UNIT 7 COURSEWARE DELIVERY

Structure

7.1 INTRODUCTION

The first two units prepare you for designing courseware. The next few units focus on courseware development. After designing and developing courseware the next step is to deliver it. This unit focuses on delivery of courseware. How is courseware delivered? What are the approaches to delivering courseware? What are the means for delivering it? You will get the answers to these questions as you read this unit. Before you begin reading this unit we would also like to tell you that the terms instructions, instructional packages, and courseware are often used interchangeably as these are designed, developed and delivered to learners for learning. In this unit too we have used the terms instructions and courseware synonymously. Further, in order to concretise the concept of delivery of instructions, we have contextualized it to the practices adopted by IGNOU.

7.2 OBJECTIVES

After studying this unit you will be able to:

- Describe the process generally used for delivering instructions;
- Describe the approaches to delivering courseware; and
- Discuss the means of delivering online instructions.

7.3 DELIVERY OF INSTRUCTIONS

Instructions (also called instructional package/courseware) are delivered to learners. Unlike conventional institutions with face to face instructions, for those who learn at a distance, the courseware developed has to be delivered. IGNOU for instance

offers about 228 programmes, and has over 3 million students and many students are from countries other than India. This makes it clear that delivery of courseware is as challenging as developing quality courseware. Delivery of courseware involves complex operations. Coordination among those developing courseware and those delivering it is also needed. Therefore, an educational institution plans and establishes mechanisms for delivering courseware. For making the mechanisms operational it frames rules. The rules should be clear to the learners. IGNOU therefore develops programme guides for learners that describe the mechanisms of instructional delivery. We shall examine some of the mechanisms of delivering instructions that are governed by institutional policies. These are:

Media for delivering instructions: Policies for delivering instructions are framed in view of many factors but financial considerations pertaining to production and delivery of instructions, and learners' access to advanced technology are key factors. Since instructions in print medium can be dispatched to all learners, IGNOU like many distance education institutions of India uses print as the master medium. Instructions broadcast and available through CDs and DVDs are used to supplement it. IGNOU therefore uses multiple media approach (this approach is different from multimedia discussed in unit 6) for delivering instructions.

Timing of delivering instructions: Courseware in print medium is delivered usually after enrolling learners but Interactive Radio Counselling (IRC), teleconferencing, radio and television programmes are scheduled throughout the academic session as per the policies governing the frequency, timing, duration of broadcast, repeat telecast and so on. In some cases access to courseware is also governed by institutional policies and instructions are delivered when a learner successfully completes the previous module. Instructions are also delivered during workshops, personal contact programmes and practical sessions. Programme guides developed for a programme usually include the schedule for the delivery of instructions during these components of a programme.

Delivery of instructions through support services: As per IGNOU's policy for providing support to learners, tutoring and counseling services are provided to learners.. Tutoring involves delivery of instructions in face to face mode. IGNOU has rules governing duration of counselling sessions, timings and venue.

Maximum duration of delivery of instructions: IGNOU's academic programmes have a maximum duration. Learners can hence access instructions delivered in face to face mode, and through audio and video programmes at study centres during this period.

Delivery of instructions through e -Gyankosh : IGNOU's courseware in various media are accessible through e -Gyankosh.

Delivery mechanisms

We shall examine the delivery mechanisms in the perspective of the practices adopted by IGNOU. IGNOU adopts the following mechanisms:

Use of print medium: The SLM developed for the print medium is usually printed in the form of blocks. It is then delivered by IGNOU's Material Production & Distribution Division (MPDD). Printing is usually carried out in bulk and apart from the course content, project manuals, handbooks; programme guides; and assignments for various programmes offered by IGNOU are also printed. However IGNOU also uploads the course content on e-gyankosh, and assignments on its website. Thus IGNOU delivers text based instructional content through print medium as well as through the web.

