

Module9

E- Content Development and MOOCs

Faculty Development Centre

(Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching)

Mahatma Gandhi National Council of Rural Education

Department of Higher Education

Ministry of Human Resource Development, Government of India

Hyderabad - 500004



Foreword

I deem it a privilege to write a forward on Module – 9 entitled “e- content and MOOCs”, for the faculty development program. The cornerstone of any education system is teachers and the quality of education is both determined and dependent on the quality of its teachers. In higher education, faculty development is central to the issues of quality and excellence. In order to ensure continuous flow of talented and qualified teachers to meet the expanding needs of higher education, a special drive may be needed to attract and incentivize talent to pursue teaching as a career.

The present higher education system focuses only on the domain (subject) knowledge of the faculty. It does not focus on teaching-learning process, pedagogical content and its various tools which are very vital to increase the quality of learning experience in the different educational programs. The faculty development program is essential for every teacher to provide training to teacher trainers. In the present scenario system of education has been changed hence every Teacher’s Teaching Skills must be updated to meet the needs of Industry- Academia and Government. In this digital era teaching and learning process should be ICT enriched. Knowledge in ICT skills has to be updated as there is a paradigm shift from traditional method of teaching to ICT based teaching. The teaching and learning process must go by using the virtual classrooms, taking Online courses from SWAYAM-MOOCs, and MOOCs of international universities, cooperative learning, collaborative learning are encouraging the research activities. Knowing about ICT integrated learning, and new pedagogy approaches in assessment, curriculum structure and design, sensitization to gender and social diversity, Human Values and Professional Ethics, sharing of best practices and updation of developments in their field of study, etc.

This module is on ‘E-content generation and MOOCs’ These are the crucial things in this digital era. This evaluation process in the system of education needs to be made more scientific to encourage the development of multiple skills of students. Faculty development programs include the four possible types of development: Interpersonal skills, career development, and life planning issues. Instructional course design and development, instructional technology. Organizational ways to improve the institutional environment to better support teaching and professional ways to support faculty members so that they fulfil their multiple roles of teaching, research, and service. Faculty development has a critical role to play in promoting academic excellence and innovation. This is one of the priority actions aimed at improving the professional capability and performance of teachers to deliver effective and quality learning.

Contents

Block 1: E-content- Digital Literacy

- 1.1. Digital Literacy: E- Content
- 1.2. MOOCs Revolution
- 1.3. Differences Between MOOCs and Face to Face Learning
- 1.4. Reformation of Education
- 1.5. Opportunities, Impacts and Challenges

Block 2: E-Content Development

- 2.1. Basics of Static E-Content Development
- 2.2. Information Collection Strategies
- 2.3. Life cycle of E-Content development
- 2.4. Publishing e-content and Pedagogical Issues
- 2.5. Plagiarism

Block 3: MOOCs

- 3.1. MOOCs The Skill Gap Fillers
- 3.2. Design Principles
- 3.3. Learning Object Design
- 3.4. Open Education Resources
- 3.5. Teaching- Learning Approaches and strategies

Block 4: Literary Discussion

- 4.1. Recognizing Learner Autonomy
- 4.2. Theoretical Framework of e-Learning
- 4.3. Challenges of MOOC Players
- 4.4. Case Study 1
- 4.5. Case Study 2

Block 5: Integrating e- learning

- 5.1. Continuous Proficiency Development
- 5.2. E-learning Standards
- 5.3. Issues in Indian Context for e-content development
- 5.4. Best Practices
- 5.5. Assessment

References

List of Tables

List of Figures

Introduction

This module is about the significance of digital literacy in this digital era. The teaching learning process is on ICT based teaching. Digital Literacy refers to a set of competencies in particular which aids an individual to take part completely and efficiently in a digital world. Learners, these days, are commonly viewed as digital natives; ready to utilize innovation successfully and effectively. However, it is similarly vital to make learners understand how to be a digital citizen. A digital citizen acts fittingly and morally in an online situation. They should have the capacity to determine clashes, source material morally and communicate with the more extensive world in a mind-full way. These days MOOCs plays a vital role in enhancing the knowledge. Teaching learning process is with blended learning. Learning a course by face-to-face combining with online course is blended learning. All the classrooms are virtual classrooms. It has provided lot of development in doing research and also interacting with the international al universities.

Block two is on e- content generation. It talks about basics of static e-content development, how to prepare e- content. Keeping in view the Pedagogical issues. In this blog for the welfare of the students. Videos can be uploaded so that the learner can learn at his leisure any time. Students are showing interest in writing digital assignments and online tests.

MOOCs are skill gap fillers. The chapter talks about Teaching- Learning Approaches and strategies. It recognizes learner's autonomy. With my experience I have provided two case studies. How to integrate e-learning, how to upload the pictures, lessons and some quiz programs. This chapter provides some interested case studies also.

E- CONTENT DEVELOPMENT AND MOOCS

1.1 Digital literacy: E- Content

Objectives

- Make the learners understand modern technology enabled academic content by providing a data set for analysis
- Generate rich data for the study of the online behaviour and response of the students and their study patterns.
- Provide platform for the academia across the globe to test the innovative teaching approaches on the real students in real online learning environment which can be controlled on basic level in terms of subject and method of study

A component of media Literacy is called Digital Literacy. It helps to produce an effective communication of information and an ability to understand the essential Courses which help them to use technology in complementing their daily routine and become more productive. The International Society for Technology in Education maintains parameters for digital literacy around six benchmarks. These consist of “innovation, communication and cooperation, research and information, critical thinking, problem-solving and decision-making, digital citizenship, and technology concepts and operations.

Digital Literacy refers to a set of competencies in particular which aids an individual to take part completely and efficiently in a digital world. Learners, these days, are commonly viewed as digital natives; ready to utilize innovation successfully and effectively. However, it is similarly vital to make learners understand how to be a digital citizen. A digital citizen acts fittingly and morally in an online situation. They should have the capacity to determine clashes, source material morally and communicate with the more extensive world in a mind-ful way.

Discuss the following with your partner (Pair Work)

1. Digital Literacy
2. E- content
3. Digital world
4. Digital citizen
5. Digital Native
6. Digital era

Digital Literacy and why it matters?

It is a wide known term people may have heard more and more about in the past few years. But what does it mean? And why is it so important? are the questions that one should think about. We increasing communicate and access information through a variety of digital environments.

Our work places, social lives and educational settings all require some form of competence in digital literacy. Digital literacy is not just about knowing how to use technology. It is about navigating communicating through different digital environments. One needs a certain level of digital literacy to turn a computer on, for example, but requires different skills to locate and complete an online job application. The extent in which an individual participates in different aspects of the digital world is

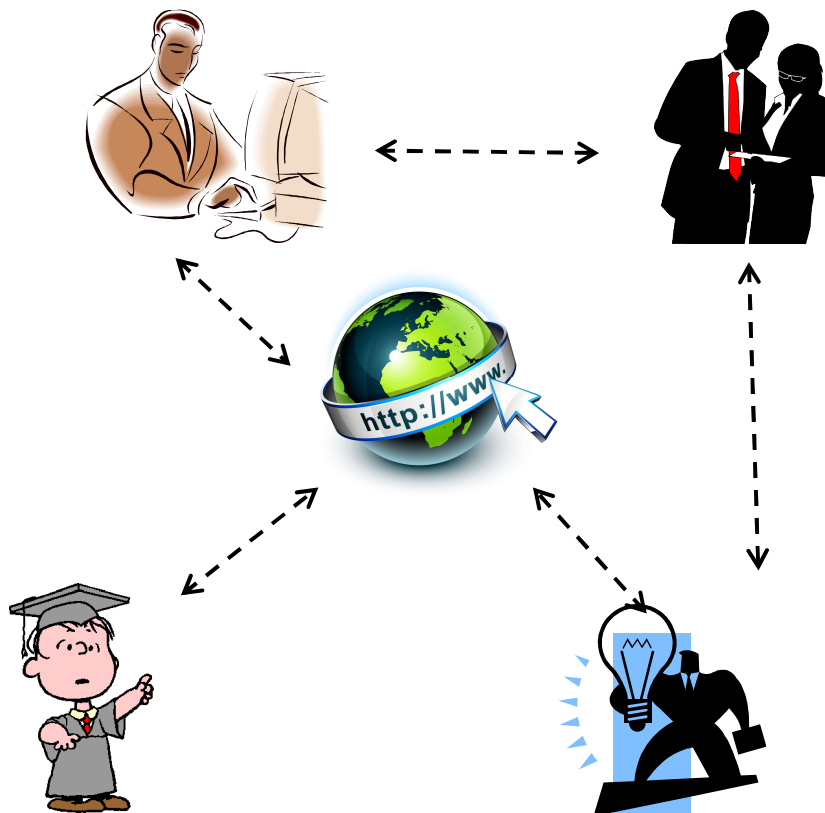
often shaped by the personal need for the information and opportunities that are provided by the various aspects in the digital world. Some people rely on social media sites to keep up to date with their friends and arrange their social calendars, whereas others do not engage with it all. However, there are some areas where having the appropriate skill is extremely important to succeed in the modern world.



The image showing the digital environment

90% of new graduate jobs require high level Information and Communication Technology or ICT skills. The jobs market is very competitive and changeable and having the right digital literacy skills is essential to employability. This directly impacts the world of education. Students need to have digital literacy skills alongside their qualifications, to help them become employable when they graduate. There are also so many new ways to learn. As well as searching through physical texts, an individual can now access information and research instantly, via the web.

Video, audio and images can be used for teaching and for student assignments. Assessed work is increasingly submitted electronically and feedback given online. Communicating and collaborating on content can be facilitated through a variety of online platforms.



With all these new opportunities come new requirements and responsibilities for everybody. We need to understand how to evaluate and look at the authenticity and validity of the wealth of information available to us. There are aspects of being safe online, understanding our online identity and being aware of the **etiquette of online communication**. We can also call it as Internet etiquette. E- mail etiquette one of the major thing to be remembered. Every day we are sending many official mails around the globe. For negotiation, business, job applications, government related things, administration and many other mails will be sending and receiving. Every organisation needs to communicate through internet. We call it as e- governance. Every letter or every word matters. Hence to get the things done smoothly and softly etiquette is essential. **Etiquette can also be called as netiquette** for short. Online etiquette is the correct or acceptable way of communicating on the Internet. Depending on the audience we have to communicate. Avoid sarcasm or controversial opinion anything that could be misinterpreted and one has to build successful relationships when using high-tech devices or online solutions.

To do Activity:

What is meant by e-mail etiquette?

Write some points that are to be followed while sending an e-mail.

Digital literacy skills are more necessary as technology develops, particularly as cultures, languages and different modes of communication overlap and intersect. Therefore, everyone need to be prepared to understand and embrace this new digital landscape and be confident and competent in guiding our future generations through it.

Learn how to write an e- mail

- To whom you are writing (the recipient): When you are writing a business letter you have to keep in mind to whom you are writing. The recipient will determine the tone, formality, and content of the communication.
- Make use of a subject line: In the applet (which is a very small application designed to perform a specific function, space provided for writing the 'subject' in the window of compose mail) writing the subject is very important. It should be in the form of a word or phrase. It should not be very lengthy sentence. The aptly written 'subject' will make the receiver understand the seriousness of the mail. If it is very urgent, it can be mentioned as E.g. 'Your Book Shop Order Delivery Dec 2nd', 'Client Report Revisions: Please Review by 4 PM', 'Expansion Report Extension Requested until Friday' or "VERY IMPORTANT" II
- Start your email with greetings: Greeting in business letters should be formal. As Greetings are time bound the writer must be careful to greet the recipient accordingly, like "Good morning" "Good afternoon" or simply writing "Greetings". In business letters the salutation can be "Dear Sir/Madam" or simply "Sir/Madam"
- Body of the letter: The content should be very formal and informative. One should not deviate from the main point. The font should not be very large and no colours should be used. Depending on the content of the letter make paragraphs. Maintain unity, coherence and cohesion.
- Conclusion: Conclude the letter politely. Use concluding formal phrases like, "Thanking You", "With Regards" or "Yours Faithfully" and "Yours Sincerely". Before clicking the "Send" button read the mail again and conform that there are no mistakes.

A model e-mail written by a student to the Teacher: This is a compose mail before clicking the **send** button.

Syllabus for I semester- English

Sri Nidhi (sn999db@gmail.com)

Syllabus for I semester- English

Dear Madam|

I am A. Latha of I year Communicative Student. I was on leave for five days a Bangalore to attend my cousin's marriage. Please send me the syllabus.

yours obediently

A.Latha

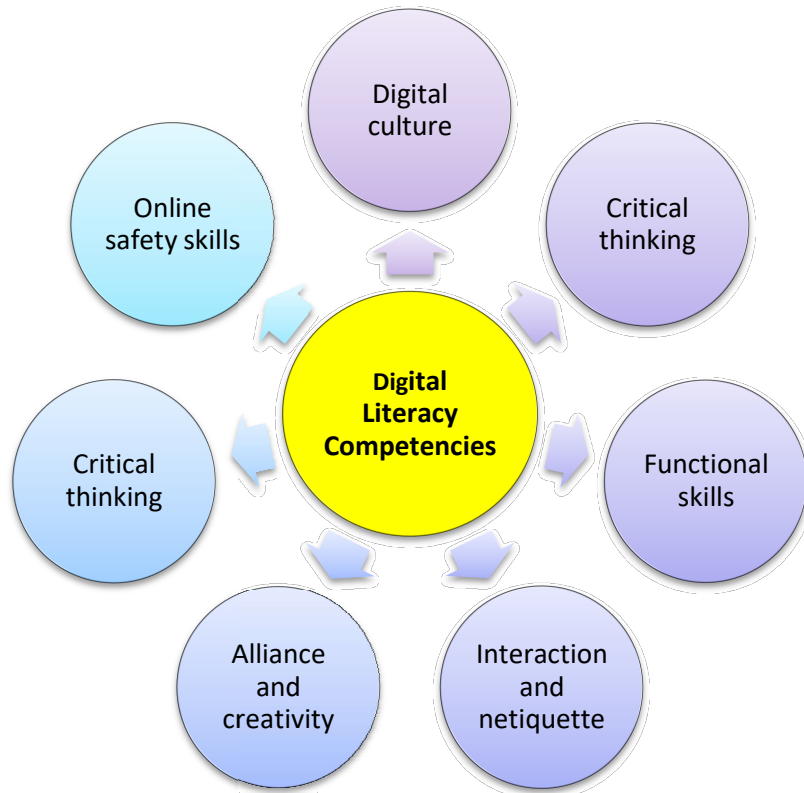
To do Activity:

Give an e-mail to this mail ID jp06db@gmail.com of Er. J. Prashant, an engineer of Cloud Computing Architect requesting him visit your college as a Resource Person to Conduct one- day workshop on "BIG DATA: Cloud Solutions". Request him to give the date of his availability.

Here are some of the **Dos** and **Don'ts** of email etiquette.

- Do have a clear subject line.
- Don't forget your signature.
- Do use a professional salutation.
- Don't use humour.
- Do proofread your message.
- Don't assume the recipient knows what you are talking about.
- Do reply to all emails.
- Don't shoot from the lip

The following are the digital literacy skills:



The implementation of digital literacy with a pedagogical approach in curriculum design gives extensive benefits in the teaching learning process. The internet provides the learner a facility to gain more highly constructive knowledge. This methodology embraces the constructivist theory of learning (Bruner, 1978) wherein learners draw from their existing knowledge in order to construct new learning.

In this digital era the role of a teacher has been changed to facilitator, mentor and monitor. Classrooms have become Learner- Centred classrooms from Teacher- Centred. The system of teaching is Information, Communication and Technology (ICT) based. This great transformation is a challenge to teacher and teacher educators in acquiring new knowledge and skills accordingly. The curriculum should be designed in such way to be uploaded in the web site. The content that is generated for uploading in the website is called e- content. It can be accessed by the learner irrespective of the time and place only with the Inter Net facility. According to Oxford dictionary 'e-content is the digital text and images designed to display on web pages'. According to Saxena Anurag(2011) 'E-content is basically a package that satisfies the conditions like minimization of distance, cost effectiveness, user friendliness and adaptability to local conditions'.

The development of electronic Content (e- content) and approach depends on the level of learners understanding and their needs and goals. Learning Objectives should communicate the purpose of the course and what the learner is going to achieve at the end of the particular module. The instructional design development and delivery system needs systematic approach and the content should have clearly defined modular course, with good standards for performance of objectively measurable skills.

To do activity: THINK- PAIR-SHARE (TPS Method)
Discuss the learning objectives of e- content and approaches.

The quality of the e-content is concerned with creating, communicating, and maintaining consistent development standards. Learners needs, task and content are to be analysed. Learners academic levels, skills, motivation, visual literacy, language competency, learning styles are the important aspects to be known by the course designer. The content should be structured logically with instructional, communicative, interactive, reflexive, explorative, adaptive and with evaluation standardized strategies. Certain standards are essential for integration of course ware.

In the Learning Management System, the course content/ e- content can be classified into facts, concepts, principles, processes and procedures. It can be used in many different systems and in many situations. The Learning Management System (LMS) is a digital tool that enables teachers and learners to manage simple training to full distant learning, online certifications, and e-courses. The LMS helps to connect all learners with the people and resources needed to reach their full potential with online learning. The Programmes may be designed for conventional learners, as well as working professionals and other individuals aspiring to acquire knowledge and associated academic credentials. The delivery process shall be conducted online via a suitably designed online technology platform.

To do Activity: Choose the correct answer for the multiple choice questions given below.

1. Which task can a computer NOT perform? ()
 - a) Receive data
 - b) Produces a result
 - c) Process data
 - d) It performs all of these
2. Which of these is NOT an output device? ()
 - a) Keyboard
 - b) speakers
 - c) monitor
 - d) printer
3. Which is NOT a part of the information processing cycle?()
 - a) Output
 - b) Processing
 - c) Storage
 - d) Inside
4. Which of these is a type of application software?
 - a) Windows
 - b) MS word
 - c) Mac
 - d) LINUX
5. What happens when information is entered into the computer? ()
 - a) The computer stores it
 - b) The computer receives it
 - c) The computer processes it
 - d) Information leaves
6. Which are the two types of storage?()

- a) Input and output
 - b) Laptop and Tablet
 - c) Hardware and Software
 - d) Internal and external
7. Which is the physical equipment that can be seen or touched?()
- a) Hardware
 - b) Input
 - c) Software
 - d) Output
8. Which is not a search engine?()
- a) Google
 - b) Yahoo
 - c) Google chrome
 - d) Bing
9. Which is not a browser?()
- a) Internet explorer
 - b) Mozilla firefox
 - c) Google chrome
 - d) MS Word
10. Where would you search for a specific word or phrase?()
- a) Desktop
 - b) Search bar
 - c) Start menu
 - d) All programmes
11. If you wanted find a picture of LIONS, what would you choose as 'search results'?()
- a) Images
 - b) Numbers
 - c) Links
 - d) Letters
12. What is an example of a valid web address?()
- a) www.walmart.com
 - b) ww.chocochip.org
 - c) htp://wildcats.com
 - d) html:\\myfavorittoyt.toystore.com
13. What is another word for 'HACKING'? ()
- a) Stealing
 - b) Cyber bullying
 - c) Phishing
 - d) Social networking
14. Which would take you to another location when clicked?()
- a) Hypertext
 - b) Cyber links

- c) Chain links
 - d) Hyperlinks
15. What does 'http' mean?()
- a) Hyper transfer text protocol
 - b) Hypertext transfer proxy
 - c) Hypertext transfer protocol
 - d) Hyper texting transit pros

KEY

1. d	5. b	9. d	13. c
2. a	6. d	10. b	14. d
3. d	7. a	11. a	15. c
4. b	8. c	12. a	

What exactly is LMS?

LMS is a software application which allows instructors to create online courses, and training courses. Along with creating, managing and delivering e-courses to their learners, instructors can also track the progress of their learners by accessing detailed reports and statistics that LMS software provides. Another important aspect of a Learning Management System is that it provides learners online classrooms where they can interact and learn in an interactive environment. To create such an environment, LMS allows instructors to upload all their courses and training materials such as videos, presentations, PDFs or even live web content such as wikis and blogs to a central location i.e., the online classroom. This facilitates anywhere, anytime learning as learners can easily access the materials by logging on to the online classroom from any device with Internet access. In addition to this, learners can access these classrooms anytime even after they have finished taking the courses, ensuring uniformity and continuity in learning and training. LMS software has a number of features to help instructors manage their learners better. They can organize learners into groups or classes to centralize reporting & assignment of courses or quizzes. With advanced reports and statistics, tracking the progress of large groups or individual learner's is also easy.



In addition to this, instructors save valuable time spent in grading assessments and calculating the results, as the Learning Management System automates grading of hundreds of test papers and enable students to instantly see their results. Above all, a learning management System saves teachers a lot of time and money as it automates grading & reduced paperwork, while at the same time companies save on travel and lodging expenses because they can easily create training programs and reuse the programs to train multiple batches of employees.

In LMS the e- learning material can be posted in the following forms:

- E Learning Modules
- Video Lectures
- Audio Podcasts
- Virtual Labs
- Virtual Simulations
- eBooks
- Live Virtual Classroom Sessions

E- Learning Modules:

1. Story telling: it is one of the best methods of E- learning techniques. Because they can attract the learners. It will have plot and sequence. The animation or action videos will have a lot of impact. The sound effects and visuals with bright colours will surely make the learner learn. High impact videos on drama, play, short stories, Ted talks, educational videos are good examples. Epic stories, moral stories like Panchatantra, Aesop's fables are very significant.



