E-Learning Methodology

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Abstract: *Education is an integral part of our daily live. Pedagogy plays a vital role in education. The teaching and learning methodology ensures the quality of education. Higher Educational Institutions has a significant contribution towards the nation building. The outbreak of Corona Virus or COVID – 19 pandemic had severe impact on each and every aspect of life. The Lockdown imposed in the entire country transformed the way daily activities were carried out as health and safety became the prime concern for one and all.. Education system also witnessed huge changes All the Educational Institutions were closed. The teaching learning methodology shifted from offline to online mode completely. E-Learning methodology was developed for ensuring the continuity of teaching, learning examination, evaluation thereby securing the future of the students, maintaining the academic viability and achieving the educational goals of the higher education institutions. This paper studies the various practices, mechanism and standards and methodologies of E-Learning for assuring the quality of education in Higher Educational Institutions.*

Keywords: Pedagogy, E-Learning, Methodology, Higher Education, Teaching, Learning

I. INTRODUCTION

E-Learning means the learning with the help of electronic resources. E-Learning can be carried out of the classrooms also. E-Learning comprises of a network of computers, smart phones, tablets and the Internet for facilitating the delivery and transfer of education, knowledge and skills to the masses. The rapid growth of technologies like Information and communication technology., Internet of Things, Virtual Reality, Artificial Intelligence and Machine Learning forms the base of E-Learning system and has contributed to the wide acceptance of E-Learning system. The ease, speed and convenience of accessing and sharing knowledge anytime, anywhere led to the faster adoption of E-Learning system. Visualization concept helps students in easy understanding and retention of the content delivered. The concept of E-learning has a significant contribution in the progress of a nation. Various platforms of E-Learning systems has become an integral part of education due to the requirement of online remote learning in present scenario. Academicians, Researchers and Industry Professionals are benefitted in terms of understanding various concepts and methodologies of E-Learning which helps in benefitting the masses at large.

1.1 Images for E-Learning

Some of the E-Learning methods are as follows:

1. Web eLearning
2. Virtual Classrooms
3. Video Modules
4. Specialized eLearning
5. Social Media Training
6. Micro learning
7. Mobile Learning

The Top eLearning Platform Providers

- MOOC: Swayam
- Coursera
- Udemy
- Skill share
- LinkedIn Learning

Some of the common E-Learning technology is as follows:

- Mobile Application based
- Simulation based
- Adaptive learning environments based
- Open Source e-learning tools based
- Context based

Categories of e-learning

- Courses Learning.
- Informal Learning.
- Blended Learning.
- Community Learning.
- Knowledge Management.
- Learning Networks.

Features of E-learning:

- Professional knowledge data based knowledge networking :
- Idea and concept based learning:
- Content sharing and learning in real time to masses
- Continuous training and development programs
- Flipped Classrooms

Features of E-Learning Platforms like Zoom, Google meet, Gogle Classroom, Microsoft Teams, Cisco WebEx etc

- Poll mechanism – Gets a quick pulse of the audience
- Break out rooms – Divide into smaller groups for discussion, activities competition etc
- Question and Answer, Quiz, Puzzle – Give everyone an easy way to ask questions
- Recording – Record meeting for on demand viewing
- White boarding – Collaboratively brainstorms and sketch ideas.

E-Learning Pedagogy consists of

- Content Dissemination
- Content Assimilation
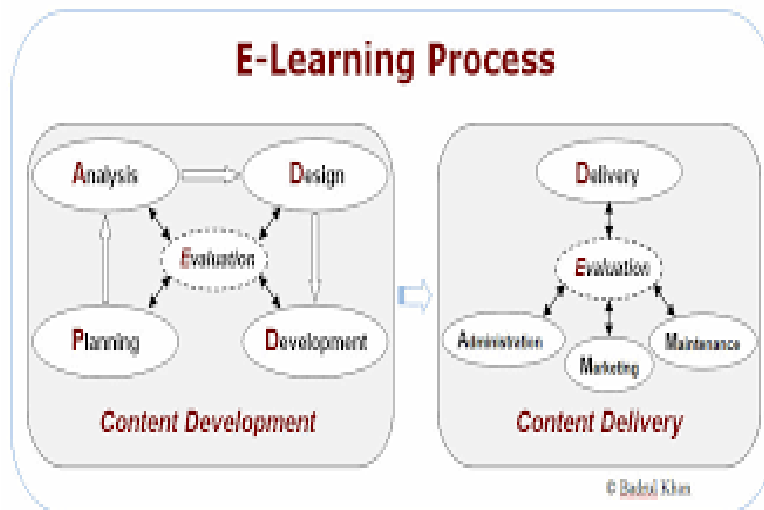- Content creation