Box1

IGNOU's MPDD prints courseware for various programmes offered by IGNOU and delivers it to learners. It is also engaged in synchronisation of production of SLM and assignments and takes stock of requirements for printed copies of SLM for various programmes, and prints these materials accordingly. It systematically stores the printed materials, and develops and maintains an inventory of these materials. It dispatches through the postal service the SLM to learners as per the course and programme in which they have enrolled and also as per the medium (English /Hindi) they have chosen. The activities involved are complex as learners often change their address, medium of instruction, and courses (optional courses). It also has a cell that sells SLM.

Source: http://ignou.ac.in/ignou/aboutignou/division/mpdd/introduction

Use of audio and video media for delivering instructions: The Electronic Media Production Centre (EMPC) of IGNOU develops and delivers instructions in electronic media.

Box 2

IGNOU's EMPC is actively engaged in production and transmission of courseware through electronic media for IGNOU, and also for other institutions. It also has a rich repertoire of audio and video resources for imparting distance education. Audio and video programmes developed by EMPC are based on the curriculum of the various programmes and are meant to supplement the print based courseware. These programmes are mainly produced by the staff of EMPC using state-of-the-art facilities. EMPC uses broadcast as well as non-broadcast modes of delivery. It produces cassettes/ CDs that are sent to Regional Centres and also Study Centres. EMPC also has a marketing cell that sells these products.

Source: http://www.ignou.ac.in/ignou/aboutignou/icc/empc/introduction

IGNOU uses broadcast mode as well as non broadcast mode for delivering instructions through audio and video programmes. CDs of these programmes are delivered to study centers and this approach uses the non broadcast mode. However, these programmes are also delivered through the broadcast mode through radio and television. Gyan Darshan and Gyan Vani are IGNOU's channels that deliver instructions through the broadcast mode. IGNOU has 26 Gyan Vani FM Stations **(**http://www.ignou.ac.in/ignou/aboutignou/icc/empc/facility**).** Interactive radio counseling programmes (IRC) are broadcast through Gyan Vani. During IRC, which are live programmes, learners can interact with instructors using their phone. The phone numbers are announced during the programme. IGNOU also delivers instructions through teleconferencing programmes and learners can interact with instructors during the programme or mail their queries and get answers later on from instructors. Gyan Darshan later telecasts some of these teleconferencing programmes after editing them following the teleconferencing sessions. The schedule of radio and television programmes is posted in advance on IGNOU's website.

IGNOU uploads its video programmes on YouTube. There are several video programmes on YouTube that have been developed by IGNOU for instructional purpose. You can access the videos developed by the School of Education of IGNOU at https://www.youtube.com/user/ignousoe.

Use of face to face mode: IGNOU offers learner support at learner support centres (study centres) though counselling and tutoring for addressing difficulties faced by learners while learning. Tutoring involves instructions delivered in face to face mode. During workshops and personal contact programmes that are parts of some programmes, instructions are delivered in face to face mode usually at study centers.

Online delivery of courseware

The discussion so far was for courseware that adopts multiple media approach (see unit 6). You have read (Unit 6) about the use of LMS for hosting and delivering online multimedia courseware. This unit describes it further. MOOCs also involve online delivery of courseware and you will read this in this unit.

Online delivery of courseware is planned by those providing the courseware. Planning the delivery of courseware, setting rules for delivery and sharing the rules with learners are thus essential even for online coursewares. For instance the courseware providers may plan to make parts of the courseware accessible to learners after a fixed duration. Hence, courseware may be delivered for instance on a weekly basis. Successful completion of a weekly module could be the precondition for access to the next module. You may also plan the timings of live chat with your learners (see next section). While delivering a module you may begin with a video that orients learners to the module by introducing it, stating the benefits of the module for learners, the focal points, the tasks learners will perform and the assessment mechanism. Subsequently learners access resources, quiz, facilities for interaction and other components of the module.

7.3.1 Delivery of Instructions for interactive Learning

Learners need to interact for learning. You have read this in unit 1. Even for courseware, which is not delivered online, we may plan the delivery of instructions for interactive sessions. Learners of IGNOU interact with peers and instructors when instructions are delivered for tutoring as a part of the support services at learner support centres. They also interact during workshops and other mechanism for face to face delivery of instructions. However, instructions are planned for interactive learning during IRC/ tele-conferencing (TC) sessions. Nevertheless, learners need to wait for IRC and TC for interacting in this way. An online course with a discussion forum on the other hand can integrate delivery of instructions, and interactions.