Aesop's Fables

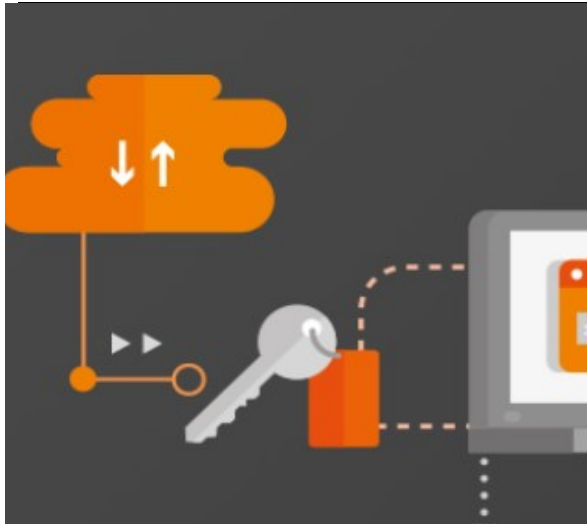
Shakespeare's- Hamlet

Read and enjoy:

1. https://www.youtube.com/watch?v=C_VqCyd75E
Fox and the Crane- Aesop's Fables
2. <https://www.youtube.com/watch?v=OtNMjZoZNbM>
Hamlet- Shakespeare
3. <https://www.youtube.com/watch?v=g6mimugGVSy>
A Tale of Three fish- Panchatantra

2. Adaptive assessment example: Generally, we all know that the assessment test will be at the end of the content to check the level of understanding. But here this method will diagnose the gaps of the learner. Basing on the learner's requirement he/she will be taught. That means it will assess the apt requirement of the learner. This example provides some assessment tests like quiz and content will be provided and based on the questions that a user passed or failed will be decided. Adaptive content like this helps the users.

Personalized compliance assessment on Cyber security



Here are some of the dos and don'ts of email etiquette.

- Do have a clear subject line.
- Don't forget your signature.
- Do use a professional salutation.
- Don't use humour.
- Do proofread your message.
- Don't assume the recipient knows what you are talking about.
- Do reply to all emails.
- Don't shoot from the lip

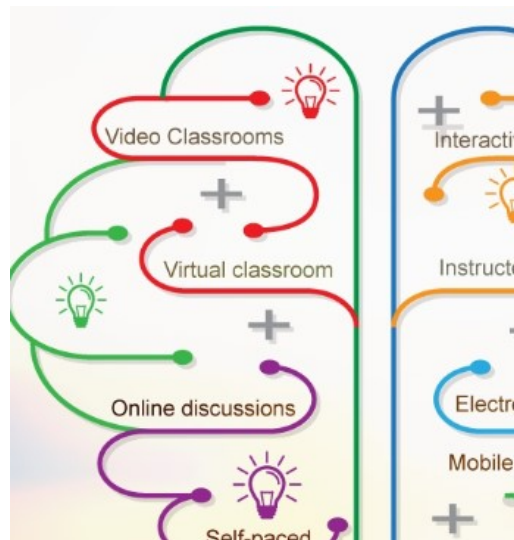
3. Reflective Learning example: One has to go for reflections to get Learning experiences. Reflections means contemplating on the work done. What can be added to it or how the method of teaching can be changed is called reflections. They are on reflections and off reflections. On reflections correcting while doing and off reflections are changing the concept after doing. Finally, we go for redoing with reflections. Kolb's cycle is good example for reflections.



<https://www.youtube.com/watch?v=ObQ2DheGOKA>

4. Examples of short chunks of content: If short chunks of content are given it will be easy for the e-learners to remember. It gives the content a path to go through in the process of learning.
Micro guide to using audio and video: The learner has to learn how to use multimedia at the time of need. The learner can listen to Instagram stories, podcasts, videos on interviews and in a number of different ways. Think product training, methodologies, new skills to learn large subject area.
5. Web style e- learning: Many learners will have high expectations on digital learning. Getting information over browsing the web to get information is called web style e- learning. Learning content

will be broken into small chunks to memorize and learn. It helps in navigation. A great learning approach for tech-savvy audiences who frequently use mobile devices.



<https://elearningindustry.com/choosing-right-elearning-methods-factors-elements>

6. Examples of branching scenario: Immerse learners in a story and give them challenges to make decisions to control the outcome. This approach allows users to learn through experiencing consequences rather than being informed of them. Audio and text based scenarios would work well.
7. Example of performance support: Resources designed to be used 'on the job' can keep the learning active. Learning should not be separated from day job. Quick digital resource could be used for just-in-time support for anyone who is in the need. New procedures have to be implemented in systems training.
8. Infographic examples: Not all digital learnings are interactive. A well-designed, informative infographic can communicate core messages very effectively. To grab the attention of the learners blended learning is advisable. Content that can be visualized and think to take new initiatives. Learners who are bored of traditional learning will lean on it.
"Infographics are graphic visual representations of information, data or knowledge intended to present information quickly and clearly. They can improve cognition by utilizing graphics to enhance the human visual system's ability to see patterns and trends." Wikipedia
The terms "data visualization" and "infographics," are often used interchangeably. ... Data is often associated with information. The words visualization and graphics have a relationship that are both different.
9. Example of using social comparison: If an element of social sharing and comparison is added to a learning experience appeals to the natural curiosity in all. Social polls are an effective way of sharing users' responses with each other. Social polls are more attention grabbers.
10. Video driven story examples: video dramas are very powerful to draw the attention of the learners. Digital interactions can increase the impact of the learning understanding of the video and encourage learners to apply their knowledge. These example shows how even learning on a legal document can be brought to life through video stories.

Video Lectures: Teacher should prepare for creating video lectures on how to put together text, visuals and audio for video lectures. Teaching by using videos in the class will have lot of impact. Many software tools that will accommodate most of your needs, and more. There are many benefits of video classes. Creates learning environment, catering to personal pace, no pressure, and no strict time constraints. So it is ideal to record your personal videos and upload. Videos prepared by subject experts will help the advanced learners to get extra inputs. Engaging students with video text, relevant clippings, music and voice modulations will surely help both the teacher and the learner.

Audio podcasts: Podcasting is a free service that allows Internet users to pull audio files (typically MP3s) from a podcasting Web site to listen to on their computers or personal digital audio players. The term comes from a combination of the words iPod.

Virtual Labs: Virtual Labs is a project initiated by the Ministry of Human Resource Development, Government of India, under the National Mission on Education through Information and Communication Technology. The project aims to provide remote-access to Laboratories in various disciplines of science and engineering for students at all levels from under-graduate to research. Learning Management System where the students can avail the various tools for learning, including additional web-resources, video-lectures, animated demonstrations and self-evaluation. There is also a component wherein costly equipment and resources are shared, which are otherwise available to only a limited number of users due to constraints on time and geographical distances.

Virtual Replications: Usage of 3D objects and environments to create immersive and engaging learning experiences is called virtual reality simulation. The principle of virtual reality e-learning is to impart, practice and check a user's knowledge using interactive scenarios and environments to reflect real life situations.

The learning experience is changing towards immersive technology the world of learning is moving to an entirely new level. The growth of standard e-learning methods of viewing and hearing information, virtual reality simulation provides a truly interactive experience. It will help the users to move freely around the environment, interact with objects, carry out tests. It also helps in make decisions and mistakes until they have mastered the subject. By letting learners practice in a virtual environment will not only be able to see what they have learnt, but also they' develop thought processing approach.

E-books: The world of learning is moving to an entirely new level. In addition to the standard e-learning methods of viewing and hearing information, virtual reality simulation provides a truly interactive experience. In addition to this an electronic book, also known as an e-book is being placed on the platform of digital literacy. E- book publication made available in digital form, consisting of text, images, or both, readable on the flat-panel display of computers or other electronic devices.

Guide to e-book formats:

- EPUB for e-book Reader (preferred option for mobile devices)
- PDF for e-book Reader
- PDF for Digital Editions
- EPUB for Digital Editions

Online Reader format (read in your internet browser without any additional software) These formats are

supported by all devices compatible with Adobe Digital Editions (Windows) or e-book Reader (iOS, Android, Blackberry & Kindle Fire). Most e- books can also be read using Online Reader and any major web browser.

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Frequently Asked Question on e-Book

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6. How do I get help if I get a problem?
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10. Why can't I access all of the eBooks in my account from my iPhone, iPad or iPod Touch?
11. Can I download books I bought previously onto my iPhone, iPad or iPod Touch?
12. Will I be able to view my eBooks offline using the e-book Reader for iPhone, iPad or iPod Touch?
13. Can I buy a class set of e-books, to use in class?

Here you find answers for seven question and for remaining questions you will get answers at:

<https://support.ebooks.com/hc/en-gb/articles/213789906-Frequently-Asked-Questions-FAQs->

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What you need is your PC, laptop or hand held device and the free Reader software. eBooks in three different formats: PDF download, EPUB download and Online Reader. The Reader requires no software other than an internet browser. For downloading, use the link provided. The appropriate Reader software is free of charge when you make a purchase.

2. Which format should I choose?

That depends on your Operating System and if you would like to read your E- books on your PC or on a hand held device. For advice on selecting the correct format for your requirements, check our device guide. Also, a lot of our E- books are available in more than one format, so once you have purchased the book you have access to all the available formats.

3. Why do I have to Authorise my Reader, and how do I Authorise?

In order to read secure Adobe DRM protected eBooks, you need to Authorise your Reader software prior to downloading the e-book. The process of Authorising identifies you as the rightful owner of the e-book and is a security measure to protect the copyright of the e-book.

4. Can I download eBooks on to my hand held device?

In most cases, yes. This does depend on which operating system your hand held device is running however, as different eBook formats are compatible with different operating systems. For detailed information on which eBook formats are compatible with your hand held device, check our device guide.

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Once you have purchased the E-book it is yours. The title is stored on your E-Books.com account and you can access it at any time by logging in with your username and password. Most formats allow you to download the title as many times as you like however, we do put a limit on the downloads to prevent abuse of the system. If you need to download your ebook again and you are receiving an error message indicating that you have used all of your licenses, please contact the support team who will be happy to reset this license for you.

7. How do I get help if I get a problem?

You will find vast amounts of advice and troubleshooting information in the eBooks.com Help Centre. The troubleshooter page is interactive therefore, it will provide you with information that is customized to your specific problem and Reader format. If you are not able to find a solution to your problem in the Help Centre, please contact the for assistance

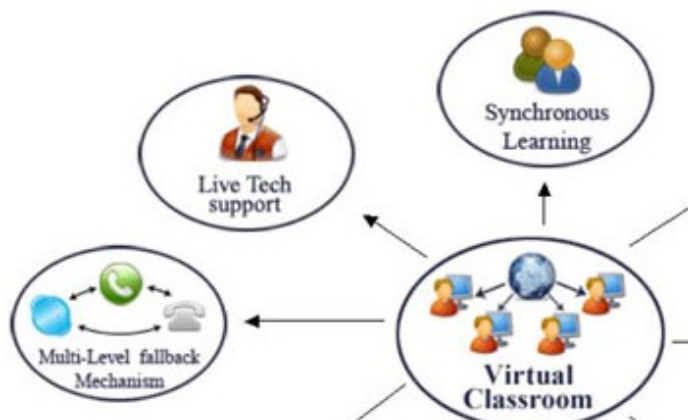
To do Activity

- Try to down load one E- Book and teach to your colleagues to down load an e-book of his /her choice.
- Have you heard of Kindle? Discuss.

Live virtual Classroom sessions:In the digital era the virtual classroom has lot of significance. Because the learner can learn better and faster, and the real insights of a learner can be grown. This is a class conducted virtually where the teacher and the learners can attend from different places. It is an online web-based tool and virtually creates a classroom environment. The teacher will be delivering the lecture and the students will be listening from different places. It is flexible and cost- effective course.

Virtual Classroom is a web-browser based tool, independent of any other user side software. Professors or students can just browse the link and login to the virtual classroom, just like they walk into traditional classroom. The teacher can answer the questions to the learners. He can show PPT while teaching. Virtual Classroom is very useful as people from different geographical locations can be part of the

classroom. So we can say that virtual classroom is the online meeting solution that helps people to interact with each other regardless of the geographical barriers.



<http://www.timelesslearntech.com/virtual-classroom.php>

In this type of learning process, students and professors connect and interact with each other in real time.

To Do Activity:

1. Prepare a chart of the virtual classroom, clip it on the board and ask the learners to write in a descriptive way about each circle and the topic in it.
2. Discuss with your partner how virtual classroom is different from traditional classroom.

Case study on Virtual classroom:

Title: META English Teachers' Association online training

Topic: LSRW SKILLS

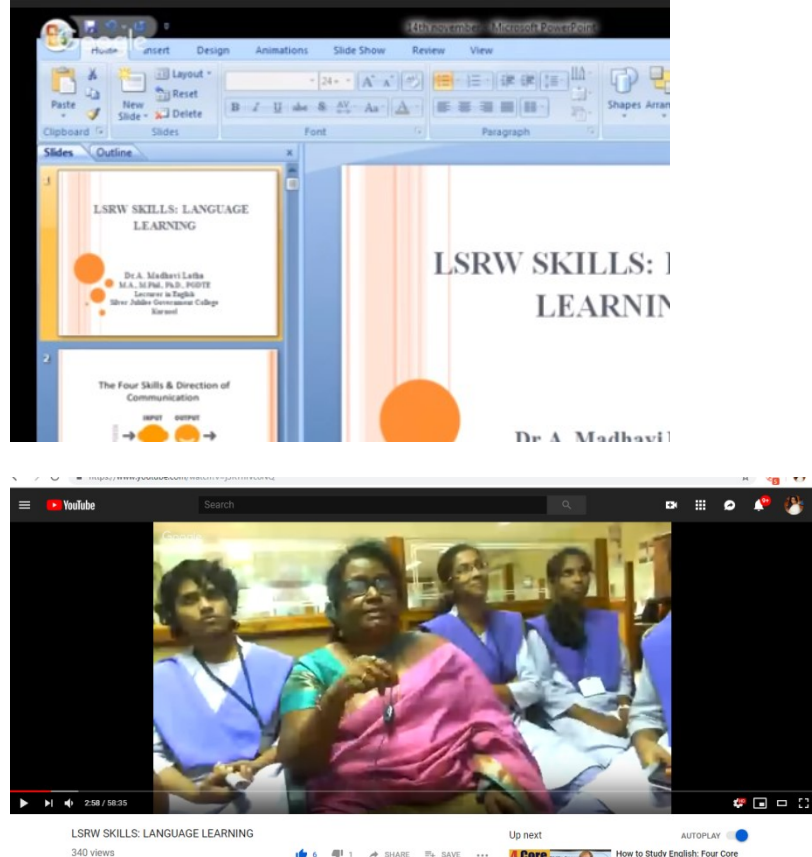
Resource Person: Dr. A. Madhavi Latha, Lecturer in English

Name of the institution: Silver Jubilee Govt., College, Kurnool, AP

<https://www.youtube.com/watch?v=i3RThfVc6NQ>

I want to present my experiences of Virtual Classroom teaching. I have given Webinar, web Seminar to META English Teachers Association at Maladova. I have to teach from my college in the virtual classroom along with my Undergraduate Students of Higher Education. We were connected through 'Google Hangouts'. Google hangout is a communicative platform developed by google which includes messaging. It is almost like whatsapp video call. From India I made this call to the European country. We made a call according to the time Zone. And we were connected and could interact well.

The video clippings shown below are from the Webinar



INNOVATIVE PRACTICE: With this experience we tried this activity with other college faculty and students in JKC- Lab where there is Internet facility in the Rural Government College.

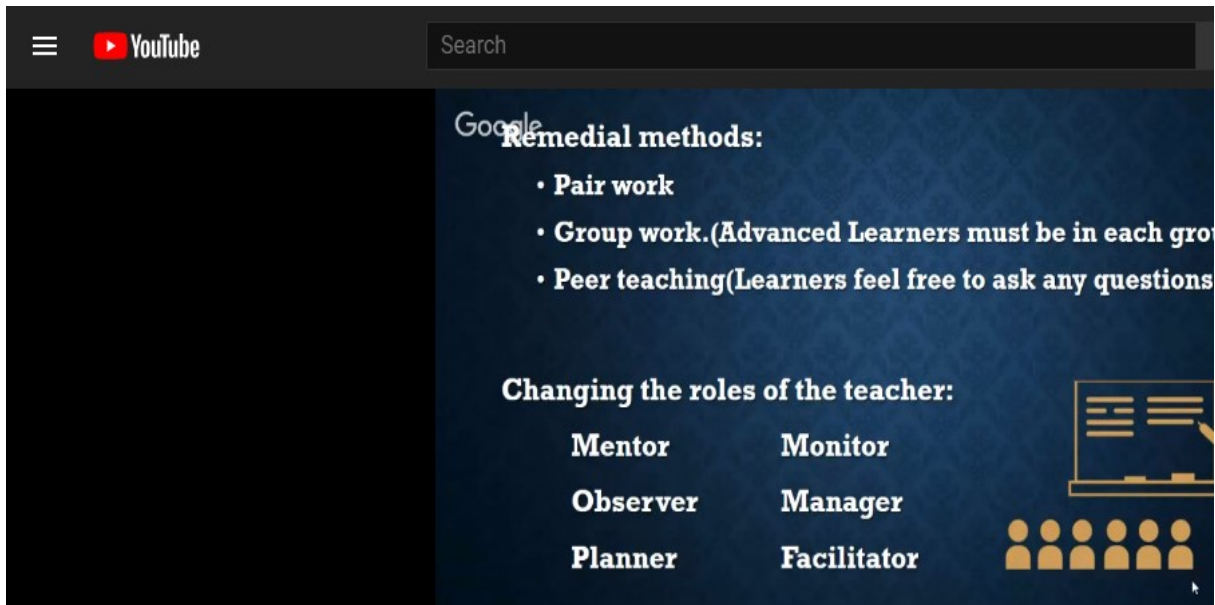
This webinar is on LSRW skills where the women students participated along with the teacher and had interaction with the participants of META. Through this virtual classroom we are able to talk to the people of other country and could talk about their culture. It is a good experience to the students of Government College in Andhra Pradesh.

Analysis: The students could overcome the fear of speaking in English and understand the accent other country people. The participants' confidence levels are increased. The youtube URL is provided to the other students as they can watch and learn. They felt happy as Screenagers.

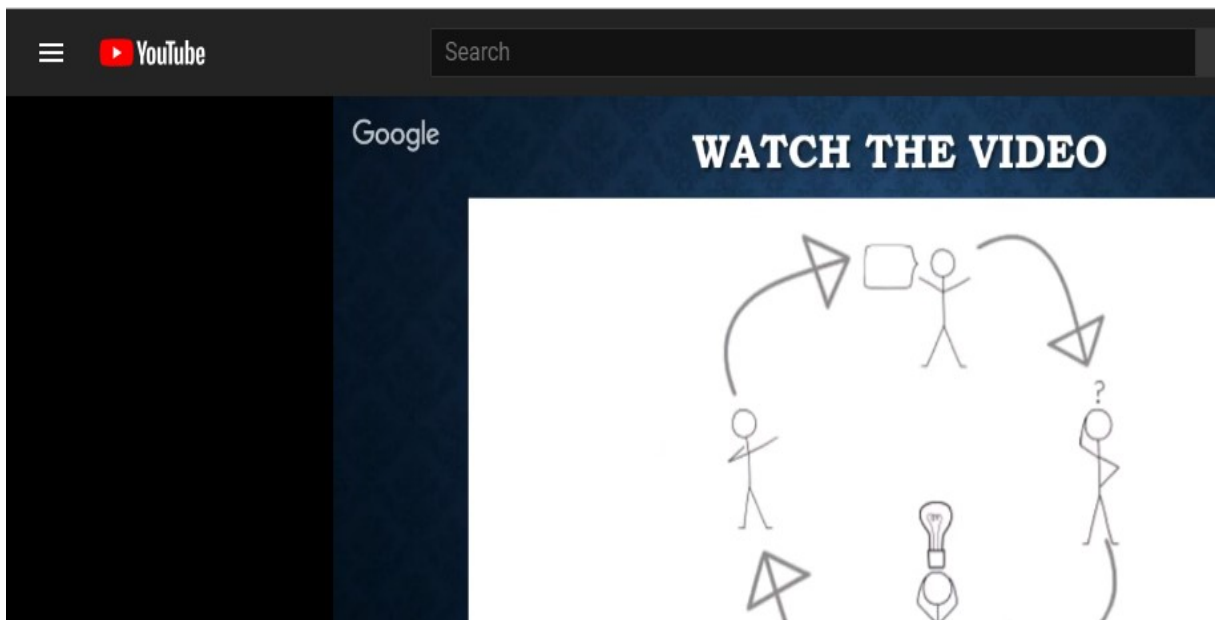
Problems identified: Creating virtual environment is difficult if there is not much infrastructure is provided. If one classroom is converted into Virtual classroom the concerned class students are adjusting somewhere even under the trees and verandas.

Solutions: In the remote rural colleges the village philanthropists have donated some money to construct virtual classroom for the development of their students. So every problem there will be a

solution. People are getting awareness about e-literacy.