E-Learning approach

- Active Learning – Students centric, Collaborative mode, based on case, simulation, live project, focus on content creation
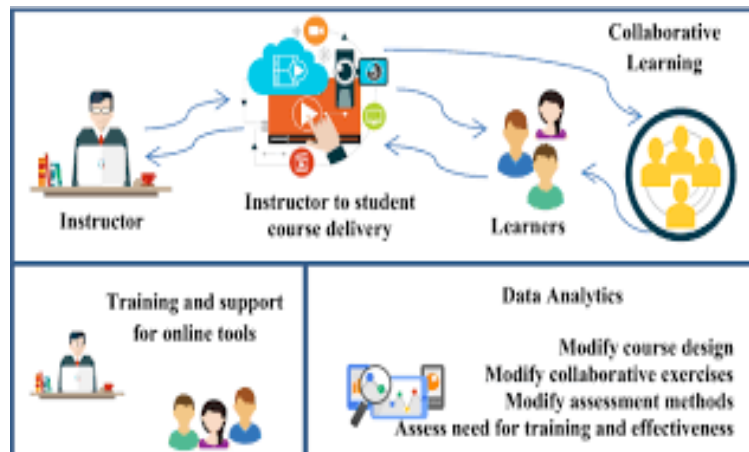- Passive Learning – Faculty centric, lecture mode, focus on content dissemination

E-learning systems can be classified as:

- LMS - Learning management System.
- CMS - Content management System
- LCMS - Learning Content Management System

E-Learning Methodologies

- It depends on two types of interaction in learning.
- Interaction between the teachers and the students.
- Interaction between the students and students.

E-Learning Tools

- There are three types of e-learning tools:
- Curriculum tools: It facilitates classroom learning by proving study material, projects, assignments and other resources.
- Digital library tools: It helps to find and collect the required and correct facts figures, data and information.
- Knowledge representation tools: It facilitates to represent, capture, formulate and develop knowledge through visualization.

Norms for E-Learning Methodology

- Course content design plays a significant role
- Learning objective, delivery, value and outcome should be specified clearly
- Matches with students curriculum, skill, career etc
- No information overload
- Creative content using multimedia and animation
- Keep the class alive and participative democratize
- Re design assessment techniques- check the relevance of grade / rank concept
- Continuous Participative education evaluation
- Develop student's analytical thinking, cognitive ability, problem solving and decision making ability.
- Develop case based teaching methods. Protagonist and antagonist approach should be included.
- Prepare and strengthen the foundation of the students
- Online changes in personality – introvert to extrovert
- Behavior and not the Technology should be the controller

- Take discussions out of the class
- Devise a communication plan. Provide individualized message or acknowledgement for student's contribution
- Put different set of questions to each student to create variety.
- Bring the mathematics, calculation, evaluation and comparison for effectiveness of the solution.
- Right questions lead to right answers
- Write and discuss the positive points of the class
- Assimilate answers with technology tools
- Ask polarizing questions, make two sides or groups then ask for role play so that students to not deviate from the topic.
- Put the structure of the discussion on paper
- Use gamification and simulation as much as possible. Simulation has many dimensions. It helps in solving complex management problems and decision making.
- Ask the students to summarize the learning and submit.
- Teachers should also put their summary. The points of mismatch is the learning.
- Summary should be open ended questions also not only the solutions.

New Trends of E-Learning
- Subjective online examination can be conducted with the help of technology like, thereby retaining the authenticity of the examination.
- Online Internships/Placements
- Study from home
- Digitalization is future
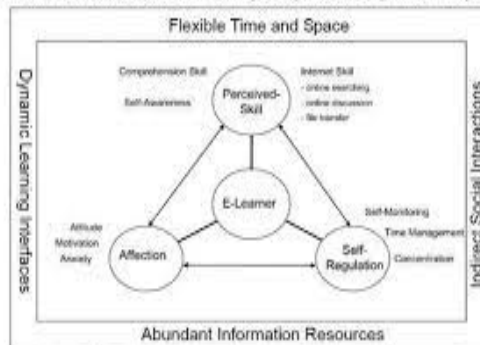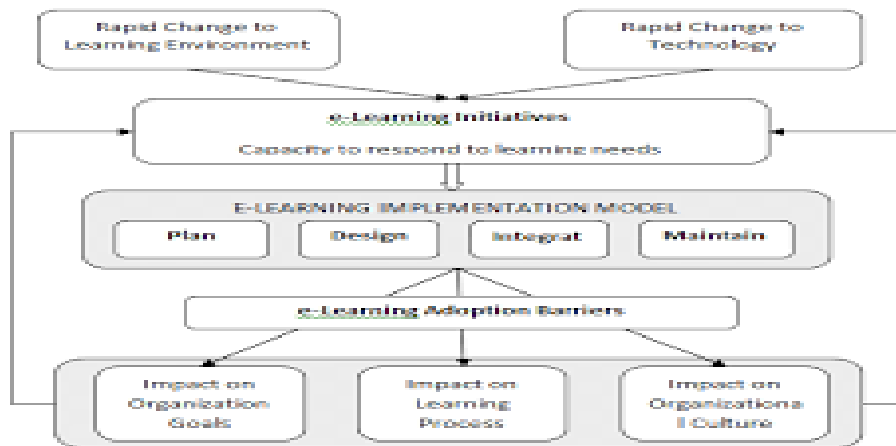
E- Learning Model