Interactions can be **asynchronous**. For instance you can read and respond to learner's queries posted on a discussion forum or sent through email, when you feel it is convenient. Similarly learners of many online courses can access the instructions delivered at a time of their choosing.

Synchronous communication is however in real time, for instance during a chat, or conferencing, or a telephone call, and you need to respond to the caller without time lapse. Online course providers may deliver instructions synchronously through video conferencing technologies for live lectures and chats. These elements thus help to create virtual classrooms and learners and instructors interact in real time. However, some online courses make available videos of the lectures delivered and transcripts of chat between instructors and learners to those who missed these or would like to access these again asynchronously.

There can also be hybrid models and instructions can be delivered synchronously as well as asynchronously. For example an online course may deliver instructions for asynchronous use and make it accessible for a week and shift to the next module. During the week there may be live lectures and chats at fixed hours for delivering

instructions synchronously. Dang, Pan & Wang (2011) say that in e-learning, with online delivery of instructions it is important to create and foster a learning community and instructor's responsiveness encourages learners' participation in discussions and activities. Hence timings of direct teaching sessions (if any), online chats, email response time (e.g. within 24 hrs), responding through discussion groups (e.g. every two working days) should be shared with learners. This is like sharing rules for delivering instructions you have read.

Activity

Have you interacted with the instructor during the radio and teleconferencing sessions of IGNOU? If you have not used these facilities, check the schedule posted on IGNOU's website, and use these facilities.

Check your progress 1

1. Identify the situations involving synchronous communication
   a. Talking to someone in your room
   b. Checking email
   c. Reading an SMS
   d. Participating in web conferencing
2. Mark true/false
   a. IGNOU uses multiple media approach for delivering instructions.
   b. IGNOU uses multimedia approach for delivering instructions.
   c. Instructions delivered through print medium has wider accessibility.
   d. At IGNOU, MPDD and EMPC are both engaged in courseware production
   e. Delivery of instructions is based on a definite plan

7.4 WHAT ARE THE APPROACHES TO DELIVERING INSTRUCTIONS ?

There are various approaches to delivering instructions. These approaches define teacher's/ institution's role in delivering instructions. Traditionally single medium, multimedia or multiple media are used for delivering instructions as a one way delivery of content from teacher/institution to learners. One way delivery is like broadcast or printed instructions without scope for learners inputs. Study centres may be used for supporting interactions between learners and teachers, and among learners. Nevertheless, this arrangement isolates the mechanisms for delivering instructions and that for supporting interactivity. However the approaches that you will read now have the potential of integrating these mechanisms. You have read in Unit 1 that as per recent views of learning, learning is a social process that requires interactivity. Advanced technology facilitates interactions and delivery of courseware using such technologies can integrate delivery of courseware and interactions. Thus the approach to delivery of courseware is shifting from the traditional paradigm of delivering instructions as broadcast (Bates, 2015) to interactive ones. These approaches underline new pedagogies that are emerging with evolution of technology. We shall discuss two such approaches in the following subsections.

7.4.1 Blended learning

Blended learning involves the integration of face-to-face and online instructions (Dziuban, Graham, Moskal, Norberg & Sicila, 2018). There are many definitions of blended learning but these definitions agree on the point that blended learning involves a combination of traditional face to face instructions with technology mediated online instructions where all participants in the learning process are separated by distance, at least for some of the time (Siemens, Gasevic & Dawson, 2015). Therefore for some part of the content, instructions are delivered traditionally within classrooms when learners are not separated from each other by time and space and, while for learning some parts learners from different places, at different time use online instructions. This makes it clear that instructions delivered only through a CD will not result in blended learning. However, when learners attend classroom teaching and also use a CD/watch a video/use social media for learning, it amounts to blended learning.