This another webinar on 'Teaching Learning Process' here we can see that the slides can be presented, while presentation is going on.



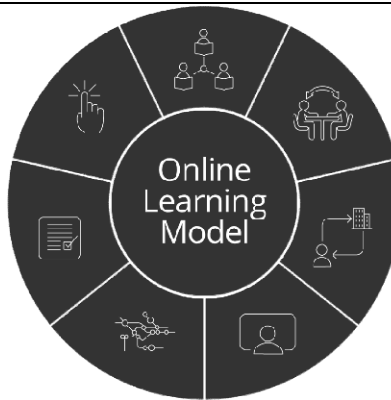
This picture shows that even Video can be played while presentation is going on.

<https://www.youtube.com/watch?v=1RbUPFLgS9I&t=108s>

To do Activity: Listen to the online Webinar of the given URL and share with your colleagues and discuss on 'Teaching Learning process' with reflections and how to go for reflections as a teacher. The most useful explanation is there. Share this URL to other teachers of different colleges or conduct One- day workshop.

<https://www.youtube.com/watch?v=1RbUPFLgS9I&t=108s>

The system of education has taken a shift from face-to-face (F2F) teaching and learning through Online. It is helping the enthusiastic learner to get extra inputs and courses even without entering the formal course. People are now able to learn in ways that would not have been possible without digital technology on a global scale. Using massive open online courses (MOOCs) is a very good example to explain the present Digital Scenario of Screen agers. The system of teaching- learning process is into blended learning. The combination of Face-to-Face and Online learning is blended learning. Digital technology supports the classroom activities of the teacher and it supports their online content. The online classroom technologies enable the educators to communicate with learners. So learners are not limited to face-to-face interaction and they can communicate from any part of the globe.



https://www.google.com/search?rlz=1C1CHBF_enIN777IN777&tbm=isch&q=online+teaching+logo&hips=q:online+teaching+logo,online_chips:learning+teaching&usg=AI4-S6hZOghi7FPQ6ow_MkCEKvYiD3Fw&sa=X&ved=0ahUKEwjawbe8nlvgAhXOfysKHegRDdMQ4IYILCgD&biw=1242&bih=553&dpr=1.1#imgrc=CZPBx2Hwvm8Wym:

1.2. MOOCs Revolution

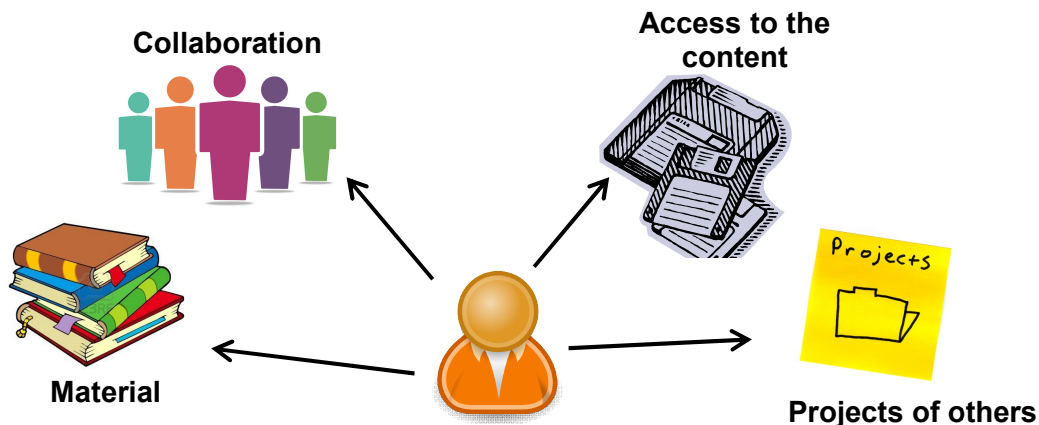
The advent of Massive Open Online Courses (MOOCs) have raised the curtains for the learners of Digital era and provided a platform for technology enabled learning system. For the development of progressive programs in the system of Higher education MOOCs proved as a fascinator in guiding the learners with enormous knowledge in various sectors across the world. They made a paradigm shift by offering Online courses and are very much attracted the students, research scholars, teachers sand teacher educators. Massive Open Online Courses can also be called the “extensive classrooms” where the educator can interact and the learner can share the ideas with fellow learners across the globe. MOOCs are improving learners learning experience and facilitating interdisciplinary education. MOOC is platform for delivering Online Courses. Example, ‘Moodle on the MOOC’.

The massive open online course is a response to the challenges faced by organizations and distributed disciplines at the time of information overload. It used to be when one wanted to know about something any individual do a few things, one could ask someone/ buy a book/ call a school of that school offered the course and the things that the learner is trying figure out, it can be taken from these places. The MOOC is built for a world where information is everywhere where internet connection gives you access to a staggering amount of information. A MOOC is course, it’s open its participatory its distributed and it supports lifelong networked learning in one sense a massive open online course which

has facilitators and course materials, it has a start and end date, it has participants but a MOOC is not a school, it's not just an online course it's a way to connect and collaborate while developing digital skills. It's a way of engaging in the learning process that engages what it means to be a student. It is maybe most importantly an event around which people who cares about a topic and get together and work and talk about it in a structured way.

The course is open, all of the work gets done in areas accessible for people to read and reflect and comment on. The course is open in the sense that you can go ahead and take the course without paying for it. You might pay to get the credit through an institution but you are not paying for participating in the course. It's also open in the sense that the work done in the course is shared between all the people taking it. The material put together by the facilitators, the work done by the participants it's all negotiated in the open course.

The course is participatory. The user becomes part of the course by engaging with other people's work. The connections are made between ideas and between the learner and other people. One of the outcomes that people get from the course are the network connections, they have built up through engaging with each other. The course is distributed and all these blog posts and discussion posts, video responses, articles, tweets and tags; all knit together to create a networked course. The building of a distributed knowledge base on the net can be considered as the effect of MOOC. The course is a step on the road to lifelong learning. MOOCs promote independence among learners and encourage participants in their own paces and to create authentic networks.



These Online courses are progressing towards the widespread growth of educational technology. Some MOOCs are free and some are paid. Large number of learners make use of free courses to acquire knowledge in multidimensional aspects. Massively open online education has the influence of pedagogy and learning in STEM disciplines. STEM- is the acronym of Science, Technology, Engineering, and Mathematics. "STEM education is an interdisciplinary approach to learning where rigorous academic concepts are coupled with real-world lessons as students apply science, technology, engineering, and mathematics in contexts that make connections between school, community, work, and the global enterprise enabling the development of STEM literacy and with it the ability to compete in the new economy. (Tsupros, 2009)

Check your Understanding:

1. How do the MOOCs help in the widespread growth of educational technology?
2. Massively open online education has the influence of pedagogy and learning in STEM disciplines- discuss.

“Teaching STEM Subjects: Planning for Learning” is a MOOC on FutureLearn- MOOC platform. It is a free Online Course designed by MOOC content generators and the course will be explained by the educators through videos. The live interaction session among the participants across the world will be conducted. The educators of the course lead the session and provide a global platform for participants. The peers will share the ideas.

The purpose of this Futurelearn- MOOC is to transform accesses to education. These flexible online programs allow the learner to deepen the understanding of a subject and develop career relevant skills, with the chance to earn an academic or professional credential. Learn with a leading university or organisation to boost the employability or pursue further study. One can explore and challenge the concepts of entrepreneurship, enterprise, innovation and leadership. One can gain a deeper sense of own potential to utilise an entrepreneurial mind-set to support the career development, personal goals and aspirations.

The elements of Online study consist of:

- the teaching materials and activities
- the assessment
- motivations for study.

However, these elements in the Online courses are different from what might be experienced at a traditional university content. All universities, whether online or at a campus, provide resources for students online through a virtual learning environment. The learner should be able to access course materials on the smartphone or tablet, as well as on your laptop or PC. This makes it easier to study irrespective of the place wherever the learner is.

The Massive Open Online Courses have brought a revolutionary change in the system of education. In addition, the learner should have access to online resources such as podcasts, broadcasts, computer software and interactive teaching materials; and many courses will have a dedicated website for the modules. The participant can also communicate with the tutor and other students through forums, email and online conferencing. Online libraries can make thousands of online journals, e-books, databases and multimedia resources available for 24 hours a day, seven days a week, whenever the learner needs them.

FutureLearn offers a diverse selection of courses from leading universities and cultural institutions from around the world. These are delivered one step at a time, and are accessible on mobile, tablet and desktop, so you can fit learning around your life. They believe learning should be an enjoyable, social experience, so these courses offer the opportunity to discuss what the learner is learning with others by following some peers and sharing the opinion in the comment box and posting them. Observing others comments help the learner to make fresh discoveries and form new ideas.

Government of India through Ministry of Human Resource Development and All India Council for Technical Education (AICTE) has provided MOOCs on SWAYAM Platform. ‘LEARN ANY TIME ANY WHERE’ is the motto of SWAYAM. It is designed to achieve the three prime principles of Education Policy viz., access, equity and quality. The objective of this Program is to take the best teaching learning resources to all, including the most disadvantaged. UGC has issued the UGC -Credit Framework for online learning courses through SWAYAM. The credits can be transferred on to the academic record of the students for

courses done on SWAYAM. This platform is facilitating school, under-graduate, post-graduate, engineering, law and other professional courses. MOOCs have brought revolutionary changes in the system of education across the globe to test the innovative teaching approaches on the real students in the real online learning.

Check your understanding:

What is the MOTO of SWAYAM? What does it mean?

What are the three prime principles of Education Policy?

LEARN ANY TIME ANY WHERE



Free Courses at SWAYAM – Government Online Educational Platform

In this digital era many are showing interest in doing Online Courses to expertise themselves in their subjects and also wants to acquire Knowledge in their desirous subjects. Considering the significance of these online courses Government of India has launched free MOOC courses at SWAYAM (Study Webs of Active Learning for Young Aspiring Minds). It is basically an integrated MOOCs platform for distance education that is aimed at offering all the courses from school level (Class IX) to post-graduation level. MHRD (Ministry of Human Resource Development) and AICTE (All India Council for Technical Education) with the help of Microsoft has hosted many courses.

MHRD has also launched some DTH (Direct-To-Home) educational TV channels called SWAYAM Prabha. The DTH channels would broadcast education content (created on the MOOC platform, SWAYAM) to students 24X7. The objective is to provide “the best teaching learning resources to all, including the most disadvantaged,” informs the official website. “SWAYAM will enable students to virtually attend the courses taught by the best faculty; access high quality reading resources, participate in discussion forums; take tests and earn academic grades.”

Course components: Courses hosted on SWAYAM are available for students in four components: video lectures, downloadable/ printable reading material, self-assessment tests through quizzes and tests, and an online discussion forum for clearing doubts.

At the end of each course, students will be assessed through a proctored exam. Marks/ grades secured by students in the exam can be transferred to their academic records. To implement the same, UGC has issued UGC (Credit Framework for online learning courses through SWAYAM) Regulation 2016 recommending universities to identify courses in which credits can be transferred to students' academic records.

To do activity:

<https://www.shiksha.com/engineering/articles/free-mooc-courses-at-swayam-govt-s-online-education-platform-blogId-14716>

Read the website to get the information regarding with SWAYAM-MOOCs

BRITISH COUNCIL

Teaching for Success: Practices Language Teaching

3 courses



BRITISH COUNCIL



Teaching for Success:



BRITISH COUNCIL

Teaching for Succ

<https://www.futurelearn.com/your-learning#> =

These are the Massive Open Online Courses (MOOCs) of Futurelearn. They help in teachers CPD. If a teacher completes a course it will be indicated by the pink line as you see in the above courses. Certain important contents 3 courses will be combined to make one program.

Certificate of Achievement

1.3 Face – to- Face Learning vs Online Learning

In the digital era online learning has become popular because of its potential



Certificate of Achievement
BECOMING A BETTER TEACHER
EXPLORING PROFESSIONAL
DEVELOPMENT
BRITISH COUNCIL AND
INSTITUTE OF EDUCATION

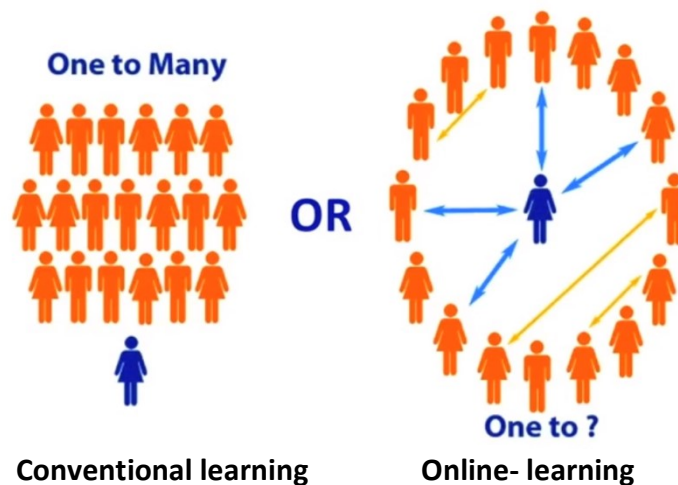
for providing more flexible access to content and instruction at any time, from any place. The accessibility of learning experiences for learners who cannot attend traditional face-to-face course. Here the instructor has to handle large classrooms while maintaining learning. Online learning is totally devoid of Print based correspondence, whereas face to face learning is Teacher Centered. Online learning components combined with face to face learning is blended learning and it provides learning enhancement with an effective outcome. Teenagers who dropped out of high school taking courses online to attain the credits needed for graduation.

To support different models of online learning different technology applications are used. Some online learning models use asynchronous communication tools (e-mail, threaded discussion boards, newsgroups) to allow users to contribute at their convenience. Some online learners prefer Synchronous technologies (e.g., webcasting, chat rooms, desktop audio/video technology) are almost like face-to-face teaching strategies such as delivering lectures with groups of students. Many recent applications tend to combine multiple forms of synchronous and asynchronous.

On the basis of the inclusion or exclusion of face-to-face interactions learners learning capacity depends on the conditions differed in terms of content and quality of instruction. The nature of purely online and blended conditions very likely contributed to the variation in outcomes. The learning outcome of the learner depends on the nature of the learning context and feasibility.

Both Online and Face-to-Face learning is a suitable way for teaching –learning process. Some students decide to complete their studies by depending on their personal views and need the support of the facilitator so they prefer to have both. They feel Online course is not a substitute for a Teacher. some people prefer textbooks and making notes, whereas others may prefer to have all their notes and study materials accessible online.

Face-to-Face Learning enables the students to have eye contact with the teacher and have specific learning. Teacher can use task based activities to make the class learner centred rather than teacher centred. Teacher can concentrate on Slow learners. For Kinaesthetic learners the activities like pair work group and some task based activities physical moment to the learner. Teacher as a mentor and monitor can move around and can give positive strokes to the particular student. Teacher can interact with the learner. The interaction can be teacher to Student or teacher to Students. Teacher can use the board here for teaching and to make the class attentive. It will cover Visual, Aural as well as Verbal.



Online learning in this digital helps the Screen agers to learn at their pace irrespective of time and place. A learner need not go to a particular institution for time bound courses. A learner who prefers Visual learning style can browse for required pictures, images. As 80% of reception takes place through Visual Style of learning. Good explanatory videos help Aural style of learning. The learner can listen again and again until he/she understands the concept. Hence it can be concluded that blended learning facilitates face- to- face learning and Online learning. In classroom situation the teacher uses PPTs and will play instructional videos in e-classrooms.

To do Activity:
 Write the differences between Face-to-Face learning and Online learning

The MOOCs consists of all the seven styles of learning. They are:

1. Visual (Spatial)
2. Aural (Auditory-Musical)
3. Verbal (Linguistic)
4. Physical (Kinaesthetic)
5. Logical (Mathematical)
6. Social (Interpersonal)
7. Solitary (Intrapersonal)

Face –to-Face		Online Course
Communication	Verbal and no verbal	Virtual through videos and interactions
Learning Content	Real time access to Textbooks, note taking and note making.	Text books, e-books, Uploaded lecture notes, available course- 24/7
Process of learning	Real Time and specific time frames for discussions	Virtual at any time, self - study.
Facebook and interaction	Immediate through visual and verbal models, but time constrained	Anytime but conducive to Lecturers availability, usually a 24hr turn around the clock.
Styles of Learning	Kinaesthetic- activities	Visual, Audio, social and solitary
Additional Costs	Fuel, parking (accommodation at times)	Hardware and software, upgrades

Face –to- Face Vs Online Learning

Referring to the table at the beginning of the blog, below is a more detailed table for the pros and cons of studying through Online or Face-to-Face learning. Here we can compare which type of learning would better suit you. These would Of course differ for each person based on their preferences.

1.4. Reformation of Education

Studies related to MOOCs in India and world around have been reviewed and found that Massive open online courses have changed the scenario of education system. As the technology has changed over the years the face of distance learning with the addition of MOOCs ignited the minds of learners. Various MOOCs platform such as The Open University, Open Learning, Coursera, Udacity, EdX and EduKart are some of the free online courses available for distance learners. MOOCs in India and various institutions and companies associated across the world are supporting the system of education is an enormous help in accelerating and ensuring social cohesion and sustainable growth. Any one, any time and ay where can learn through mobile or Laptop absolutely free. The young aspiring minds are showing enthusiasm towards MOOCs. This initiative seeks to provide cost-effective and quality education to the learners. The online program shall offer courses, free of cost, to anyone with any background. There would be a nominal fee for those who require a course completion certificate or recognition. There would be a nominal fee for those who require a course completion certificate or recognition. Government of India is putting sincere effort to provide free and accessible education through SYAM platform to the common man.

Gone are the days with the system education in schools and colleges. Technology enhancement is encouraging and helping for continuous Proficiency development by providing various MOOC platforms. The MOOCs are adequately equipped with enormous knowledge that which fulfil the needs of Industry and academia. As its enrolment is massive and open, this unlimited participation and open access via the web has a pivotal role in bringing reformation in the system of education. There are many Open Educational Resources (OER) on the web. This provides interactive user forums to support community interactions among students, professors, and teaching assistants. As the standards of MOOCs are increasing new lexical words coined, they are xMOOCs and cMOOCs.



xMOOC stands for eXtended Massive Open Online Course. These MOOCs are based on traditional university courses. They significantly increased the number of students who can be exposed to university-level courses. These courses are delivered by an instructor. The example of xMOOC edX, Coursera, and Udacity. The 'c' in cMOOC stands for connectivist. cMOOCs are based on connectivist pedagogy. In contrast to xMOOCs, cMOOCs involve groups of people learning together. It promotes learning through Blogs, Learning communities and Social media platforms. It tries to connect learners to each other to answer questions emphasising collaborative development of the MOOC. MOOCs offer university-level courses where Students get the opportunity to study high quality courses online with prestigious universities. Designing a course which is called e-content is a challenge to the content

designer. The course should be self-explanatory and self-assessed. The progress tests like quizzes help the learner in self-assessment. The course gives take away tips, community development opportunities, provides an interactive platform through live programs. The posted comments elaborate knowledge by following the experts. Educators positive strokes are very encouraging. These challenging and rewarding courses bringing reformation in the modern education system.

1.5. Opportunities, Impacts and Challenges: MOOCs

The advent of MOOCs in Higher Education is revolution. It is the time for the university authorities to awake by not giving chance to the private sectors for designing the MOOC. The quality of the teacher should be enhanced by conducting faculty development programs MOOC. Teachers are highly resourceful and are embedded with Knowledge. The private content developers are selling the courses for profit and coming for partnership with the universities. The open education resources are going beyond MOOCs and OER.

The education acquired by the student in the universities is not providing employability. It shows that there is lack of coordination between the needs of the society and the curriculum. It is realized by the Higher Education and the system is providing choice based credit system and the student can go for electives in the course. The credits attained by the students will be added to his progress. It is helping the student to learn in a broader way. The student can register for MOOCs and get a certificate which helps in getting employability. More avenues can be provided. Designing a course is a challenge to the teacher.

The Continuous Proficiency Development of a Teacher is essential to expertise in the subject and can generate e-content to be uploaded on the MOOC platform. The course generated must cover a particular course which can enable the student to use it in the real life situation which provides an opportunity to fulfil the needs of the society. The quality enhancement of the teacher can surely provide quality education. The refresher courses for the teacher provides an opportunity for collaborative learning, community learning, take away skills with reflections, Hands on practice to generate e-content and uploading it on MOOC platform, sharing the course content, creating Cohort and assessment are the most essential topics to be acquired by the teacher.

MOOCs have the potential to challenge the academic knowledge in traditional universities. There is high dropout rates for MOOCs and only less number of MOOC courses are available in some universities. This is the time to increase more number of Online Courses to show the pathway and bring recognition to the Universities and work towards the enhancement of quality education.

Dimensions of open education in Higher Education Institutions

- Open education
- access
- collaboration-content
- pedagogy
- quality
- recognition-
- strategies
- technology

2. E-Content Development

2.1. Basics of Static E-Content Development

Static content is defined as a type of content that can be delivered to an end user without having to be generated, modified, or processed. This type of content doesn't require any attention from the content generator unless the content becomes old. The basic objective of this type of content is to make it available for large number of users.