Fig-2

Figure 3.2 . The Model of Strategic e-Learning- Metacognitive perspective

Factors for effective implementation of E-learning Model

- Both Teachers and students are learners.
- Teachers need not only to teach.
- Faculty should maintain a balanced ratio of teaching and research.
- Research should be started in classroom.
- Develop skills to adopt technology and digitalization.
- Major areas like Marketing, HR and Operations will go digital.
- Develop new digital products and system.
- Conversational Artificial Intelligence like feedback submission, question & answer on Apps Websites.
- Automation for Higher Education Institution.
- 4D Model comprising of data collection, drafting, discussion and documentation.
- Focus on knowledge gap.
- Develop better understanding of phenomenon of case study.
- Teaching should focus on clean learning outcome.
- Teaching – learning should give rise to alternatives and dilemmatic questions and the same should be discussed between teachers and students.
- Theories should be linked to real world situation.
- CT Scan methodology of case study is the latest way of diagnosing the problems of any case.
- SWEAT Analysis versus SWOT Analysis evaluation for case study resolution
- (SWEAT - Strategy, Work Ethics, Endurance, Administrative Capability and Task Knowledge) and (SWOT - Strength, Weakness Opportunity and Threat)
- Develop more Indian cases and develop the habit of reading.
- Blended Learning Pedagogy should be adopted – socio economy skills should support technical skills.
- Integration of curriculum and classroom learning with industry, work place and home.
- Delivery mechanism for collaborative learning.
- Education system based on Mahabharata encompassing
- Gyan Marg – Knowledge. Karm Marg – Skills, Bhakti Marg – Dedication, Devotion and Passion.

Role of teachers in ensuring / delivering effective E-Learning

- Develop Pedagogy comprising of knowing-doing-being framework.
- Replace the traditional broadcaster role with curator approach by creating online resources or content repository.
- Value proposition is needed in form of differentiation, certification and network valu..
- Act as a facilitator for encouraging active and engaging learning.

- Mapping of content with context should be facilitated..
- Develop orchestrator, co-creator or partner approach by including more engaging interaction and field work.

Create future ahead for lifelong learning

Benefits of E-learning

- Less time consuming.
- Enhanced retention of information.
- Quality and Consistency in delivery of content.
- Cost Effective.
- Better reach and access.
- Customization as per learning requirements.
- Effective Engagement Based Learning in the Digital World.
- Case Methodology Adoption.
- Blended Learning Transformation.
- Conceptual learning with the help of learning management system.
- Theoretical framework for application in any practical circumstances.

Challenges of E-Learning

- Orientation of faculty and students.
- Technology cannot replace the personal touch interaction attention engagement and understanding between the teachers and students.
- Asynchronous mode of education.

Element of unfamiliarity.

- Internet connectivity and infrastructure constraints.
- Creation of learning centers. and interactive smart classrooms.
- Lack of awareness.

II. CONCLUSION

There is a paradigm shift in learning system. E-learning has become the new norm and is growing at a very fast pace. E-Learning provides access to online resources irrespective of time and place from the comfort of the learner's own location. E-Learning provides cost effective and time saving mode of teaching-learning. It ensures the new and innovative practices in pedagogy. E-learning has led to the digital transformation and automation of academia, especially higher education.

E-Learning encompasses both opportunities and challenges for educators. The E-learning methodologies and systems needs to be developed. It needs collaboration of all the stake holders in the field of higher education. All the public and private sector entities must join hands for the complete adoption of E-learning thereby ensuring benefit of the society at large.

III. RECOMMENDATION

- Training should be given to remove mental barriers of digitalization and E-Learning.
- Mannerism training and practice is required.
- Teachers should consider themselves learners for life.
- Faculty Development Program encompassing the tools and techniques of E-Learning should be designed and delivered.
- There should be no hurry in replicating the wheel.
- Digital divide needs to be bridged by the government through infrastructure and technology.

- Employability skills is the need of the hour.

IV. FUTURE SCOPE

The Area of E-Learning is Evolving on a Continuous Basis. There is Tremendous Scope for Innovative Education Practices, Mechanism, Methodology, Tools, Techniques and Standards For assuring quality in E-Learning. The acceptance and adoption of E-Learning will grow with time and offer new horizons in teaching-learning.

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