Staker & Horn (2012) say that one critical part of the definition of blended learning is that it allows students to have control over some elements, which are time, place, path, and/or pace. Since blended learning includes e-learning, also known as online learning if the instructions are delivered for asynchronous learning, learners can choose the time, pace and place of study, and may learn from places outside the classroom. Learners can also select the path of learning and learn in a sequence of their liking. For instance some can decide to learn the geography of a place first while some decide to study its history first.

Blended learning, which is also known as mixed mode instructions, thus mixes various modes of delivering instructions while teaching a topic, and some of the themes are taught traditionally, while some are delivered through technology for self learning. In comparison to traditional learning, blended learning thus enhances learner autonomy, and makes learning more learner centered. However learning is supervised and teacher supports learning during traditional teaching as well as during online learning. Further, students taught through blended learning have higher academic achievement than students who experience a fully face to face or fully online learning mode (Siemens, Gasevic & Dawson, 2015). We thus find that blended learning involves a shift towards learner centered approach from traditional teacher centered teaching. It supports learner autonomy and independence by allowing learners to act on their own.

Staker & Horn (2012) and other authors have described several models of blended learning. Some of these are as follows:

Rotation model: learners rotate between learning stations out of which at least one is an online station. Learners may also rotate between learning modalities like projects, group discussions lectures and so on but at least one of which involves online learning. The rotation can be as per a fixed schedule or a flexible one but the schedule is decided by the teacher. Some rotation models involve fixed timings for computer lab activities and other activities.

Flex model: content is delivered primarily online but learners use some off-line interventions like group discussions, projects and the like for learning. For example learners may study diploma in Educational Technology online but projects and discussions are not online.

Self-Blend model – Learners use online courses as well as a similar course(s) offered in face to face mode. For example learners may study diploma course online and a related certificate course taught conventionally (face to face). Learners thus blend the courses while in rotation model the teacher blends instructions.

Enriched virtual model- learners opt for both online course and classroom experiences but the difference of this model with self blended model is that instead of course by course blending an online course is blended with supplementary instructions delivered to support online learning. The support is need based and can be substantial or minimal. This model is somewhat similar to IGNOU's use of learner support service for supporting learners. Learners study the content delivered by a medium and visit centres designated for providing support as per their needs.

Blended learning thus expands the learning environment in terms of time and space. This is required when institutions face expansion (Galvis, 2018) because of rising enrolment. Technology enables the expansion. However delivery of instructions for blended mode requires planning. Which theme would be taught in face to face mode and which aspects would be taught through technology needs to be planned taking into consideration, learners' access to technology, nature of the content and the potential of the medium (see unit 2).

To know more you may visit https://educationaltechnologyjournal.springeropen.com/articles/10.1186/s41239-017-0087-5

Activity

Select a topic, which you would like to teach through the blended mode. Carry out content analysis for the topic (see unit 2) and decide which aspect of the topic you will teach traditionally and which aspects you will teach using technology.

7.4.2 Flipped Learning

Flipped classrooms flip (toss/turn over) the activities carried out for learning. This involves a type of pedagogy that requires that learners asynchronously use resources for self learning before they come to the classroom. After that they participate in active learning processes involving assignments, projects requiring problem solving and the like within classrooms. These activities that are traditionally assigned as homework and meant for individual work thus become classroom activities carried out by learners individually or collaboratively. Since teachers support and facilitate these activities, these become guided activities.

In flipped classrooms delivery of instructions within classrooms allows self learning. The philosophy behind the flip is that teachers can spend time working with students who need their help in the classroom and students can work together to solve problems (Strauss, 2012). Students therefore begin to learn before attending face-to-face sessions and after that they consolidate and generalize the learning in the classroom (Galvis, 2018). For instance IGNOU's learners learn asynchronously using SLM. However unlike some of the blended learning models classroom learning remains a regular form of learning.