Flowchart of E-Content Development

Static E-Content is similar static content that is made available to the users over the internet. Content writers, generate the content and upload into content delivering websites, usually the MOOC websites. The servers in the back end deliver the same file to each user, making static content one of the simplest and most efficient content types to transmit over the Internet. Most of the content that available on the websites keep changing. The Course providing platforms frequently change their, layouts, content and features, based on users who access it. In this case, the content that is delivered is the updated content which has been modified for the better user experience. Now this content is called as dynamic content. Static content doesn't require frequent modification. It doesn't depend on user inputs and preferences. As the static content is relatively less interactive than the dynamic content, it is easier to process and deliver.

Differences between static and dynamic content

Static content	Dynamic Content
Created once Example: PDF, Text Documents	Frequently modified Example: Dynamic Web Content
Doesn't require attention	Requires monitoring for the new content to be accommodated
easy to deliver and access	relatively complicated
non interactive, (static PDF)	interactive web content

Contrast Between Static and Dynamic Content

Developing this type of content similar techniques employed in the development of any type of content. Content once generated by the content writers can be made static. Courses once created according to the user requirements can be saved in specific formats such as PDF, Doc, txt etc. Images can also be included in making static content.

Information Collection / Data mining Strategies

E-content development involves data mining from a range of sources that are available online and offline. This step can be called as information collection step. As the content generation involves various types of data to be generated, it is commonly taken from the sources like online publications, research papers, journals etc. Depending on the content and copyright issues, some of the content like videos and pictures have to be created unlike the text. However, text that is available online or in any other source may even be copyrighted. Such text can be used as reference for new content. Some of the common data collection techniques are

- Documents and records,
- Case studies, ethnographies
- Literary studies and focus groups
- Observations and interviews
- Questionnaires and surveys

Documents and records provide information that is recorded over the years. Case studies give review of subject applications in different areas of study. Literary studies and focus groups are good for information that is inclined towards research and developments in specific subject. Observations and interviews of subject matter experts and researchers give first-hand information that hasn't been published. Questionnaires and surveys are useful for analysing the quality and quantity of the information.

Other sources like online and offline libraries, Journal repositories, publishing websites also provide immense data for e-content development. The content that is to be developed should be designed in such a way that it should be easier to understand by both the educators and the learners. Taking learners into consideration, the information that is published in the courses or as e-content will be different for every learner. Unlike classroom ecosystem, the learners of different subject expertise will be shared the same information. Hence the information published should be adaptable.

2.2. Cognitive Theory of Learning

The process of learning has been affected by the advancement of computer and multimedia technologies. These advancements provided a platform for the learners to take part in a self-paced and active learning environment. Employing technology didn't necessarily change the subject but it has effected teaching and learning behaviours of educators and the learners. As the online content is inclined towards multimedia learning content, most of the content is being developed using audio visual material. Therefore, development of E-content aims to achieve specific goals in education and to design learner centric programs.

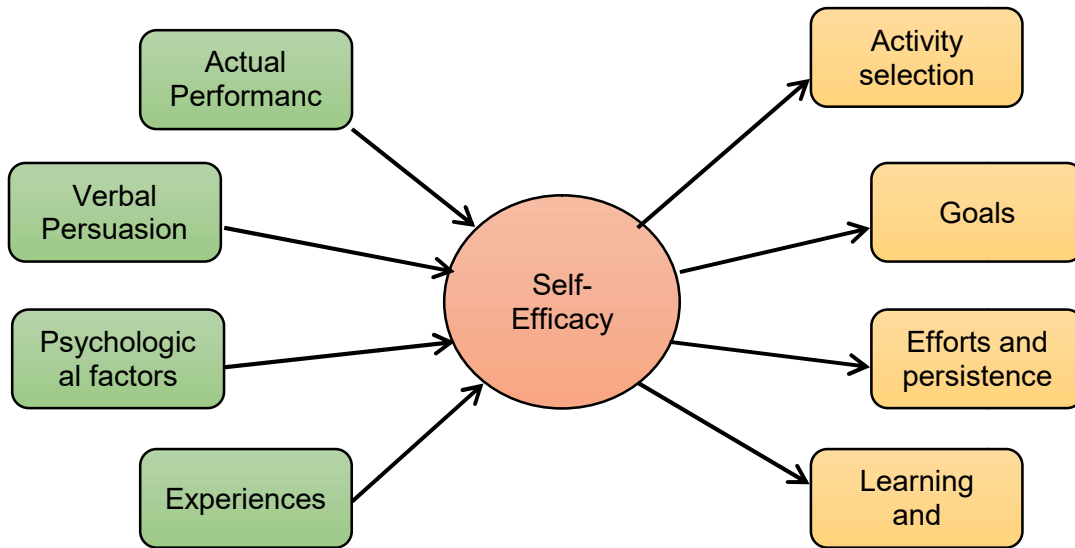
The Cognitive Theory of Learning explains the interpretation and processing of the things as humans learn. This theory explains the mental abilities as they are influenced by extrinsic and intrinsic factors which eventually affect the assimilation of an individual. This can be briefly categorised into two specific

theories depending on the type of learner. They are:

1. Social Cognitive Theory (SCT)
2. Cognitive Behavioural Theory (CBT)

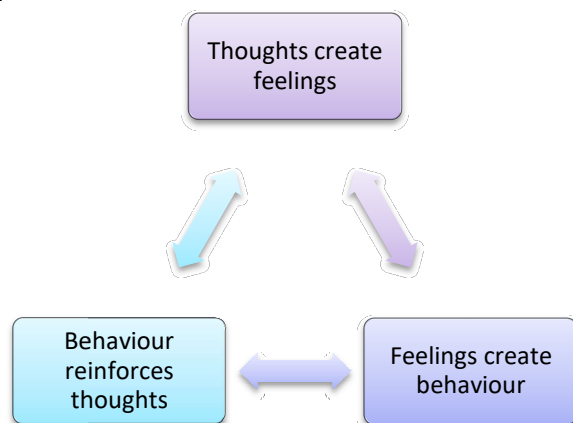
Social Cognitive Theory (SCT)

Social Cognitive Theory states that new encounters are to be assessed by the student by means of analysing his past encounters with similar determinants. As a result, learning can be of a careful evaluation of the past experience versus the present. Some concepts of Social cognitive theory such as observational learning, reproduction of the subject, self-efficacy, emotional coping and self-regulatory capability can manifest in learners of all age groups.



Cognitive Behavioural Theory (CBT)

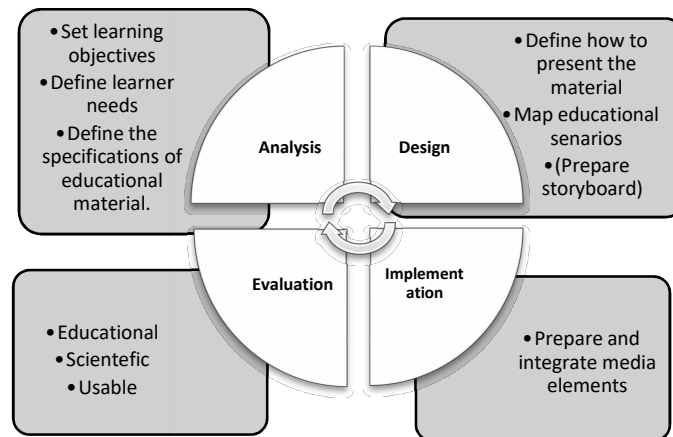
Aaron Beck developed the theory of Cognitive Behaviour. This theory describes the significance of cognition in determining the behaviour of an individual. It states that individuals tend to develop self-concepts that affect the behaviour they display. These concepts can be positive or negative and can be affected by a person's environment. It also states that the behaviour patterns and learning are affected by three different factors, the Self, world/environment and the Future. These three factors together are called as the cognitive triad.



2.3. Life cycle of E-Content development

The audio-visual learning hypothesis suggest, "Individuals can gain more profoundly from words and pictures than from words alone". For a long time, words have been the significant arrangement for guidance; including talked and printed words. Recently, pictorial forms of instruction are becoming widely available, however just adding pictures to words does not guarantee enhancement in learning – that is, not all media presentations are similarly successful.

Therefore, the buildout of an instructive e-content as any other software requires beginning with the analysis, design, implementation, and testing phases and generating a product according to some dogmas of multimedia learning. The figure below illustrates the e-content development lifecycle and the subsequent sections contain a detailed demonstration of each phase comprising some strategies for developing an effective e-content.



E-Content development lifecycle

1. Analysis:

The initial phase in the buildout of an instructive e-content's lifecycle is to analyse the prerequisites of a course content. It is analysed as follows –

a) Set Learning Objectives:

The e-content developers can use a clearly defined learning objectives to choose the activities of teaching and learning. If the learners identify exactly what they are supposed to learn from the starting of the learning process, they can take accountability of their own learning and are more likely to flourish. The objectives of a course should be whole, apt, sound, viable, appropriate, open-ended, and be shared with students.

b) Define Learner Needs:

It is very important that teachers consider students' perspectives. Quality learning is education that engages learners, and emboldens innovation, imagination and creativity. Along with all the other things,

the course material should be designed basing on the how much the adult knows, students' interests & their preferences and should be presented in such a way that it allows the construction of knowledge rather than a mere data acquisition. Allowing the learners to be as thinkers, participating in an active interaction and self-assessment can be a great motivation to them.

c) Define the Specifications of Educational Material

Defining the specifications of educational material such as teaching methodology and content is the third step in the analysis phase of e-content development lifecycle.

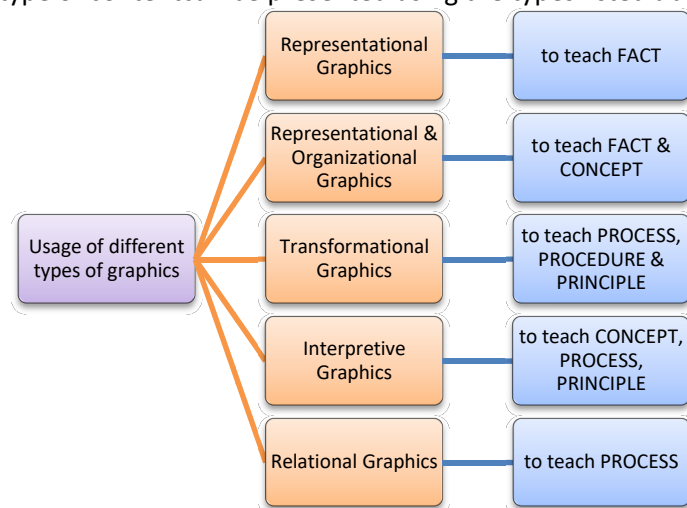
Recognizing 'content' means selecting the most suitable illustrations for each type of content. Recognizing 'teaching methodology' means choosing the most effective methods in order to succeed in learning goals.

- Recognizing 'Content'

To communicate the prepared material a mix of text, acoustic, still and motion illustrations can be used. Instead of using the words alone, it would be better if the words are clubbed with some graphics in any presentation. Yet, not all visuals are equally helpful in supporting learning. Some possible visuals that can be chosen to present are

1. Decorative graphics,
2. Representational graphics,
3. Relational graphics,
4. Organizational graphics,
5. Transformational graphics, and
6. Interpretive graphics.

It is identified that there are five different types of content: fact, concept, process, procedure, and principle. Each type of content can be presented using the types listed above.



Usage of Graphics

Besides the content types listed above, the development of e-content may also comprise interactive, and animated content to allow the active participation of learners in the learning environment. Usage of animation while presenting a sequence of steps assists the learners achieve the definite goals in learning. It is also suggested that the presentation will be more effective when the animated version is

accompanied with a relevant text in a synchronous way.

- Recognizing 'Teaching Methodology'

Diverse teaching techniques are used in education. The chosen method depends mainly on the learning objectives, then on the technological resources available. To make knowledge acquisition meaningful, learners should play the active role in their own learning.

Using inductive teaching methodology, student- centred approach can be implemented to bring out the active participation of the learner. *Inductive teaching method* uses an approach, called as 'noticing' where learners are provided with various examples and are anticipated to notice the root concept behind.

The following are a few kinds of teaching methods:

Teaching Method	Process
Inquiry Learning	It begins with giving a few questions, problems, and a set of observations to the learner. Accordingly, learners need to find the answers, solutions to the problems, and the observations should be explained.
Problem-Based Learning	This type is the most complex and tough to implement. It comprises of complex, open-ended, and real-world problems; which demands familiarity and skills specified in the learning objectives.
Project-Based Learning	It begins with giving an assignment to the learner to perform some tasks in order to develop a product. The product could be a design or a model
Case-Based Teaching	This method can be used when objectives involve decision making in a situations which is complex.
Discovery Learning	This method uses surveybased learning where questions are answered, problems are solved by the learners and then work for discovering the desired knowledge in a self-directed way. Later a feedback is given on their effort and on the process of finding the conclusions.

Teaching methodologies

2. Design

The design phase is the second step in the lifecycle development of educational e-content. The following are the steps:

a) Define How to Present Content Based on the Cognitive Theory of Multimedia Learning

The use of a variety of artistic or communicative media represents an incredible learning innovation that can upgrade human learning. Two primary types of multimedia applications could be utilized; applications that present data to the students, and applications that give feedback on the accuracy of student replies on a few issues. Interactive media learning environments give astonishing potential possibilities for supporting a wide variety of students.

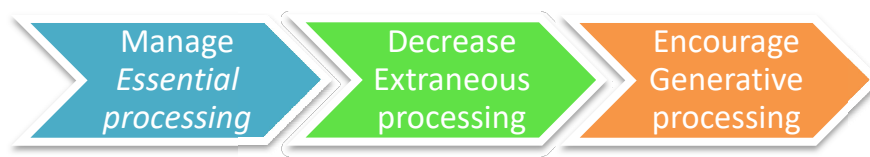
Conversely, there were trials by many researchers on how to design interactive multimedia renditions in virtual reality and on finding the most potent technology that may improve the standard of learning. The importance of technology in enhancing the standards of learning should not be forgotten and using it moderately can achieve better results in the knowledge acquisition. It is essential to be aware of the

probable risks that may be as the consequences from new technologies in order to stay away from the unconstructive influences on learning. Therefore, it is better to design the e-content based on the human perception rather than the technological resources that are available.

The hitches in carrying out the various processes in different channels of learning are the main issues in the knowledge acquisition. The following are the three important main aspects for cognitive processing ability:

1. Extraneous processing,
2. Essential processing, and
3. Generative processing.

The main aim of multimedia learning is as follows:



The below given table bridges every single aspect of cognitive processing capacity with multimedia dogmas which has the capacity to manage, reduce and boost up each process.

MULTIMEDIA PRINCIPLES TO MANAGE COGNITIVE PROCESSING

Cognitive Processing	Multimedia Dogmas
Reducing Extraneous Processing	consistency, signalling, redundancy, spatial contiguity, temporal contiguity
Managing Essential Processing	segmenting, pre-training, modality
Encouraging Generative Processing	multimedia, personalization, voice, illustration

Principles to manage Cognitive Processing

As discussed previously, there must be a foundation for exhibiting content to completely pull in students to the learning content and accomplish learning objectives.

The following are some guidelines for exposition of the content

How to Present Text?

It is suggested that combining some elements of multimedia with teaching material yields good results. All the basic models that were designed for teaching text, have proved that effective perception couldn't be achieved only by written on-screen text but in addition to that including other elements to the written text on-screen allow the learners make connections between the root concept and their related previous knowledge; eventually this enhances the learners' experience in knowledge acquisition. Instead of words or text alone, usage of pictures and voice along with the written content on-screen can yield better result.

If the other kinds of visuals, such as pictures, animation or video are explained by the given text, it would be better to transform it into voice format from the written text.

1. When there is large amount of written content on the screen, it is better to use some techniques such as mouse-over in order to make text fit the screen.
2. place all the connected text in one place.
3. For a question and answer session, the feedback must be displayed on the same window so that it would be easier for the learner to go through a quick comparison.
4. If there is any provision of external and additional resource like a hyperlink, it should be visible to the learner on the same screen minimised in order to provide awareness to the user on how the link works for the further usage
5. It is better to present text using conversational style rather than the conventional style.
6. Exclude needless detailed text.
7. The necessary and related matter can be highlighted using headings, bold, underline, capital letters, large fonts, colours, and arrows.

How to Present Images or Illustrations?

Not all pictures or representations give a decent result in learning; they can improve learning only when they are designed in a task-related way that might help in resolving the upcoming tasks.

The below are some guidelines:

- Choose pictures or designs which can cover all the necessary content with an audio assistance rather than a written text on-screen.
- Decrease the dimensions of the figure if it is too big.
- Evade irrelevant illustrations that do not add information.

Case Study: e- content generation- A Success story

LESSON:4

SELF-CONFID

(BELIEVE IN YOURSELF

You may be rich and intelligent. But if you do not ha
cannot come out and speak. Hence, apart from all yo
confidence is very important. It can be acquired throug
too developed it through constant practice. It gives you ir

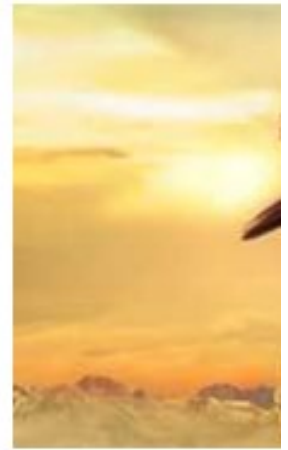


“YOU V

The story of Kushboo Rawat

"Prerana", is the name of the school where Rawat is studying. Her mother died when she was just two. Her father is a drunkard, remarried, but her stepmother died too, leaving in her care two half-siblings who are still toddlers.

Patriarchal attitude, domestic violence and child marriages forced women and girl children to surrender to the male domination. Rawat might have surrendered too. But with the support she got from her teacher Urvashi Sahni, she became confident. Her father has beaten her brutally to stop the school many a time. But with developed self-confidence, Rawat stood strong and focused on her studies. "One thing Sahni had taught me is that I'm not so weak that I should die," says Rawat. Now she is working with the lunch suppliers and earns for the family. She was given Scholarship to go to



How to T

In this movie, a follow his tribe's slaver After fina

DOs FOR SELF-CONFIDENCE:

Set challenging and realistic goals.

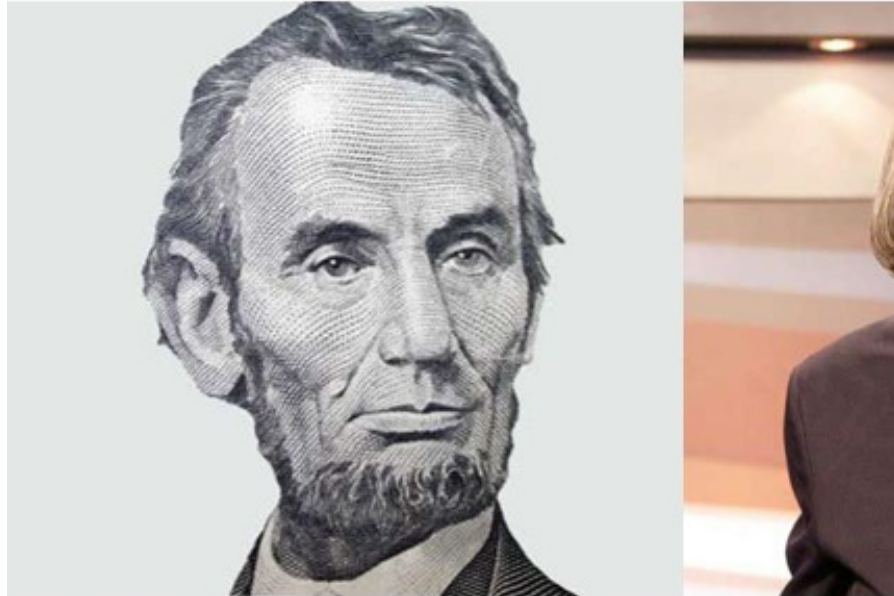
- Stay positive – believe in yourself.
- Think and act confidently.
- Learn from your mistakes.



DON'T CONF

Set challeng

- Don't be
- Don't e; first tim



“I walk slowly
but I never
walk backward”

“Without
involvement
can't be

The above two- page lesson “Self Confidence” is the case study, of Kushboo Rawata young girl of rural India. “Prerana” is the name of the school she studied. I selected her story to write an e-lesson for higher education.

The Principal Secretary wanted a **Summer- e-book** to be placed in the domain of www.apcce.Gov.in the title of the book is **Skill Genie**. It was **soft Launched** by AP CM with vision of developing Communicative skills along with **Life Skills**. The Hon’ble Chief Minister of Andhra Pradesh with the vision of developing employable skills, he established State Knowledge Hub. His vision is:
“My vision for students of Andhra Pradesh is to be employable at global level through mastery over English and soft skills.”

As per the guidelines of Principle secretary instead of preparing a Book, he wanted to have e-book. Because if a book with nearly pages will become a “shelf Book,” where the student cannot carry it always. This summer book earlier was to be a Collector’s book as in every district this book has to be provided to all the students of higher education to make use of it during summer. This “Life skills genie” has 14 lessons on life skills- this e-content can be used by the students with their smart phones. Some villages were provided with **fibre grid**. So the rural students can learn these skills through internet. URL IDs provided in each lesson facilitates the student to get more information. Each lesson was designed in two pages only with colourful pictures and quotes from eminent personalities are provided. It is worth reading. It can be down loaded from the website provided above.

Analysis: Had it been a printed book, surly it will go to the shelf and will become another shelf book. The tendency of any individual is to postpone. They will say’ OK with the book. I can read it later!

