Account in **Google Classroom** we can create quizzes and assignments.
- The ICT can be made use in the evaluation , one such attempt has been made by Sansanwal and Dahiya (2006) who developed Computer Based text in Research Methodology and Statistics. This text can be used by individual Student , to evaluate his learning , even the teacher can also used it to access their own understanding of the subject such software can be used for internal assessment.

Use of ICT in 21st Century –

- 1) ICT as a popular tool for organization and management in Institutions.
- 2) ICT helps teacher to design educational Environment.



- 3) ICT helps teacher to access up to date students and school data anytime anywhere.
- 4) It helps to develop understanding and application of the concepts.
- 5) With the help of ICT , teacher can easily identify the slow learners, problematic child as well as creative child in an educational institute.
- 6) ICT can be used for giving individual Remedial Program.
- 7) ICT can also provide powerful support for educational innovations.
- 8) ICT creates awareness of recent methodologies.
- 9) ICT improves poor handwriting and language skills through word processing.
- 10) It develops communication skills and awareness of different audiences.

Challenges of ICT in 21st Century-

- Lack of Network Connection
- Limited Accessibility
- Lack of Effective Training
- Lack of Trained Teachers in School , Colleges ,Universities, Institutions.
- Limited technical support in Universities and Institutions.
- Lack of computers
- Lack of quality Software
- Technical Problems

Different Strategies for Applying ICT in Higher Education-

- 1) Visualization of Information
- 2) Implementing Technology in the classroom.
- 3) Inquiry Based Instruction
- 4) Providing Adequate Infrastructure and Technical Support
- 5) Applying ICT in all subjects.
- 6) Applying new pre-service teacher Education Curriculum
- 7) By using application software , using multimedia , Internet email, understanding system software.



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