Usually learners watch short duration videos before coming to the class. The video is chosen with care so that the content prepares learners for classroom activities and is appropriate for self learning. At the same time classroom activity is chosen as per the homework assigned, i.e. the content learners have learnt on their own. However it is not essential that a classroom is flipped using only videos. Learners may read a book/paper. For instance learners may be asked to read books and the classroom activity may be group discussion with participants reviewing/critiquing the book. Learners can come to class after reading papers published in journals, books and other documents and participate in debates and discussions on the theme in the classroom. Flipped classrooms are thus a way for enhancing learners' readiness for

instructions delivered in the classroom. It provides space and time for guided as well as activity based learning. Thus flipped classroom strategy shifts classroom pedagogy from teacher centered lectures to learner centered pedagogies involving interactions and activities. With which learning approach will you associate the flipped approach to delivery of instructions? Read unit 1 again if you cannot answer it.

What is the difference between the concepts of blended learning and flipped classrooms? The instructional strategy adopted for flipped classroom becomes that for blended learning once classroom learning is combined with online learning. In both the cases the learning environment is stretched beyond the classroom. However it is the teacher who usually flips the classroom while learners can also blend a course of their choice with classroom learning. In distance education how can we adopt this pedagogy? For an online course, resources for learning like papers published in journals, chapters of books, short videos can be uploaded. Learners can be asked to use these before they participate in discussions on discussion forum or in a virtual classroom. After that instructions can be delivered.

To know more you may visit https://cft.vanderbilt.edu/guides-sub-pages/flipping-the-classroom/

7.5 MEANS OF DELIVERING ONLINE INSTRUCTIONS

We have discussed some of the approaches to delivering online instructions. In this section we shall focus on some of the means for delivering online instructions.

7.5.1 M-learning

Mobile learning (*m-learning*) is a type of e-learning (also known as online learning) and mobile devices, such as tablets and smart phones are used for accessing the courseware. m-learning is flexible, as learners can learn not just from any place but also when they are travelling. Therefore mobility of learners, and hence, learning outside classrooms, and the portability of the device for accessing courseware are some of the features of m-learning. Mobile learning as per John (2005) is an educational provision where the sole or dominant technologies are handheld or palmtop devices and these could include technologies such as mobile phones, smart phones, personal digital assistants (PDAs) and their peripherals, perhaps tablet PCs and perhaps the laptop PCs, but not desktops. John says that perhaps the definition should address also the growing number of dedicated mobile devices such as games consoles and iPODs. Further, m-learning could be used as a part of blended learning or flipped classroom or it can be used as a stand alone delivery mechanism. However it is meant for delivering instructions for learning through mobile devices. A book is also portable but the definition of m-learning seems to suggest that m-learning employs a device which is portable and is also an electronic device. An e-reader for reading books therefore leads to m- learning.

Today in India penetration of mobile phone is quite high. A smart phone is however better suited for learning. This is because it can perform many of the functions of a computer. It has a touch screen interface, allows access to internet, helps to create and share content in various formats, helps to download and run apps, and has many other features that facilitate learning but at the same time it is highly portable. Penetration of smart phone is also increasing rapidly in India. A large number of people are using it for creating and sharing text, videos, audio, images and multimedia content for entertainment, informal education, and many learners are using it for asynchronously accessing, storing and sharing learning materials.

M-learning is more suitable for bite sized learning, i.e. smaller content load with less complicated graphics, large video files and lengthy text. It is also more suitable for just in time information, which is information needed on an immediate basis for a specific purpose. However it is common to find young learners reading large amount of content including e-books on their phones. Further, instructions can be delivered through various media as well as multimedia for m-learning but responsive design of the courseware is more suitable for m-learning. A responsive design means that the courseware's interface is suitable for devices of various sizes - desktops to tablets to laptop, smart phone, or tablet. You may have noticed that while importing an image on a slide or in a word document, the size of the image extends beyond the screen width and you have to scale it down to fit it. However a responsive design website automatically scales its content and objects to fit the screen of the device on which it is viewed. Thus it keeps images from being larger than the screen width, like the pages in IGNOU's web site, which you can read easily on phone as well as desktops.