Solution: The solution is **e- content**. It is accessible anywhere and at any time as long as they are

connected to internet.

Feedback: A very positive feedback was given by the students. They were attracted by the content. The colourful pictures drew the attention. URL IDs provided had made the student to get accessed to various useful videos and films taught them life skills. Not only the students many viewers appreciated.

To Do Activity

1. What does WWW stand for?() a
 - a. World Wide Web
 - b. Whole Wide World
 - c. Web Wild World
 - d. Wide World web
2. Which would you choose to search for the video games () c
 - a. www.videogameswhereru.com
 - b. www.iwantvideogamesnow.com
 - c. www.amazon.com
 - d. www.findvideogames.com
3. How do you know a website is secure?() d
 - a. It contains https
 - b. It contains picture of a lock
 - c. It will have SSL
 - d. All of these
4. John wants to buy computer that which is easy to carry but must be as strong as desktop () b
 - a. Tablet
 - b. Laptop
 - c. Smartphone 1 a, 2 c, 3 d, 4 b
 - d. Desk top
5. What does the right mouse button commonly do?() b
 - a. Open items
 - b. Display a menu
 - c. Perform tasks
 - d. None of the above
6. Shift is a _____key () d
 - a. A navigational key
 - b. Alphanumerical key
 - c. Numerical Key
 - d. Special key
7. Logging off your computer will close any open programs () b
 - a. True
 - b. False
8. The CPU acts as a _____ of the computer () b
 - a. Heart
 - b. Brain
 - c. Blood
 - d. All of these
9. Which of these is an example of a strong Password () a
 - a. BanAna123

- b. 123456
e. Password
c. Password1
10. Which of these is an example of social media ()c
a. A. google slides
b. Google classroom
c. Twitter
d. Quizizz
11. Which of these is called as personal information? ()d
a. Gender
b. Dogs name
c. Nick name
d. Date of birth
12. URL extension: .edu means....()d
a. Government website
b. Network website
c. Organization website
d. Education website

Key

1 a, 2 c, 3 d, 4 b, 5 b, 6 d, 7 b, 8 b, 9, a, 10 c, 11 d, 12 d

e- learning quotes

“eLearning doesn't just "happen"! It requires careful planning and implementation.” – Anonymous

“The most important principle for designing lively eLearning is to see eLearning design not as information design but as designing an experience.” - Cathy Moore

How to Present Audio?

Audio is considered as one of the most influential tools in mixed media learning that works as a way out, for presenting the text in such a way that handles load that sprouts up on the working memory’s visual channel.

The following are a few guidelines for presenting audio in a content environment:

- Audio must be chosen in sync with the given picture, animation, or visuals.
- It is better to provide narrated text along with the written on-screen content when there are no other visuals.
- The audio format must match with the language used by the learners.
- The presentation of audio in a conversational style is more efficient than the formal style.
- Usage of human-voice is suggested rather than a machine-voice.
- Exclude any background music or sound that is inapt to the content of the course.
- When the audio text is difficult to interpret, it should be accompanied with an image or some appropriate visual so that the knowledge acquisition takes place in a constructive way.

How to Present Animation or Video?

When compared with the other forms of presenting the content, animations is considered as one of the stimulating pictorial forms of designing the content. In fact, it has the capacity to enhance potential of human learning when it is aimed for deep perception. Learning through visuals lead to a more proficient learning, however, not every educational visual ever designed has the capability of teaching the content. Videos which are prepared with on focus on the educational purposes and the doctrines of cognitive theory could fail easily.

The following are a few guidelines for preparing the animation or video contents:

- Animation can be used to present the invisible functions of the content.
- Design the video in such a way that it does the explanatory function which can reveal the true sense of the given content.
- Usage of animation to present the cause and effect.
- Evade any extra inessential visuals that deviates the context.
- Let the learner have control over video's pace.
- Use the adjustment of brightness on an element in the animation to lead the learner's attention in a specific way.

Map Educational Objectives to Educational Scenarios

As per what had discussed previously and the rules that were produced from the principles of the intellectual hypothesis the time has come to construct a useful storyboard. A *storyboard* is a visual coordinator of what an instructive content may contain. It represents the content and its appearance on an online-environment before taking advancement actions. It represents a well ordered guide for generating learning content. It gives correct data on the best way to build up each screen of the instructive content to the e-content engineers. A decent **storyboard** contains screen data, audio directions, illustrations guidelines, video guidelines, on-screen writings, route guidelines, and interactivity directions.

A storyboard is a tool for sketching out how a video will unfold, shot by shot. It looks like a comic strip. Each square represents a single shot. It shows who or what is in the scene, what's being said, and any text or graphics that appear on the screen.

It helps to visualize the shots you wanted to have and show how you will interact with the script.

Implementation

Implementation phase is the third step in the development lifecycle of e- content. Preparation and integration of media elements is the main objective of this phase. Referring to the storyboard that is designed in design phase, media elements can be prepared. Media elements like recording voice-over text, the images, illustrations, animations and videos are produced, and the activities/assessments are developed. Successful Implementation of e-content can only be successful if the interrelated media elements are integrated, which are prepared based on the design phase and referring to the storyboard content.

Evaluation

The last step in the development lifecycle of e-content is the evaluation phase. The main aim of this

phase is to achieve a certain threshold of the quality of e-content and to collect data in order to improve its design. The learning content should follow the stated goals and objectives, i.e. it should be objective oriented. And in addition it should also be educational, scientific and usable.

A comprehensive look at the design phase of the course content may help in better understanding of the cognitive theory of multimedia learning and its application in the development of e-content. Design phase being the pre-requisite of the evaluation phase it defines design principles which are helpful in designing an e-content development framework that is effective for learners and educators. These design principles affect the presentation depending on the content and the part of presentation. Few of the design principles for delivering e-content are as follows

Presented Part	Multimedia P
Overall Content	Navigational principle, sitem attention principle, redundar principle, image principle, v modality principle
Before presenting the related material	Pre-training principle
Learning Objectives/Summary	Segmenting principle and pe
Integrated Multimedia Elements (Text, Audio	Multimedia principle, segme ing principle, spatial-contigu contiguity principle, persone

Design Principles

Standards of e-content

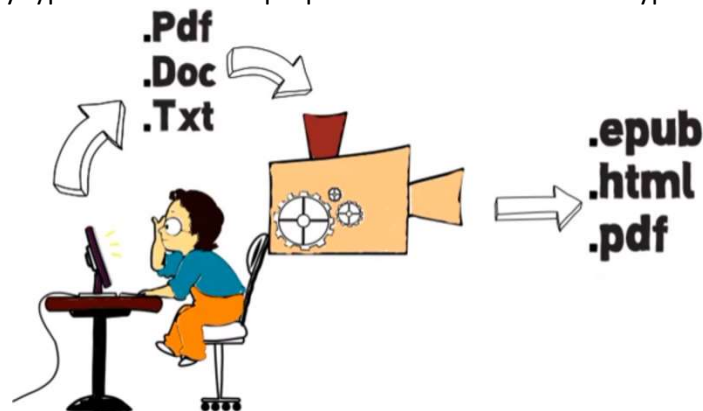
The content that is generated has to follow certain standards, E-content standards are a set of rules that e-content developers have to follow. Standards are some specifications that help e-content developers to maintain uniformity. These standards are classified as mandatory, voluntary and defector. Mandatory standards are the ones that have to be included compulsorily, standards that are not so particular to follow fall under voluntary standards and de-facto standards are well established common standards but may not be published formally. Maintaining consistent development standards in creation and communication of e-content is essential for the quality content. Other standardising factors such as writing and textual content, graphics and design, questions and testing, audio/video and interactive standards and guidelines have to be checked before finalizing.

Electronic standards are published by formal standardising bodies such as the Internet Engineering Task Force (IETF), World Wide Web Consortium (W3C), International Organization for Standardization (ISO) etc. W3C is international standards organization for World Wide Web. These standards are to be followed for integration of course ware. There are several standards pertaining the content assimilation and interoperability.

2.4. Publishing e-content and Pedagogical Issues

What is e-publishing?

Digital Publishing or e-publishing is defined as publication of magazines, reports, whitepapers, research papers, e-books or any type of content in a proper format on the internet typically on a website.



Digital publications are sold as subscriptions for monthly magazines, provided as online courses on some platforms while others are made available as free content and monetized through advertising and used for marketing purposes as e-books or catalogues, digital magazines. Well-structured e-content can be delivered redundantly to different learners. Course components such as units, lessons and media elements such as graphics and animations can be re-used in different contexts.

Publishing digital content can be done in two different ways. They are,

- Publishing as open resource and
- Publishing as online course

According to Saxena Anurag(2011) 'E-content is basically a package that satisfies the conditions like minimization of distance, cost effectiveness, user friendliness and adaptability to local conditions'. Content that is developed can never be classified as e-content unless it is published or made available online. The process can also be called as digital publishing. Now digital publishing is a diverse term covering topics such as digital magazines, e-books etc.

Publishing as open resource:

Multi-platform publishing or open resource involves publishing content on different platforms. Platforms refer to different online media such as websites and content providing services. Some platforms are suitable for paid model where some are best suited for content marketing. Web content can be published using tools like adobe captivate. Adobe Captivate is an authoring tool used to create e-learning content in HTML5 and other Small Web Formats. Other platforms such as Camtasia, snagit are used for live screen casting. Websites like Udemy.com, Shahacademy.com, coursera.com, simplilearn.com etc. are a few examples of course providing websites. E-content can not only be course content but also research papers, white papers and other informative articles. This type of content can be uploaded to platforms such as springer, iEEE, online journals, technical forums. Usually this procedure involves cross checking of the generated material where the content is verified by subject experts for any plagiarised material. Slight tolerance is given based on the subject chosen and all the references should be mentioned properly. Content publishing in the form of Blogs is another way to achieve cross-platform publication. Blogs allow easy access for the author and the end user. It also provides relatively flexible approach to publish any type of content. Blogs are best suited for less content. Websites like Blogspot.com, Wordpress.com enable users to create, manage, customize and publish blog posts. It is also easier to create feedback forms, quizzes, questionnaires and assessment tests on blogs regarding the posted content. Google forms is one of the best examples for creating questionnaires and simple tests. Forms or assessment tests can be created in google forms and the urls of these forms have to be given in the blogs.

Publishing as an online course:

Online courses and MOOCs are changing the pedagogical approach in this fast paced digital world. The existence of numerous online course providing platforms created redundancy of topics, subjects and online material. As a result, it has become vital to maintain uniqueness in new content. Hence, the first principle of any ideal course content is to “Differentiate”. Online course providing platforms are marketplaces where a plethora of courses are always published, often comparable. Choosing the topic and designing the curriculum that differentiate the already existing content are two best practices to follow when publishing online courses.

Typical procedure in publishing online courses involve following steps

Task	Action
Determine Course Topic	Subject/Topic of Choice
Define Course Learning Objectives	Primary objectives of the designed course
Create Course Outline	Design course structure of what to be delivered
Write Lecture Descriptions	Create descriptions of each outline topic
Script Course and Promo Video	Create demonstrational outline videos if necessary
Create Extra Supplementary Materials	Create appendices for extra material
Assemble your Recording Setup	Depending on the medium of delivery, setup proper equipment
Upload Video Lectures and Supplemental Material	Upload material into the selected website
Write Course Summary	Summarize each deliverable
Create and Upload your Course	Finalize by uploading the course

Steps for publishing online content

As the creation of e-content has been discussed in previous sections, uploading of course content can be done from the selected websites. Most of the websites support digital formats like Portable Document Format, Rich Text Document, Microsoft Word Document etc. and image formats. All the material can be uploaded from the upload section of websites. As a content developer/author of the course, websites provide admin privileges to the manage the content. This means only the author of the course can modify the content. And course providing websites also provide interfaces to upload the content and to manage it.

2.5. Plagiarism

One of the factors that affect e- content is Plagiarism. Plagiarism is the "wrongful appropriation" and "publication" of "language, thoughts, ideas, or expressions" of another author. Plagiarism is considered academic dishonesty and a breach of journalistic ethics. Plagiarism can affect the reputation if content and the host websites and it is important to avoid consequences. To avoid plagiarism of content, topics that are published can be used as reference to the new content, this not only improves the quality of the content but also gives new ideas to the author.

Content once published online can be accessible to the world. It is subject to risk unless the content is digitally signed. Authenticity of the content is mandatory to maintain quality of the content or the course. To avoid plagiarism issues, content generators tend to use content authoring tools. These are the tools which enable the writer to create a package of e-learning content, deliverable to the end user. Many programs can be considered as authoring tools, including PowerPoint and Flash. However, only a

few programs specifically support e-learning content standards.

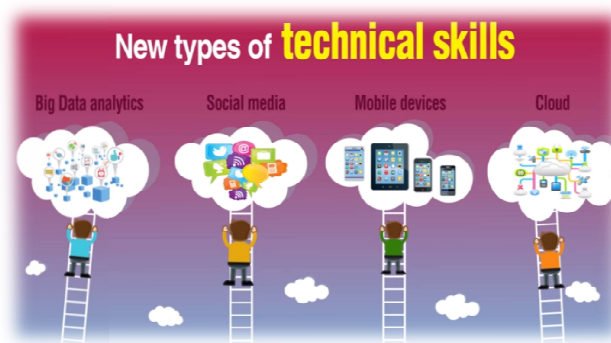
3. Massive Open Online Courses

3.1. MOOCs The Skill Gap Fillers

Massive Open Online Courses are self- study webs for active-learning young aspiring minds to provide quality and affordable education to its ignited minds. This has brought glorious revolution in the way knowledge is being distributed to the masses of young-learners with profound thirst towards learning. A renowned author Elliot Masie quoted, “We need to bring learning to people instead of people to learning.” This philosophy forms the crux of Massive Open Online Courses. Government provides user friendly Technology by providing eLearning resources on the platform. However, with the involvement of the government, industry, and universities, the goal of creating an archetypal education system that we foresee can be achieved.seamless and user-friendly experience for students who shall have one of the largest repositories of eLearning resources at their disposal.

The Open Online Courses are “skills gap” filling courses, as the employers are not finding an employee with required skills to fulfil the needs of the industry. These courses comprehend any area where employers are having trouble to find qualified employees to fill vacancies. In an article for Talent Culture, Spark Hire Founder and CEO, Josh Tolan identified five main areas where skills gaps exist. We decided to explore how well MOOCs could help employers, job seekers and bridge the biggest skills gaps. Some of the best-known universities in the world are offering, specifically mapped to the following five main skills gap.

1. Digital Skills



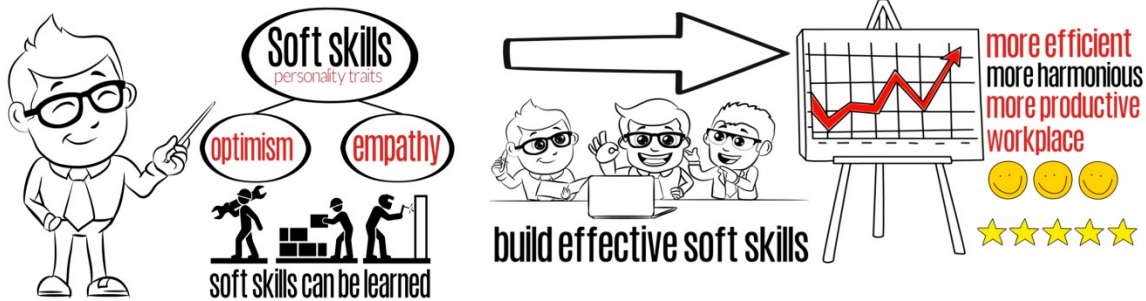
Lack of computer knowledge is equal to illiteracy. Teachers who are using traditional methods of teaching must learn the Digital Skills. Even the primary education system, the teaching methodology includes ICT based teaching. All the education Institutions provided with good infrastructure. Teacher are given training on ICT and provided Hands on Practice session. Internet facility is provided. As the corporate schools and colleges are investing lot of money for the infrastructure to enhance the student enrolment. The government is conducting workshops for the teacher quality enhancement on Digital Literacy.

Many companies say that the digital skills gap is preventing them from adapting to new digital trends. Specific digital media courses include Social Media and Digital Media courses offered on MOOCs platform. Many universities all over the world are concentrating on developing Online courses related Digital skills like workshops, refresher courses etc.,

2. Soft Skills

Soft Skills are people’s skills and can be called as behavioural skills. They can be divided as inter personal and intra personal skills. Many highly educated also do not have soft skills. The employers find that employees are lacking soft skills like assertive communication, collaboration, critical thinking, creative

thinking, problem solving and negotiation skills. These are often considered some of the most difficult skills to train.



BODY ALSO SPEAKS- LISTEN TO IT!!!!

Body language is one of the significant point in Soft Skill) Soft skills are people’s skills. They are inter- personal and intra personal skill. Every individual must develop positive body language. This is another lesson from the www.apcce.gov.in book of **Skill Genie**. This is the e-content uploaded in the Government website for the benefit of the student to develop soft skills.



To Do Activity: Read the instructions related to body Language.
This is the non-verbal communication



Marketing-specific MOOCs include an Introduction to Marketing from the renowned UPenn Wharton School of Business on Coursera, University of Southampton's Digital Marketing: Challenges and Insights on FutureLearn, and Services Marketing: Selling the Invisible on OpenLearning are some of the MOOCs. Northwestern University via Coursera says MOOC is for business owners, executives, and marketing professionals who want to significantly improve their abilities to grow their social strategy using effective, proven methodologies. It teaches how to grow your professional persona using social Media.

4. Skilled Trades

Skill Trades depend on the skills of an individual depending his particular career. They require specific training. Example, carpentry, a tile setter or an electrician. Trade jobs demand manual labour. MOOCs are offering degrees and credentials in IT and service trade areas: financial management, analytics, cybersecurity, machine learning, sustainable energy, are some courses encouraging the students on Vocational courses.

For traditional on-campus degree students have unprecedented access to undergraduate and graduate degrees, which provide flexible scheduling, opportunities for accelerated completion times. The courses provide a major economic opportunity for individuals who have successfully learned a skilled trade to start their own business as a career pathway. On line courses in specific trades and skills represent the bigger innovation. Skill trades are essential to small business growth. MOOCs provide opportunity to obtain some education beyond high school (e.g., a certification or associate degree) to improve their economic well-being without incurring the cost of a college education.

However, many trade industries are starting to experiment with MOOCs and other forms of eLearning for parts of their training programs. University of Alison currently offers a self-paced Intro to Plumbing Pipes and Fixtures course and a comprehensive Diploma in Carpentry Studies program for free. Udemy also has a handful of courses covering topics like Irrigation Installation, Fiber Glass Installation, and more.

There's never been a better time to be alive if you're curious. When I wanted to learn something outside of school as a kid, cracking open my World Book encyclopaedia was the best I could do. Today, all you have to do is go online

-Bill Gates

5. STEM Skills

When it comes to this category as STEM skills MOOCs continue to remain in high demand. Computer and data sciences, software, math, and life science courses are abundantly available on all MOOC platforms virtually. We have discussed STEM skills 1.2. Higher Ed MOOC platforms like Coursera and edX also feature a wide variety of MOOCs in science and technology specializations. These courses aim to equip the learner with the skills and confidence to inspire young people in STEM subjects and careers. Different employers, volunteer their time, enthusiasm and experiences to encourage and inspire young people to achieve more and progress further in science, technology, engineering and mathematics (STEM). As STEM is the largest provider of education, FutureLearn.com has designed an Online Course, it

provides ability to take the course into their hands and can use whenever and where ever they want to. These courses provide examples from experienced teachers and high-quality footage to improve teacher quality to train the learners. They provide scope for reflections. Formative teaching Strategies (for all STEM teachers) Inspiring Young People for STEM (for STEM ambassadors) is another MOOC provided by FutureLearn.com

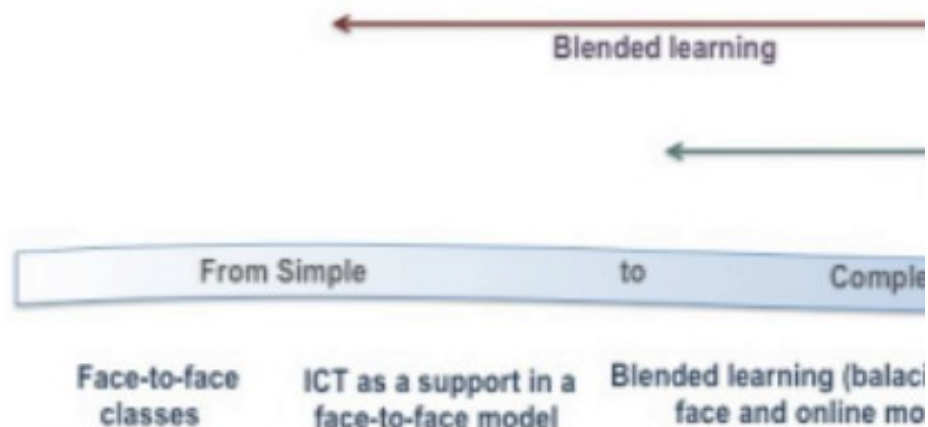
Check your understanding: discuss the following

1. STEM
2. MOOCs- how it can help you?
3. What do you understand by reflections?
4. How do you go for reflections on formative teaching Strategies?