There are many benefits of m-learning. First it is a highly flexible form of learning as learners can take the courseware along with them in their pocket/purse, and hence devote more time for learning. If they download the content they can study even with out access to the Internet. Further, you can use various media as well as multimedia for delivering instructions for m-learning; use app based games for teaching, use a discussion forum for synchronous and asynchronous interactions, send timely reminders/circulars for submission of assignments, assessment schedule and the like. Further exchange of information using smart phones can be encrypted to protect privacy.

There are however challenges that have not yet been overcome. First learners need access to internet or else use content downloaded earlier using internet. Hence, without adequate Bandwidth, video streaming is difficult. Therefore, watching a video online becomes difficult in such cases and downloading becomes a slow process. Sharing big files is also difficult. Battery life is also a problem in case facility for charging is not available. Further if the device has insufficient storage space, storage of large amount of content gets restricted. There are also various operating systems, various screen sizes; and other such aspects that require designing courseware in special ways. The screen size of smaller devices like phones however is the greatest barrier. Some authors are also of the view that use of mobile phone leads to distractions and those not using them have greater learning achievements, while some are optimist about the outcomes of integration of mobile devices in classroom teaching (Pedro, Barbosa & Santos, 2018).

7.5.1.1 Mobile apps

You are likely to have used mobile apps. What are apps? Apps are application softwares and the programme of an app is written and designed for a specific purpose. Mobile apps are designed for mobile devices like smart phones, tablets and the like. For instance you may have used an app for booking a cab, learning a language, playing a game and so on. Therefore an app has a specific purpose, and you can perform only one function with an app. An app for playing a game cannot be used for ordering food. Some apps like calendars are pre-installed and we get these when buying a mobile phone. We also download apps but some apps are free and some are not.

Mobile app based learning is definitely m-learning but m-learning is not necessarily app based. This is because m-learning involves the use of mobile devices for accessing courseware which may or may not be delivered through apps.

Many educational institutions like Khan Academy, IGNOU, and many others have developed educational apps. MOOCs providers like Coursera, EdX and many more are also using apps for delivering instructions. You can learn music, art, foreign language, science and so on; read ebooks, audio books; play educational games and many other things through apps. Apps deliver instructions for asynchronous use but some provide scope for chat, i.e, synchronous interaction too.

Apps are downloaded and installed by the user but from where do we download apps? Apps are usually downloaded from application distribution platforms which are operated by those owning the mobile OS (operating system) like App Store, Google Play Store. It is safe to download and install apps stored in play stores instead of unknown sources. The app that IGNOU has developed for delivering instructions is also available at Google Play Store. Once you download it using internet you can read your course material whenever you want to even without the internet.

What are the benefits of using apps for delivering instructions?

You have read that Apps are developed for different purposes and delivering courseware is one such purpose. Distance education institutions often have large enrolment and learners are spread across wide geographical areas. For instance if instructions are delivered in print medium, taking stock of existing material, and that to be reprinted, indexing, storing and distributing on time is a task with enormous complexities and even institutions with well established practices and experience find it challenging to carry out these processes on time. The process gets further complicated with two admission sessions in a year, a large number of programmes and courses, and thousands enrolling annually. These operations require large scale investments in terms of manpower and other resources. It also requires a large amount of paper. Therefore, delivering instructions trough an app benefits the institution. It also benefits the learner by making instructions portable, and anytime, anyplace learning becomes possible in true sense. Second, an app provides faster access to content than a web browser. For instance while using a web browser we enter the uniform resource locator for example www.ignou.ac.in and wait for the web page to open. Even if you have fast connectivity, you will have to visit IGNOU's home page, locate e-gyankosh and then follow the path to the resource you are looking for. While the app IGNOU has developed for delivering instructions provides much faster access as it stores the content. Third, the app on learner's mobile screen becomes a constant reminder to study.

IGNOU's App

IGNOU-e-Content Mobile App is IGNOU's mobile App. It is available free of cost and it disseminates digitised course material for various levels - Certificate, Diploma, PG Certificate/ Diploma, Bachelors' and Masters Degree programmes. Once the course material is downloaded in the mobile device you can access it on anytime-anywhere basis.