The MOOC platform Degreed is an award-winning platform dedicated to life-long learning. Degreed hosts the world’s largest ecosystem of open learning resources — over 3 million courses, videos, articles, books, podcasts and more from nearly 1,400 sources. Any candidate can use Degreed to find, track and measure. It is forever free.

3.2 Design Principles

For the development of educational Scenario Massive Open Online Courses should consists of Pedagogical approach. They provide steady guidelines on designing the course. The new understanding and Knowledge in this modern era challenges the core concept of course design. It demands latest innovative and suitable approaches to teaching and learning. The course design principles are drawn from the learners’ perspective. They focus on empowering the learner in virtual environment. It provides the scope for critical thinking and develops collaborative learning. Peer assistance and assessment strategies. There are many number of identifiable online delivery methods to be considered as they are innovative with approachable approaches for teaching and learning process. It is to be realized that there is a clear distinctiveness between xMOOC and cMOOCIn regarding with the pedagogical approaches. all cases, massiveness and low teaching involvement during delivery stages is one the biggest challenges for MOOC design. The significant principle in designing the course is to keep the above said concepts in mind.



The interpretation of online learning continuum, Guàrdia (2012). Adapted from Bates & Poole (2003), and Bach, Haynes & Smith (2007, p.34) approaches.

As per UGC norms and the advanced research the specific designed principles are identified.

Instructional system designs are:

A) Need based analysis:

It helps to identify the gaps in the traditional curriculum and the designed course should be a gap filler as learner can be provided with the required Knowledge. The established MOOC course should justify in transmitting the content. To find out a set of principles for MOOC design a preliminary exploratory study is essential. Based on the participants' comments about some popular educational technology-related MOOCs are to be designed.

B) Competence-Based Design Approach.

Competence-Based Design Approach focuses on outcomes of learning and addresses what the learners are expected to learn. To fulfil the learners needs the content generator has to go through the reference books, articles, research papers, collection of illustrations, diagrams, etc. Competent based design approach focuses on the learners' outcome. Problem-Based, Case-Based and Project-Based Learning is appreciable. Through this kind of learning activities learners Learning capacity grows because it involves the learner. Through this kind of learning activities learners should developed and can be expertised.

c) Learning plan and clear orientations.

Planning is crucial in designing MOOC course. The MOOC participants are heterogeneous in their level of understanding, age, peers, learning environment, level of maturity, cognitive knowledge and experience. The course design must have well-structured study plans. The Educators videos provides orientation. It has to be in the form of Transcript also. Some learners may find it difficult to listen and understand. The time of learning the courses should not be too long.

The Live Programs are very encouraging as the platform it provides gives the opportunity to interact with educators and peers. The question can be discussed on this world platform. The self-evaluation methods can be included for example Quiz. It helps the learner to go back and read the provided content again. While the course is in progress the comments can be posted and share the opinions from the participants across the world. If the course is upgraded the learner can have access to use and reuse the content. The extra inputs are to be provided by giving hyperlinks. This information gives enormous knowledge and encourages the learner towards research.

D) Instructional Strategies

In the beginning of the course the educator explanatory video will help the learner to understand the concept of the particular course. The aim and objectives has to be understood by the learner. As this is entirely different from face-to-face learning the instructional strategies are different. Specific learning activities for effective training surely help the slow learner along with advanced learner. e.g. community discussion, case-studies, scenarios, cartoon-strips, analogies, individual or group activities, concept-mapping, in-text learning quizzes, interactive exercises within learning modules, discussion forum topics, blog-postings, podcasts etc. interactive multimedia consisting of graphics, animations, documentaries, recorded demonstrations, dramatized scenarios, cartoon strips, 3D models and animations, info-graphics, diagrams, sketches, maps, screencast videos, slides with audio narration, etc. Treatment of MOOC will mainly depend on the planning of this stage.

E) Collaborative learning

MOOC should be Designed in such a way to provide the opportunity for collaborative learning

including teamwork activities and discussion forums. Provide clear netiquettes for participation in discussion. The comments in the MOOC sharing platform provides an opportunity for collaborative learning. Forums activate collaborative activity. Establish rules and parameters about quality and extension of course. Foster this collaborative approach by designing and promoting activities and tasks in which collaboration is an added value.

F) Evaluation Strategies:

Assessment and peer feedback are very essential in MOOCs. Self and peer assessment can be addressed by elaborating objective and precise criteria and explanation. The design of rubrics, scales, and explanatory automatic answers are supportive tools for the learner. Suggest the use of blog or ePortfolios applications for collecting, reflecting, annotating and sharing learning outcomes and reflections. Specific assessment and evaluation exercises, activities for formative assessments and module-end exercises, summative auto-graded tests, assignments for self-check are good assessment strategies.

G) Detailed time-wise Course

Mapping all content, activities, tests with time-line will be done in the available time. Session Plan consists of week-wise activities. The course will be designed once all strategies and material is finalized. Duration for each module.

3.3. Learning Object Design

Learning Management Systems (LMSs) are web-based application platforms. This Courseware Management System is a software application for the administration, documentation, tracking, and reporting of training programmes, classroom and online events, e-learning programmes, and training content. It is ideal for team, division and company. The instructor They are used to plan implement and assess learning processes, related to online administration and performance management. LMS are defined as systems to manage learners, keeping track of their progress and performance across all types of learning activities. This system helps in managing the and distributing the courses over the Internet with the features of online Collaboration. LMSs provide an instructor to create and deliver content. The instructor will monitor learners' participation, and assess learners' performance. The instructor facilities learners with the equipment. The provision of on-line learning for example, Computer-based training, read & understand, on-line assessment, management of continuous professional education, collaborative learning like application sharing, discussion threads and training resource management are dimensions to Learning Management Systems.

Many institutions have the Learning Management System with content-authoring tools. The content-authoring tool is software used to create multimedia content for delivery on the World Wide Web.

The following are some of the popular LMS Softwares

a) ATutor: ATutor is an Open Source Web-based Learning Management System (LMS).

It helps in Career development, Online course management, Continuing professional development for teachers, and academic research. The software is cited as unique for its accessibility features, it is also facilitating visually-impaired and disabled learners and it is suitable for educational use.

Website: <http://www.atutor.ca/>

b) Brihaspati (The Virtual Classroom): Brihaspati is an open source learning management system of Indian origin.

Website: <http://home.iitk.ac.in/~yensingh/tool/brihaspati.shtml>

C) Claroline: Claroline is a collaborative eLearning and eWorking platform of LMS. It is released under the GPL Open Source license. It allows hundreds of organizations worldwide ranging from universities to schools and from companies to associations to create and administer courses and collaboration spaces over the web.

Website: <http://www.claroline.net/>

d) Moodle: Modular Object-Oriented Dynamic Learning Environment (Moodle) is a free and open-source e-learning software platform, also known as a Course Management System, Learning Management System, or Virtual Learning Environment (VLE). It is developed by Martin Dougiamas to help the educators create online courses with a focus on interaction and collaborative construction of content.

Website: <http://moodle.org/>

3.4. Open Education Resources

Open Educational Resources (OERs) provide educational materials that are in the public domain are introduced with an open license, anyone can legally and freely copy, use, adapt and re-share them. These resources are digital assets that are useful for teaching, learning, and assessing as well as for research purposes. Learners need enrichment beyond the core classroom material. At that situation these Open Education Resources providing lot of needed information.

Importance of OER

Open Education Resources (OER) are important for many reasons. It provides free access to students on core materials. OER also allows faculty to create material that is customized for their classes. It will help the teacher to take only strong material to the class. The experienced faculty can provide extra inputs to the advanced learners. The content in the text can be customized according to the target learners. This type of collaboration is not possible in any other platform. The other word for OER is Creative Commons.



Benefits of OER

- expanded access to learning.
- scalability.
- augmentation of class materials.
- enhancement of regular course content.
- quick circulation.
- less expense for students.
- showcasing of innovation and talent.
- ties for alumni.

Promising advantages of OER

Flexibility to the instructors to draw from the multiple resources to support the course. It provides benefit to the students. The student need not buy many reference books. Infinite opportunities of

collaboration to the OER Content developers. It will make the higher education more accessible across the globe. Web-based content is called 'Living –Text Book'. It will be updated regularly.

Higher Educational Institutions can now offer Certificate, Diploma and Degree Programmes in full-fledged online mode. The courses similar to that of regular graduation courses. It is providing courses in Open and Distance Learning mode. The degrees are identified by the statutory councils, as applicable, said a statement from Human Resource Development Ministry. The UGC regulation also suggests that the online learning shall have minimum four quadrants: video lectures, e- content, self-assessment and discussion forum to clarify doubts. The learners' engagement will be monitored via participation in asynchronous/synchronous discussions, assignment activity and Programme involvement. The analytics of Learning Management System shall be used for ensuring the learner's participation at least for 2 hours every fortnight.

3.5. Teaching- Learning Approaches and strategies

With the approach of Massive Open Online Courses, the course designer must follow certain strategies for teaching. The teaching approaches are different in online courses rather than face- to- face. MOOC classes can be delivered at anywhere and anytime. The designed courses will be there in the cloud. The course is for 'Massive Learners'. Umpteen number of learners can be accessed at the same time in different Time zones. With the development of Internet and technology people are curious to use the benefits of technology and are able to learn many courses which they interested to know. A technical student can learn humanities, languages, art, etc.,

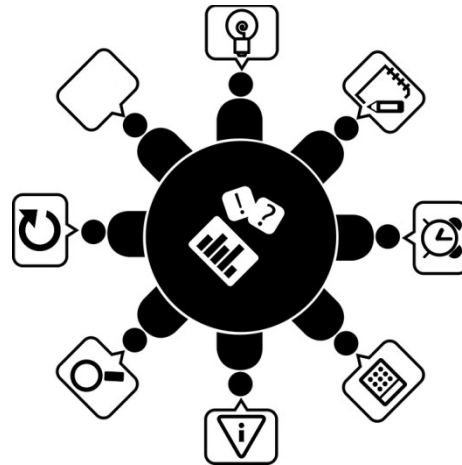


MOOCs provide interactive user forums that help the student learning strategies. Learning communities for students develop peer learning and provide access to meet people from various parts of the world. Instructors and teaching assistants. MOOCs are popular amongst students as they offer a freer and less restricted way of learning when compared to traditional face-to-face courses. Learning in MOOCs is flexible and self-paced, so students can revisit the learning materials as necessary for them to understand the concepts.

Let us study the teaching approaches of MOOCs. The course that is designed to be placed in virtual platform, is to be guided by pedagogical approaches as interactive learning, self-directed learning, peer assessment and constructive feedback. Only then can there be improved student learning outcomes.

1. Interactive Learning:

Interactive learning is one of the major concepts in Teaching and Learning Strategies. In the traditional classroom. Teacher is the instructor. We can call it as face-to-face Teaching. The positive aspect of face-to-face teaching helps the learner to grasp the content with specific listening. The learner gets the opportunity to have eye contact with the teacher and can understand better by watching the body language –gestures of the teacher. The teacher can interact with a student or with students or class as a whole.



In MOOCs the learner will be in the world classroom and in the virtual environment. The learner will be alone or can learn in company. The designed curriculum will have educator or an instructor to talk about the course as introduction and also when the course is in progress. Step by step course leads the learner with sharing comments in the world class. The learner will get the opportunity share the ideas and opinion with others by posting the comment. The learner should read comments of other participants and can follow them or can give a like. Sometimes the educator's opinion also can be given. Hence it can be concluded that interaction is not in pairs or in groups. It is with the forum or with the counter parts in the Live discussion.

2. Self- directed Learning

In the traditional classroom there is less scope for a learner for self- direction. The teacher as Facilitator directs the learner towards the progress. Teacher may conduct process- test when the course is in progress to know the learning capacity of the learner and the level of understanding of the target learner. It is almost like Diagnostic test. In the large classrooms the slow-learner will have some inhibitions to approach the teacher. Only the advanced learner can get the knowledge. The teacher as a Mentor observes the situation and either interact with or can implement, pair work, group work, or can have quality circles, in which the slow learner can be attached with advanced Learner.



In contrast with the traditional classroom where teacher plays various roles like Mentor, Monitor, Facilitator and source of resource, MOOCs have Instructor or Educators explain the course through videos. Even if the learner cannot spare the time at the time of live discussion. The recorded discussion can be seen by the learner at the time of his convenience. There is lot of scope for self-directed learning. To keep the learn interesting towards the course the quizzes that are provided makes the learner to check the answers and go back to the content for conformation. This is the privilege for online learner to go back and read Until the access time is over the course will be on the domain to facilitate the learner. If the learner upgrades by paying minimum fee the content will be at the learner's disposal. The enormous material what the course provides is more than a library, because only related course material will be provided. The material can be down loaded and the learner can use it for research or for

getting extra inputs. Though the course is for 4 or 6 weeks the material can be read for months, until the on the domain.

3. Assessment

Learning activities and assessment methods will keep the online learner in good stead. At the end of every week the course provides question for assignments and provide take away tips to the learner. well-designed announcements (beginning and end of each week) articulating the topic coverage, learning activities and assessment methods to maintain student interest and motivation. Chauhan describes 'several emerging tools and technologies that are being leveraged to assess learning outcomes in a MOOC. These technologies can also be utilized to design and develop a MOOC with built-in features to measure learning outcomes.'



Adaptive assessment: Assessments based on Item Response Theory (IRT) are designed to automatically adapt to student learning and ability to measure learner performance and learning outcomes. The tests include different difficulty levels and based on the response of the learner to each test item, the difficulty level decreases or increases to match learner ability and potential.

These are Google Docs made by Portland Community College librarians in response to requests for help from instructors.

4. Literary Discussion

2.1. Recognising Learner Autonomy

The Intention and free open access of MOOCs is estimable, but the growth of such initiatives and the number of students contributing builds various complications when designing and engaging learning activities. It is especially difficult to design such courses basing on contemporary learning theory (e.g. socio-constructivism) where students learn through group work or practice sessions. As with many open education resources, the significance of such resources will only be acknowledged when learners have effective learning strategies. Self-motivated and independent learners in all aspects of their learning, are vital for student engagement in MOOC.



Significance of prior learning:

Considering higher education, recognition of prior learning is essential. As it expands, it is likely that

valuation types and principles will further scale up the curriculum and create greater intricacy in aligning and mapping experiences of student with established university degrees. Eventually any process for creating certification and completion will require certain degree of “learner autonomy” (Wolfe & Andrews, 2014). However, the research in workplace learning suggests that learners seldom have the required skills and strategies to be productive. Contemporary educational practices are ineffective at improving student self-paced learning efficiency of learners.

Learners plan their learning and collect the data that effectively validates their achievement of skills or learning outcomes, called as Learner Autonomy. It is at this point, current education model runs against the significance for recognising and validating learning outside of formal institutions. The need for developing learner autonomy through personalised learning pathways exist. As learners define both the learning activities as well as the processes for demonstrating competency and understanding, the cMOOC provides a greater level of learner autonomy in comparison to the xMOOC. The analysis of the DALMOOC provides a novel opportunity to identify the impact of learner autonomy on the future education models and delivery pathway development. DALMOOC is a MOOC that deals with Data, Analytics and Learning offered by the University of Texas Arlington. To recognise learner autonomy, the learner should be properly assessed about the course content. This will eventually help in understanding the level of knowledge that the learner gained in that specific subject and the learner autonomy of that individual.

Study states that it is well recognised that education can no longer adhere to a practice that uses traditional lecture as the dominant form of instruction. The importance of the teacher as the source is diminished. An educator needs to be prepared with real disciplinary and procedural expertise as a designer of a novel curriculum. It is in the designing of learning practices that educators must develop student skill in self-regulated learning. It is only through these applications that we will effectively empower learners to embrace these more unstructured educational pathways for effective and productive lifelong learning.

The difference between cMOOCs and xMOOCs:

Stephen Downes, co-creator of the first cMOOC to hit the web. Launched in 2008, the course was called “Connectivism and Connective Knowledge. The terms “cMOOC” and “xMOOC” were coined by Stephen. cMOOCs are based on the learning theory of Connectivism. It will emphasize the power of networking with other individuals connected from different places. They focus on the foundation of learning.

According to George Siemens, co-creator of that first MOOC, cMOOCs are “based on the idea that learning happens within a network, where learners use digital platforms such as blogs, wikis, social media platforms to make connections with content, learning communities and other learners to create and construct knowledge.” cMOOC is “mirroring the open vision of the web itself”, here both the teacher and the learner share the knowledge and discuss.

MOOCs were based on the Connectivism theory of learning. xMOOCs are based on a more traditional classroom structure: They are a combination of pre-recorded video lecture with quizzes, tests, or other assessments. xMOOCs gives importance to a professor rather than online community of students. xMOOCs are based on a more traditional classroom structure: They are a combination a pre-recorded video lecture with quizzes, tests, or other assessments. xMOOCs are centered around a professor rather than around a community of students. Both MOOCs have different type of learning environment and is appropriate for distinct methods of knowledge acquisition.

2.2. Theoretical Framework of e-Learning

In reference to the study based on e-learning and MOOC concepts, the related notions of computer use

in learning through time and revealing the rise of new trends on e-learning have been reviewed. For guiding e-learning studies, theoretical framework will be a contributing factor. The study also states the relationship between the e-learning systems and the learners. The framework elaborates the typology of e-learning systems.

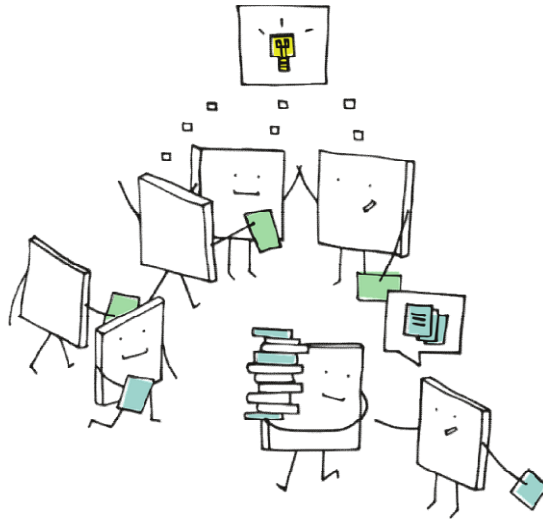
Concepts of E-learning systems

E-Learning frameworks are a developing idea, established in the idea of Computer-Assisted Instruction (CAI). The idea of CAI first showed up in 1955 as a method for showing critical thinking. Below table presents ideas identified with e-learning. Computer assisted learning definitions have been examined in different ways. A few examinations stretch the innovation while others have concentrated on correspondence.

Acronym	Description	Concept
LCMS	Learning Content Management Systems	Content management system for third party content
B-Learning	Blended Learning	Combines Multimedia for Learning Purposes
cMOOC	Connective MOOC	MOOCs based on the philosophy of connectivity and networking
SDL	Self-Directed Learning	Focus on the teaching-learning method
ILM	Internet Based Learning Medium	Focused in supporting and improving student learning
MOOC	Massive Open Online Course	Free diffusion of content courses to a global audience through the Web
xMOOC	MITx or Edx MOOC (Exclusive)	Based on behaviorist pedagogy. Learning management systems with high-quality content
LOOC	Little Open Online Course	Focus on the directed instructions from the teacher to the students
SPOC	Small Private Online Course	MOOC usage as a supplement to classroom learning

Pedagogical Models

Pedagogical models are the basis of learning hypothesis, as they are a result of Knowledge acquisition. From an instructive perspective these models are systems that interface e-learning hypothesis to e-learning practice (Dabbagh, 2005).



The academic models in e-learning are

- open learning,
- Distributed Learning,
- learning networks,
- practice communities and
- information building communities

The open learning can take a few structures, for instance, it tends to be a workshop, a class, a night course, or a separation course. A few precedents on the Web are: "information systems, information gateways, offbeat learning systems, virtual classrooms, and tele-learning." Disseminated learning is centred around the learning conveyance bringing about a joint channel that permits students to get trained through innovation or not in a way that can be acquired synchronously. An information building network is seen as a community having "responsibility among its individuals to put their assets in the aggregate of learning". These communities seek knowledge by sharing individual learning so as to accomplish learning. The instructive models connected to e-learning are supported in the accompanying properties: learning is a social procedure, learning in gathering is major to accomplish information assimilation; educating and learning can be isolated in reality.

Instructional Strategies

Instructional strategies contribute to the pedagogical models, since strategies contain general methods to a learning model. Jonassen(1997) presented five instructional strategies that are techniques that the educator uses in order to engage the learners. Research states that instructional strategies vary from learning strategies, as learning strategies are academic methods that learners use to recognize and learn more.

Learning Technologies

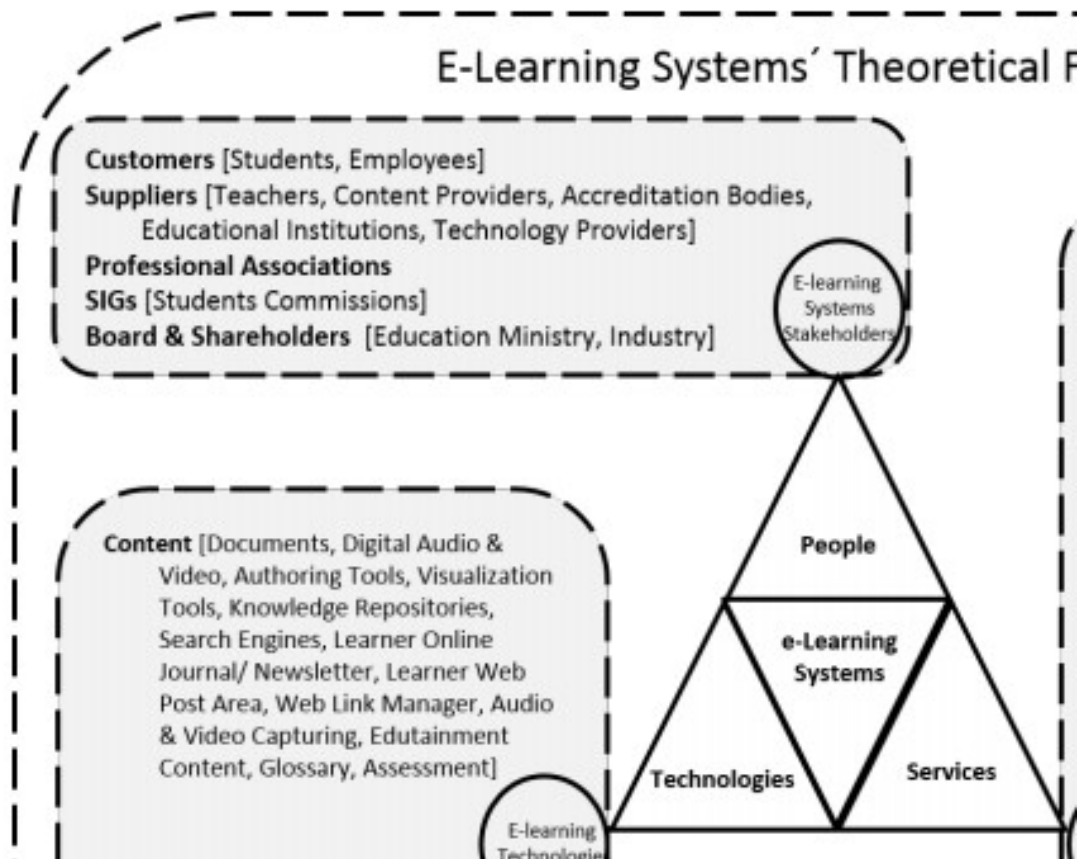
Previous studies have defined the features of the learning technologies to support learning environment and have scope of study for various perspectives. A constructivist point of view requires combined strategies, supporting several fundamentals: psychological, cultural, pedagogical, technological and pragmatic. An e-learning framework was constructed by Oliver and Herrington (2003) It was composed of technological features clustered into three key areas in learning: resources, supports, and activities. These instructional strategies are summarized and the corresponding technological functionalities are given below.

Technologies	Strategies	Authentic activities	Problem solving	Role playing
Graphics Digital audio & video components Animation Hypermedia Authoring tools		✓ ✓ ✓ ✓ ✓		
Synchronous discussion area Online databases/ knowledge repositories Search engines			✓ ✓ ✓	
Multi-user dialog Virtual reality Forums Learner web-post area Learner online journal Sharing tool				✓ ✓

Instructional strategies and learning technologies

e-Learning Theory Framework

A framework "characterizes the critical factors in data framework improvements and can infer that these components are causally associated with effective framework advancement"



e-learning systems' theoretical framework

Three main components of information systems have been mentioned in e-learning systems' theoretical framework. These components are people, technologies, and services. People interact with e-learning systems. Direct or indirect interaction of various user groups with E-learning technologies is observed. Technologies provide support to incorporate content, provide collaboration tools, and enable communication. E-learning services integrate all the activities related to instructional strategies and to pedagogical models. Relatively, systems provide services as per the specified strategies for activities at the same time. In other words, service specifications are defined as e-learning activities associated with the pedagogical models and the instructional strategies.

4.3. Challenges of MOOCs

MOOCs have now become one of the essential properties of present day education. Universities and other education institutions are giving credits on completion of MOOCs provided by them. For example, Nanyang Technological University's took an initiative to allow its students to transfer credits they have earned in MOOCs to the courses they are studying at the university (NTU Academic Services, 2014). These adaptations work well for the growth and future of MOOCs. However, there are still challenges opposing the use and acceptance of MOOCs.

Listed down are some of the key challenges that are being faced by MOOC providers and their approaches to address them.

a. Low completion of Courses/Drop in participation rates.

Study states that the percentage completion rate for courses is less than 10% for most of the courses (40% for few courses). It is observed that the learner's interest at the time of course launch drops as the course progresses. It implies that most of participants may check for the content quality and hence the volumes do not render potential impact in terms of course content offered / revenue generated. This is

one of the challenges where MOOC need improvement.

Step by step instructions and interactive sessions to all learners is more likely to enable intelligent learning and guarantee responsibility/motivation levels with a goal to improve finishing rate. With more current channels like versatile applications and choices to give more focus to their courses, the MOOCs need to enhance this rate.

b. Less Availability in Local Languages

Most courses are focused at English speaking learners. However, there is an extensive segment of learners for whom this may not be the essential dialect. And that isn't being served or terribly under-served by the present course providing platforms.

There are languages like Arabic, Chinese, French, Spanish, Portuguese and so on that have an extensive undiscovered potential for development, if courses were designed in them. Coursera.com is an example for multiple language courses, offer courses by various contributing institutions in their native languages (like French, Spanish, Hindi, etc). It is noted to have started a translation facility to change best content into other languages for wider use. EdX is another website that also has participating institutions from countries encourages them to provide localized content. It had its first bilingual course in English and Hindi, Engaging India from Australian National University start in April 2014. Udacity in collaboration with another firm took initiative to translate and provide its course lectures (in video) into multiple languages. Failure to focus on multi language courses leads to a failure in addressing students from different nations and languages. As of now there are MOOCs being propelled in different nations concentrating on their local languages.

c. Accreditation

Accreditation from colleges permits MOOCs to acknowledge income from their course charges (certify courses). Secondly, licensed courses are verified and esteemed by managers. Five courses of Coursera were licensed by American Council of Education for credit grants in March 2013. A few courses in Udacity additionally are in the process of being certified. Georgia Tech declared that it will offer its MS in Technology on Udacity at 1/5th of its add up cost of its on campus program (\$6600 contrasted with \$30k). MOOCs are keen on unbundling different areas of advanced education and in view of their economies of scale and to convey the similar content at lower cost. Subsequently, numerous colleges (where spending plans are a limitation) will hope to tie up with them in future to improve throughput.

d. Cross-border Issues

There are 2 aspects of this, first one is that the validity of the course completed on MOOCs in different countries. This is important in certain contexts. For example, a MBA in UK is not recognized as a corresponding degree in India. Second aspect is competition from global players in certain countries to promote their own courses (for ex. other country could restrict access to certain MOOC courses if they find debatable courses). As the platforms evolve and start to get more accreditation this might become an addressable issue.

e. Monetization

These MOOC providers should make sense of their most ideal approaches to be beneficial since investors who are expending resources on them might want to see returns. For them to be fiscally practical they will require returns. Delivering content for MOOC is expensive in light of the fact that it includes video altering, top of the line illustrations and social/technical support is expected to make the courses interactive and henceforth there is a need to create returns. In spite of the fact that on a similar scale – cost per client is much lower than conventional colleges, however as income streams are constrained – given their fundamental item is being sold for nothing – MOOCs must be agile to

adequately boost their streams.

Current MOOC providers are focusing on courses related to higher education or STEM fields in the academic disciplines of Science, Technology, Mathematics and engineering and learners of all age groups are being addressed. And there are also providers who are giving specialized courses like K-12. The potential growth of MOOC providers depend on the course segments they decide to specialize and accommodate.

f. Technology / Ecosystem

There are multiple aspects to this challenge that the MOOC providers must take into consideration. Primarily pure technology i.e. hardware, software and cloud platform. According to the study, Coursera is being hosted on Amazon cloud and has a secure platform but it is allowing developers to improve the accessibility through APIs. EdX has an open source environment and platform is open for developers around the world to help shape the next generation software for MOOCs (code.edX.org). Some of its key components are hosted using the Amazon cloud but it has recently collaborated with Google and delivery through Google cloud can be expected. The second aspect is the ease of access to the courses. Udacity offers various Features to its clients (some of them are paid), however others like Student Showcase (www.udacity.me) are free and enable learners to share their activities online. Coursera likewise gives various approaches to its individuals to associate and stay engaged with the platform. EdX is still in its development but is anticipative that potential content (from Harvard and MIT) and options of using the credits will continue to contribute to its platform. Mobile connectivity is another important medium to engage with the current audience and to address a large section of the world that wants to stay connected. Also, it can be expected that rise of new technologies and newer players may disrupt the lead of current players. It is not certainly who has the best technology that wins the race, but who is able to make better courses and make use of their systems to deliver a relevant product to their users. Table below gives the challenges and approaches of current MOOC providers.

Providers	Completion %	Languages Available	Accreditation
Coursera	Low	English, Spanish, French, Chinese, Arabic, Russian, Portuguese, Turkish, Ukrainian, Hebrew, German, Italian, Arabic, Greek, Japanese	American Council on Education's College Credit Recommendation for Five courses
EdX	Low	English, Mandarin, French,	Universities do not offer formal academic credit for

4.4. Case Study 1: Teachers CPD on MOOCS

The purpose of a Case Study is to develop and demonstrate an understanding of a real-life case, and make a decision about it. To empower the teacher MOOC education. Their impact on learning frameworks is huge and this has clear implications for the teacher and the evaluation to be carried out. MOOC is innovation in teacher developing trainings and teaching- learning process. Scalability is definitely one of the main features of these courses when compared to traditional courses which depend on a certain number of participants or teachers in order to start. OOCs can possess a complementary nature when contributing to the success of the teaching and learning process, since they pay attention to all the relevant pedagogical, technological, economic, political and legal

parameters of traditional courses. This means that if the access to technology is taken into account, as well as the adequacy of both contents and activities, the digital competences of teachers and learners, MOOCs can become a valid and useful strategy at e-learning,

Continuing professional development is important for a teacher in Higher Education, because it ensures you continue to be competent in your profession. It is an ongoing process and continues throughout a professional's career.

Continuous Professional Development:

Here is a case study of Andhra Pradesh State Council of Higher education (APSCHE). APSCHE in collaboration with BRITISH COUNCIL has started a Project to train the English Teachers of Higher Education as the Master Trainers and selected them by conducting 'Aptis' test this Online Test is on LSRW Skills. The aim of Higher education in AP is to introduce Learn English Select (LES) in the Technical and Nontechnical colleges to enhance Communication Skills among the Students.

Objectives:

Objectives of this course is to develop employable Skills among the Students. The statistical records of the students proved that they lack communication skills and are unable to get employability. They are lacking LSRW Skills i.e., Listening, Speaking, Reading and writing Skills. Many of the students from rural area are good at other subjects but not good at English. Providing employability by developing e-mail etiquette is the concept.

Learning object for the teacher is CPD. Unless the Teacher has the knowledge related to latest technology and enhancement of subject knowledge he/she cannot become a better teacher. British Council encouraged the master trainers to enrol in MOOC-FutureLearn.com " Becoming a Better Teacher" – British council.

The educators of the course start each week by asking you to share your feelings about one aspect of professional development such as reflective practice, peer-observations and being part of communities of practice. If you're not completely sure what these terms mean, the video tutors will introduce each topic, discuss the concept and share their experiences throughout the week. They will also hear from teachers in India about their practice and opinions. At each step, you will be encouraged to share your opinions, ideas and questions with other participants. In fact, the best way to get the most out of the course is to be prepared to join in and contribute.

Unlimited access: the teacher can work at his/her own pace with unlimited access to the course for as long as it exists on FutureLearn-domain.

Access to tests: Ensure to master the material with access to tests on the course.

Certificate of Achievement or Statement of Participation: To help you demonstrate your learning a Certificate of Achievement or Statement of Participation will be given after getting eligibility. Learning on MOOC is the chance to talk to other learners from all over the world, and learn from each other. Being a part of this learning community means behaving with honesty, respect and kindness to fellow learners and educators.

Feedback: Feedback should be offered in order to help the recipient, rather than make them feel bad. Giving constructive feedback is a skill in itself and extremely valuable to the learning process.

A reflective journal: It is a learning tool that can help the teacher to keep a record of useful information, links and ideas from a course, or from your teaching and learning in general. For the purposes of this course, it is entirely optional, but it could prove to be very useful in keeping your thoughts and reflections in one place to refer to after the course has finished. Just like a diary, the learner can make notes in the journal on a regular basis. Learner can keep a reflective journal of your learning and reflections by hand, or digitally (online or offline). Some popular note-taking software tools are OneNote, Evernote or Google Keep.

Points to be remembered.

- Something you have realised or learnt that you think is important and want to remember

- A question you have
- Something you want to research further
- An idea you have gained from the course materials or other participants, that you would like to try
- A link or video that you haven't had time to look at, but plan to.

At the end of each week, there is a reflection step – Take five for reflection – where we will ask you questions to help you to reflect on your learning from that week of the course.

Note: for CPD use this website of BRITISH COUNCIL

<http://www.teachingenglish.org.uk/teacher-development/continuing-professional-development>

4.5 Case study 2: Students participation in MOOCs

Course Title: How to succeed at: Interviews (The University of SHEFFIELD)

Course Duration: 3 weeks

No of Students Participated: 30

College: Silver Jubilee Government College (A)

Reaccredited by NAAC with 'A' Grade

Kurnool

Facilitator: Dr. A. Madhavi Latha

This MOOC is suggested to the students specially for developing Interview Skills. The students enrolled for this course with enthusiasm to be on the world platform in the virtual environment. The Object of this course is to explore the experiences of interviews. The Careers Service at the University of Sheffield, voted number one for student experience in the 2014-2015 Times Higher Education Student Experience Survey, has many years of experience helping students and recent graduates to make successful applications for placements, graduate jobs, and further study.

Dr Hilary Jones, a member of the team at the University of Sheffield Careers Service, and host of the course. He designed this course on interview skills so that over the 3 weeks of the course. The educator shared some of the best techniques and top tips to help the learners to succeed when they go for an interview for a job or course.

Students enjoyed videos, animations, articles and discussion. They participated in exercises and tried to enhance the knowledge. Each week builds on the last, so the learners must work through each week in order. Each week takes 2 to 3 hours to complete, if the learner participates in all the tasks, and there are quizzes the learner can see the progress.

Plenty of material that is provided helps the learner to learn and discuss for future interviews. Work sheets in DOCX format, which can be opened in Microsoft Word can be stored in their individual profile.

Possible concerns about interviews include things like:

- What should I wear?
- Who will interview me?
- How can I deal with interview nerves?
- What sort of questions will they ask me?
- What if I can't think of something to say and make a fool of myself?
- Some of activities they discussed in groups. Sometimes they discussed in pairs. The facilitator conducted mock interviews to make their task as easy as possible by being

friendly and ready to talk. The learner should learn about practicalities.

- Writing CV and cover letter are taught. Students could do it well as they are also included in regular interviews.
- Successful telephonic interviews and video interviews are practiced.
- Finally, the participants are very happy for all the knowledge they have gained and acquired confidence.
- They have given testimony to the class and maintained good notes.

Analysis: students are understanding the comments given by other country people. They are able to interact with others in the live interaction.

Problems Identified:

1. The problem identified are the less knowledge in understanding English.
2. Not sufficient no of computers
3. No proper infrastructure.

Solutions: with in the provided infrastructure, teacher can divide the students into groups.

- The achievement of this is, many are selected in campus interviews for TCS and some for Institute of Language management.

5. Integrating e-Learning

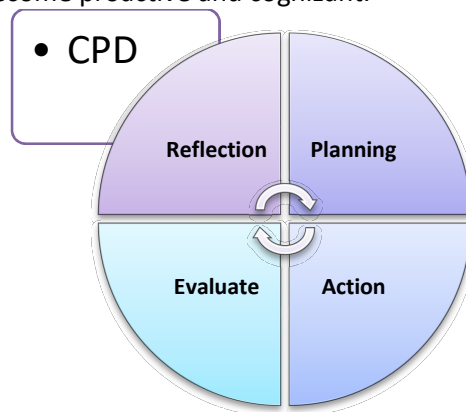
5.1. Continuing Professional Development

The significance of Continuing Professional Development

Proceeding with Professional Development is broadly perceived as fundamental to the enhancement of skills and standards for people and their businesses. Before endeavouring to see how to capitalize on the different CPD openings accessible, it is critical to comprehend why CPD is vital, why it exists and its main role.

What is CPD?

The professional's holistic commitment in enhancing the individual skills and expertise throughout their careers is the CPD we are talking about. CPD (Continuing Professional Development) is the term used to explain the professionals' learning activities that they get engaged in to enhance their capabilities. It torches up the learning to become proactive and cognizant.





- **Reflection** (Identifying the learning needs)
What you currently do?
What you'd like to do/ better?
What you need to learn



- **Planning**
Identify learning activities
Types in them
Set realistic objectives that are achievable



- **Evaluate** (Evaluation of effectiveness)
Have I meet my learning needs?
How have I used the learning to change my practice?

The term CPD describes learning activities that the professionals undertake to enhance their knowledge and capabilities. It facilitates the learner to be more proactive and aware, rather being reactive and passive. CPD is about making a pledge to the lifetime learning. It includes various methodologies in learning for instance workshops, trainings, e-learning programs, conferences, events, best practice techniques and ideas sharing. By getting engaged in CPD activities endorses that both practical and academic qualification can never be obsolete or outdated. As it allows the individuals to keep their professional development continuous despite of age factor, profession level or academic level. It helps people in the advancement of their skill sets.

Continuing Professional Development in a way protects that both practical and academic credentials do not become out-dated or obsolete; and provides greater opportunities for a learner or an instructor to continuously 'up skill' or 're-skill' themselves no matter at what age they are in or at what level of education they are at!

What are the benefits of CPD?

CPD is vital in aiding the institutions or an individual to keep their knowledge up to date and it shows a crystal clear commitment to self-development. Any person who tends to get involved in CPD will get a chance to recognize the knowledge gaps and resolve them for a better improvement.

The purpose of CPD

In a consistently expanding globalized and focused society, the significance of Continuing Professional Development can't be exaggerated. The world's businesses are perpetually advancing, which makes energizing chances which likewise accompanies difficulties. CPD empowers a person to regularly apply regard for essential zones of improvement and makes suitable move to diminish any deficiencies in learning. Similarly, an individual must see Continuing Professional Development as an approach to stay competitive with his or her companions as more individuals turn out to be professionally qualified with comparable capabilities, CPD turns out to be increasingly essential as methods for isolating learners from others.

An arranged way to deal with Continuing Professional Development enables a person to place themselves responsible for their own career improvement and business related ambitions. An individual strengthening of learning carries with it an expansion in certainty and coming about capacities.

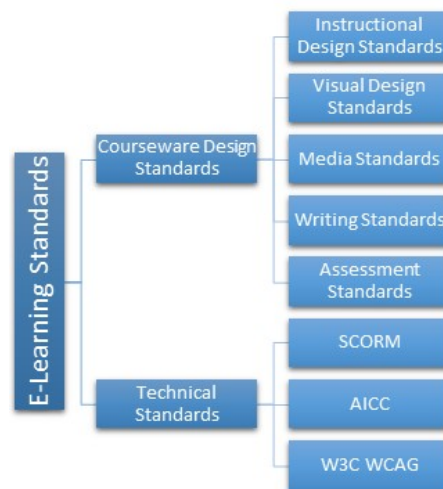
In a fast changing world it's important for an individual to continually update one's skills so that one can keep pace with technology and the working environments. Continuing professional development isn't

just a box ticking exercise. It's crucial to the success of an individual's career. It helps in building the confidence and credibility. By keeping the track of one's achievements and by determination of ambitions for the future, the effectiveness can be increased. CPD needn't be a chore, the process is simple. The first step is to decide the development needs, undertaking the learning in the way that best suits the learner and then reflect on what one has learnt, that results in CPD. CPD contributes to the on-going competence. It can involve a giving a presentation, preparing a report or mentoring a colleague or more formal learning such as signing up to a distance learning program or taking a course.

The objective of CPD is to develop the quality of a teacher. A quality teacher can make a quality student. Teachers must attend the workshops, refresher courses, community forums to interact with the fellow teachers and must identify the needs and demands of the society. These types of proficiency developmental activities will help in self-analysis and give a wider range of scope for reflections. Many MOOC platforms like Course era and Future learn are placing subject related MOOCS on their platform so that the teacher can sign up at any time and get engaged in CPD.

5.2. E-learning standards

There are two principle sorts of e-learning standards. Courseware design standards refer to the different features of course design and development, and technical standards refer to the deployment of courses on a portal.



E-Learning Standards

1. Courseware Design Standards

Courseware design standards include

- Instructional design
- Visual design
- Media, writing and assessment standards.

Instructional design standards aid the course developers to clearly outline the objectives, the purpose and the apt strategies to follow, choosing the content, assessments, interactivities and feedback methods. Blossom's scientific categorization is a good guide for building up a sensible structure for preparing content and ensuring consistency among the instructional targets, activities and evaluations.

Visual design standards indicate graphical user interface (GUI) and navigational elements. Course route must be instinctive and easy to use to be successful. The goal of visual structure standards is to guarantee plan consistency crosswise over lessons and modules.

Media standards make sure steadiness and compatibility over the media components utilized in a

course, for example, the screen design/ size, printed components, graphics, animation, sound and video. While choosing the media benchmarks, concentrate on how the learners will access the course. Do they have access to headphones? Will they access the course on desktops, laptops or mobile devices? Solutions to these questions will give the directions for the designing of media components in the course.

It is always a good to have writing style guide for e-content developers and course designers.

The usage of language, list of things to be written, abbreviations, acronyms and other elements of the text can be referred in the framed **writing standards**. For example, you may advise the learners to use passive voice instead of active voice, simple sentences instead of complex sentences. Therefore, writing standards will definitely help the designers to make the framework effective.

Assessment standards, which should be in sync with instructional objectives, define how you evaluate learners' understanding upon course completion.

2. Technical Standards

These standards are related with the portability and availability of e-learning courses across the search engines, browsers, publishing platforms, and available websites.

The most commonly used technical standards are SCORM, AICC and WCAG.

SCORM stands for Sharable Content Object Reference Model. It is a technical standard developed by the Advanced Distributed Learning Initiative (ADL) has developed this technical standard, and it defines the interaction of e-learning courses and the Learning Management Systems to ease the tracking of the course. The SCOR model keeps the data recorded regarding the completion of the course, the number of times the course has been accessed by the learner, points scored by the user in the assessments provided in the course.

WCAG stands for Web Content Accessibility Guidelines developed by the World Wide Web (WWW) group in order to make all the e-content available and accessible to all the people irrespective of all the discriminations.

It is important to follow the guidelines in designing the e-content in order to make the e-learning effective.

5.3. Issues in Indian Context for e-content development

The primary education processes in India are primarily presentations, class room teaching and lab experimentations aided with the audio visual supplements like the projectors etc., The e-learning co-exists with the conventional learning. The e-learning has the capacity to reach deeper into the untouched rural regions of our country which are still in looming darkness and it can be achieved by facilitating the people with the personal computers at low price with a proper internet facility.

The scope of e-learning is much wider in India. In India, e-learning scenario is still growing.

Challenges in e-content development

1. Technology reliant:

Students will require access to a machine of least specification as instructed by the e-learning provider or access to a service with a high transmission capacity to exchange the course materials.

2. Incompatibility of the material:

Some of the elements in the e-content are in such a format that they may run only in the updated versions of the operating system. (for example, the Apple Macintosh and the Windows PC).

3. Inapt for Certain Types of Learners:

E-learning requires a high-level of self-control and individual time management. E-Learners should be exceptionally self-motivated to take full advantage of the medium.

4. Expensive:

Start-up expense of an e-learning service is costly and the expense of generation of web based training materials is high. Educators must be certain that the additional expenses are offset with the advantages of conveying a course on the web. Noteworthy time should be invested into the setting up of the course

and in maintaining the on-going course (checking links, updating course content etc.).

5. Reliant on Human Support:

E-learning is dependent on either the course materials or the software.

6. Too Reliant on IT Skills:

Students may have restricted IT abilities, or be uneasy with electronic correspondence and need to figure out how to utilize the medium adequately.

Initiatives taken by Indian Government (MINISTRY OF HUMAN RESOURCE DEVELOPMENT)

NPTEL: The mission of NPTEL is to improve the quality of engineering education in the country by providing free online courseware and it provides e-content through web, video courses in Engineering, Science and Humanities streams.

Virtual Labs: The aim of the Virtual Labs is to facilitate remote-access to Labs in various disciplines of Science and Engineering. These Virtual Labs would provide the required content to learners at the UG level, PG level as well as to research scholars.

CEC: Annually CEC organises Video Competition and Prakriti. Prakriti is an annual film festival on environment, human rights & development.

E-Yantra: e-Yantra is an initiative to integrate Robotics into engineering education with the objective of winning learners and the instructors by providing practical application of math, computer science, and engineering principles.

Digital Library Infflibnet: The UGC-Infflibnet Digital Library Consortium was formally launched in December, 2003 by Honourable Dr. A. P. J. Abdul Kalam (late) soon after providing the Internet connectivity to the universities in the year 2003 under the UGC- Infflibnet programme.

OSCAR++: Project OSCAR (Open Source Courseware Animations Repository) provides a repository of web based interactive animations and simulations that we refer to as learning objects (LOs). These LOs cover topics in science and engineering at the college level, and maths and science at the school level.

E-Kalpa: This project on 'Creating Digital-learning Environment for Design' also called 'e-kalpa' is sponsored by the Ministry of Human Resources, Government of India as part of the National Mission in Education through Information and Communication Technology.

FOSSEE: FOSSEE project is part of the National Mission on Education through ICT with the thrust area being "Adaptation and deployment of open source simulation packages equivalent to proprietary software", funded by MHRD, based at the Indian Institute of Technology Bombay (IITB).

Innovation is an instrument that can and ought to be successfully tackled and used in the act of training. E-Learning is normally suited to distant learning and flexible learning, yet can likewise be utilized in face-to-face teaching, in which case the term Blended learning is usually utilized.

5.4. Best Practices

E-Learning is altering education more than ever. The approach of e-Learning has conquered the hindrance between distance and education and has along these lines helped in the liberation of a huge number of education seekers over the globe who live in remote towns and towns. Learners, the vast majority of them young children living in far flung places, need to walk miles to get to schools. But the advent of technology has helped educators design e-Learning content which is accessible from wherever and whenever.

Not just this, e-content can bridge the gap between the student's learning and performance, if it is designed basing on the needs of the learner.



To Do Activity:

Describe the above picture and think of the differences between Traditional and Virtual classroom.

Below are some of the universally adopted eLearning best practices:

1. What does your learner want? What do you want to teach? (Group Activity)

Breaking down your group of audience and understanding their need is likely the most imperative part of instructional structure. When you know who your group of audience is and its expectations, you can plan the course in a way that hits the nail on its head. You should realize what skills the learner needs to enhance, in other words the objective of the course. There are diverse sorts of e-Learning courses and it is important to understand which one suits the **target group**.

- Learners are the Target Group.
- Conduct a diagnostic test for assessment
- Need based Analysis

2. Good content = Good e-Learning course.

The final objective of any e-learning course is to assist the learner in enhancing the proficiency in their desired subject. A properly designed content can aid the learners in developing their interest in the subject. An e-content developer must understand the needs of the learner and design according to it and should have a subject expert in contact in order to get suggestions regarding choosing the apt content. The content should be complex enough that it should connect with the emotional levels of the learners.

Case Study:

Title: Understanding the need of Learners

College: Rural College

Government Degree College

Banaganapalli, Kurnool District, AP

Mentor: Dr. Madhavi Latha

The students of this college are with different environment as in any other college. But here the difference is they have to work in fields according to the seasonal crops. There are mines and Cement factory near Beetham Cherla village. Many are poorest of the poor. They have to go for daily wages to feed the families. Their attendance is less. But with advent of **Biometrics** they are attending the college regularly. They have zeal towards education, passion to learn. I have observed many of them craves for knowledge. Love to speak in English. They admire the English teachers like Gods and Goddesses. Not for the divine quality but for the knowledge and as we can speak English. They adore teachers. They admire our Knowledge. They want to learn Computers. Very humble, polite and obedient.

As a teacher I could find lot of difference between the students of Rural and Urban. When I was transferred from Urban to Rural I did not regret. I felt it is an opportunity for, me to teach what they require. I used to encourage them by using bilingual method. Many absentees in the

English class. I used to encourage them individually, no text books for them they don't buy. Then how to teach? How to create interest? I got an idea and as an innovative practice I scanned the lessons and displayed with LCD on the wall and named it as 'Text on the Wall' Some video clippings of the author and some animation movie I used to show. I have started with Disney's "LION KING" the modulation of the tone, simple English attracted them. They started coming to my class and I taught 'Communicative skills and soft skills" the foundation course. With the help if video of phonetics, asked them to prepare charts of Phonetics. I have given lot of oral drilling and for pronunciation, dictation for phonemic symbols and clap and tap games for discrimination of vowels and consonants. Model paper exercises, writing tasks developed their hand writing. I want to keep them safe from SMS language. Finally, my success story is all of them passed. 100% result in English.

So with the SWOT analysis I could make their weakness as a strength.

- **Solutions: Motivation from external and internal.**
 - **Teachers' Dedication**
 - **Teacher is the resource**
 - **Teacher is the Facilitator**
 - **Teacher is the Mentor**
 - **Teacher is the Planner**

Analysis: The level of understanding of learners is different. Some may be active learners and some may be passive learners. Teacher as an observer has to identify the active listeners and passive listeners. So in a group activity the teacher should see that there are active learners sothat they can support the slow learners. Teacher as a monitor and mentor should

1. Interaction is action.

An e-learning course becomes successful only when it allows its user to be interactive and have a chance to explore, understand the designed content and re-evaluate their knowledge. It can be accomplished by introducing Q&A sessions, task and some graphics on the screen. Interactivity is the only element that brings out a difference between an e-learning course and an ordinary text available on the web pages. The tasks and the sections that are related to the interaction with the learners should be placed in an apt context in the content. The content generator should choose the type of interactivity based on the subject and the target group

The best one would be the Q&A session between the content and the user, where the user chooses a question and gets a reasonable explanation regarding the subject, otherwise called as the response oriented activity. These kinds of activities are considered under active interactivity which is often used for *reinforcement* and the passive mode introduces concepts

1. Userinterface and experience.

The user interface includes the buttons, images, options, layout design and the overall look of the page and it is really important to have basic considerations while designing the page and it should be self-explanatory so that the learner will have no difficulty in accessing the data.

2. Learning assessment.

The assessment session has its own importance in the course layout and it is used to test the effectiveness of e-content and measure the grasping capacity of the learner and the user's understanding of the subject. The assessment can be done at two levels, 'The entry level' and 'the exit level' so that there will be some outline on- where to focus on? What are the standards? what is to be done? etc..., The assessing questions should be designed as a multiple choice question, true/ false,

match the columns etc., depending upon the context to gauge the learner's understanding levels.

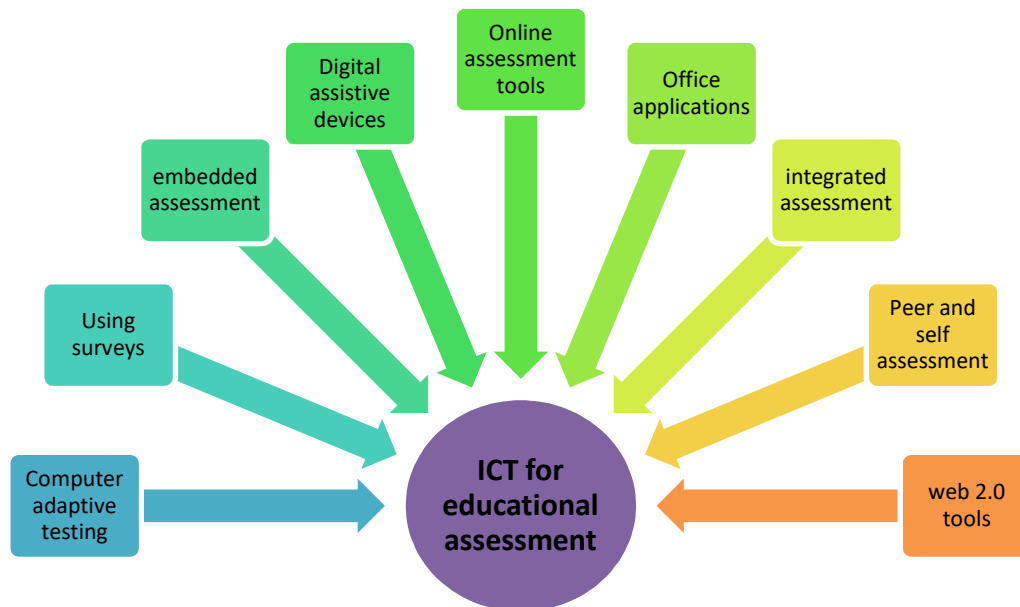
3. Product evaluation.

The e-learning course content must undergo a quality check in order to detect any gaps in the design. These checks may include pilot tests, peer reviews etc., they are simple but they are effective and they will definitely help the content generator to rectify the problems. After publishing the e-learning course, there is a possibility that some of the hidden errors may come out and such types of errors can be rectified in the future e-content generating tasks as they will let the developer know the perspective of the learner.

5.5. Assessment and Certification

Before learning the assessment criteria one should know the difference between formative and summative assessment. Formative: Given throughout the learning process, formative assessments seek to determine how students are progressing through a certain learning goal. Summative: Given at the end of the year or unit, summative assessments assess a student's mastery of a topic after instruction. In other words, the assessment shall have both formative assessments to promote deeper learning, critical thinking and reflection, in combination with summative assessments designed to gauge student achievement and/or performance. Summative assessments may include graded quizzes, reports or projects, peer assessments or proctored examination.

In the learning process of a student, *Assessment* plays a crucial and a major role. With an emphasis on the learning process and its consequent result, there are various types of new approaches to the assessment. Execution based realistic assessment is emphasized worldwide. In India likewise there is a prominence on ceaseless and complete assessment of the learning process of a learner. The development in the ICT has opened umpteen chances for assessing the learning process of a student and giving back the feedback on their performance. This chapter discusses the assessment practices basics and brings out how various types of technological tools can be combined effectively with the assessment of students in the process of learning. The concept below gives an overview of how ICT can be used for assessment.



An overview of how ICT can be used for assessment

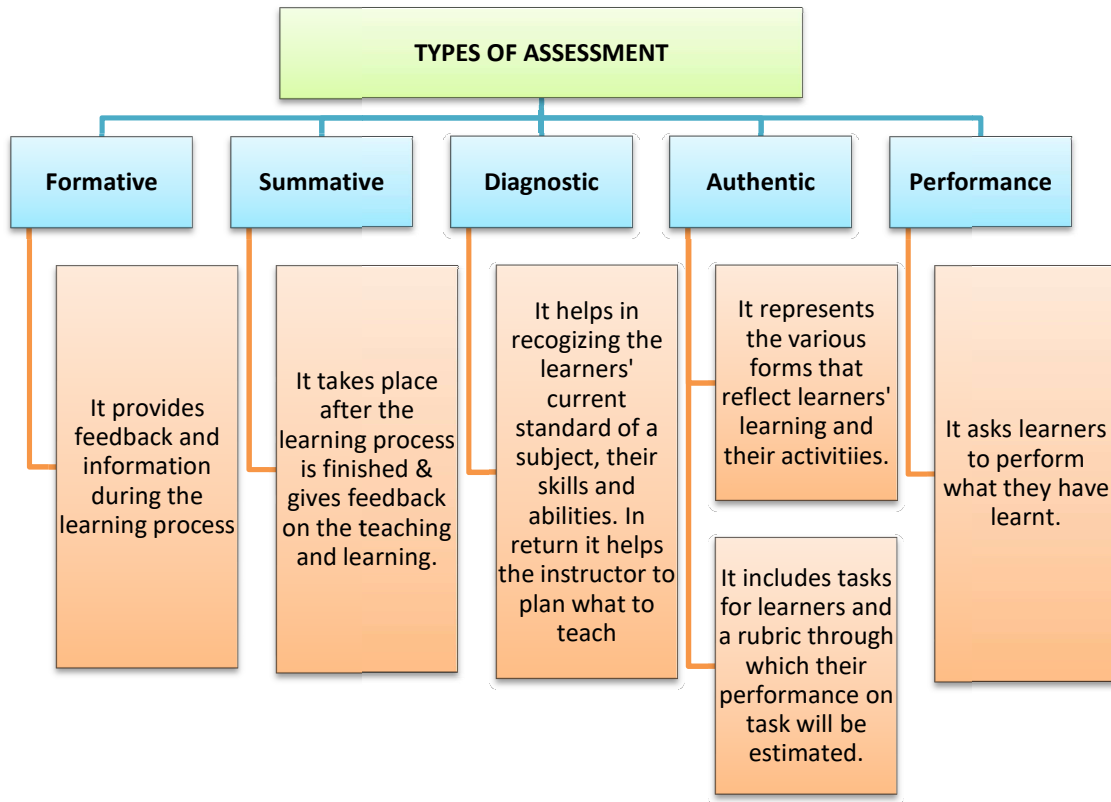
Assessment and its types:

The process of recognizing, collecting and understanding information about the learning process of a student is called Assessment. It includes usage of wide varieties of tools and methods to calculate, measure, and file the student learning. The process of assessment is considered as an important way to aid the student in enhancing the effectiveness of the learning process.

Types of Assessment:

The classification of assessment is done based on various approaches and the purpose for which it is being designed.

It can be categorized as follows:



The Following Activities will help you to understand more and reflect about the assessment and its types.



Assessment and Certification

To Do Activity:

[View the videos on assessment from the following link and prepare a flow chart.](#)

<https://www.youtube.com/watch?v=p9yaZDM1Nzo>

<https://www.youtube.com/watch?v=Jl-YgK-l4Sg>

[Discuss with your partner on Formative, Summative, Authentic, Diagnostic and Performance](#)

Role of ICT in Assessment:

Technology has a pivotal task to carry out in compelling and proficient learning assessment. Modern innovations offer teachers an assortment of new tools that can be utilized in the classroom. Technology can enable educators to evaluate their learners' learning as well as their classroom performance. Utilization of ICT in assessment includes the utilization of computerized gadgets to aid the development, conveyance, stockpiling or reporting of student evaluation assignments, answers, feedback or grades.

In the ICT based evaluation there can be involvement of the many electronic devices like a conventional personal computer or a laptop aided with communicative devices which are portable such as smart phones, ipad, presenting the PPTs through the projector etc., It is carried out in various formats like usage of text documents soft copies and hard copies, multimedia formats like the audio and visual representations. It aids the instructor to manage large heterogeneous classrooms and one can aspire for an effective outcome. ICT lends a hand to the teachers in designing their evaluation tasks, in delivering these assignments to the learners and in providing the grades and feedback on their work. The evaluation using ICT can be utilised to assess various abilities and skills that are being acquired by the students.

Two conceptually different approaches to assessing Key Competencies by using ICT were identified.

1. Computer-Based Assessment (CBA)
2. Embedded assessment

Computer-Based Assessment (CBA) is going beyond multiple choice question based formats using many different approaches. The wide range of core competencies can be evaluated with this new 'transformative' testing which comprises of questions with more complexity and more authentic problem contexts.

A promising path has been offered to the embedded assessment of the complex dimensions of competencies, by the enhanced learning technology environments based on the analytics of learning. The recreation of the learning situation by the existing technologically developed learning environment needs complex thinking, strategies with collaboration and problem solving which allows the enhancement of generic skills.

Embedded assessments are assignments, activities, or exercises that are done as part of a class, but that are used to provide assessment data about a particular learning outcome. The course instructor and/or other evaluators can evaluate the student work, often using a rubric.

A **rubric** for assessment, usually in the form of a matrix or grid, is a tool used to interpret and grade students' work against criteria and standards. Rubrics are sometimes called "criteria sheets", "grading schemes", or "scoring guides". Rubrics can be designed for any content domain.

Computer Assisted Assessment (CAA):

Computer-assisted assessment refers to the assessment of the learning progress of the students and their performance using a computer. CAA is a term that covers all forms of assessments, whether it is summative or formative. Both the evaluation processes delivered through online or offline computer and the marked answers using OMR (Optical Mark Reading) are addressed.

CAA is basically a formative type where it aids the learners in discovering their standards of learning, in an effective knowledge acquisition and receiving feedback in the necessary situations etc., it can also be summative with a feedback which is usually given after the completion of the course. It can also be diagnostic as it also tests the pre-knowledge of the learner.

Whereas an online examination would be the preferred mode, the Course Coordinator may decide on the mode of conducting the final examination. The most widely applicable approach for all MOOCs to date is to use peer assessment to provide the necessary feedback. Many methods are available today to improve on the accuracy of peer assessment results. Such results can also help to facilitate peer learning, online discussion forums, and may possibly augment summative evaluation for credentialing. Efforts must be made to include industry or industry bodies as partners in the certification process for further value addition to the students. Peer assessment in MOOCs, however, exists in a very different environment. First, and most obviously, is the issue of scale. For a single assignment within a single MOOC, there are tens of, to over a hundred, thousand potential peer raters evaluating up to over a hundred thousand submissions. The logistics of linking raters and assignments are considerably more complex (Balfour, 2013).

The second difference is that, because of the scale, there is little to no instructor mediation, supervision, or guidance. (Note that for flipped learning, the supervision exists in the traditional portion of the course, not within the MOOC.) A third difference is that MOOC participants are international. There is a large variation in native language, culture, value, and worldview among peer-raters. Without a teacher overseeing the process, there is also little sense of obligation or incentive for students to take the peer assessment process seriously. It is, for example, known that MOOCs which employ peer assessments tend to have lower course completion rates. Wherever possible, education and R & D team members from the industry need to be included in the design of course contents and problem sets. However, problems may be of a generic nature and specific practices of participating industries should not be used as contents. In case, a pen and paper final examination is to be conducted, the same shall be offered through any college/school volunteering to conduct the same. The decision in this respect will be taken by the host institution.

After examination and completion of the evaluation, the host institution shall award marks/grade as per the evaluation scheme announced, within four weeks from the date of completion of the final examination. On successful completion of each course, the host institution offering the Online Course would issue the certificate, along with the number of credits and grades, through which the student can

get credits transferred into the candidates' marks certificate issued institution. These rapid developments have given MOOCs the appearance of potentially replacing at least some of the traditional instruction courses by introducing some online courses.

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