The app is a high performance app, which is easy to use and has a clear path that the user needs to follow for reaching the content. The greatest benefit is that once internet is used for downloading and installing the Internet, learners have access to content even when they are offline. There are videos on the Youtube, demonstrating the process of using IGNOU's app.

How will you provide instructions using apps? It is not necessary that apps should be used for delivering instructions only in the form of lectures recorded in print/ audio/video. Apps can be used for delivering courseware in multimedia format that

provide scope for-

Practice (drill)- for example for sentence construction while learning language

Interactivity- learning through discussions and content sharing

Decision making and hence thinking- through puzzles, game, mathematical problems, and so on

Collaborative learning -by multiple users located far from each other;

Learning by doing - for instance, learning in a simulated environment that makes learning contextualised. Learning is contextualised for example when instead of delivering courseware that describes how animals live and hunt in their natural habitat learners, learners go on a virtual jungle tour and watch animals in their natural habitat. Mobile apps allowing virtual expeditions to countries, cultural settings, architectural marvels, deep forests, deep sea and so on contextualise learning.

Learning through games -played individually or collaboratively

Multimedia CDs, online web content and courses can deliver courseware for learning in these ways but as mentioned earlier a mobile device has portability and offers off line learning opportunities.

Activity

Explore mobile apps that deliver courseware for learning interactively, collaboratively and in a contextualised way.

7.5.2 Learning Management System

What is Learning Management System (LMS)? LMSs are softwares that enable instructors and students to log in and work within a password protected online learning environment (Bates, 2015). You are likely to be familiar with many softwares for instance, those for creating text, slides, spreadsheets and so on. Similarly an LMS is a computer programme that helps to host and deliver courseware and manage learning. Delivery of instructions using LMS is governed by a calendar with schedule of delivery of instructional modules, chats, live lectures, assignments, tests.

What are the advantages of using LMS for delivering courses? An LMS is suitable for delivering courseware using various media as well as multimedia. Further, a course delivered through an LMS helps learners to study from outside the confines of classrooms from a place and timing of their choice, unless the course includes only synchronous chats. Secondly, while traditional courseware delivery through print/ audio/involves only teaching, an online course delivered through LMS integrates instructions and management of learning. Instructors thus support learning by tracking participation of learners in various activities, completion of activities by learners, monitoring learning attainments and progress; identifying learners requiring support; answering queries and supporting performance through regular synchronous &/ asynchronous communication, moderating discussions and interactions on the discussion forum, encouraging interactions, assessing learning, and so on. Many LMSs try to simulate a classroom where there are interactions. However unlike in a classroom the interaction is not oral but text based even though video lectures are commonly used in courses offered through LMS (Bates,2015). The courseware can also be altered, revised, updated and customised by teachers, where as carrying out these processes for courseware delivered traditionally is difficult.

However, if the number of learners enrolled is large and if the teacher also teaches

other courses of the institution, delivering instructions and managing learning could be challenging as providing continuous feedback and support for learning and responding to learners' inputs requires time.

Courses are usually developed using authoring tools (see unit 6) and delivered and managed using an LMS. However tools are becoming generic, and instead of performing specific functions like developing and organising courseware, delivering instructions and managing learning, many tools carry out all of these (see unit 6). Unit 6 also tells you about technical standards like SCORM for developing courseware and need for LMS that are compliant with these standards. However, utilising SCORM or an alternative standardised course protocol is not always required, and it has to be used judiciously as using it unnecessarily can be restrictive (Shutler, 2018).

7.5.3 MOOCs

MOOCs are massive open online courses (MOOCs). Have you used MOOCs for learning? The concept of MOOCs is not very old. However, within a few years from the time when it was first offered it has emerged as a popular means of delivering courseware, and thousands have enrolled in MOOCs for learning.

MOOCs are *massive* and hence are developed for supporting huge enrolment. MOOCs support high enrolment because of their scalability for accommodating growing numbers at a marginal cost increase (Bates, 2015).

MOOCs are *open* to all who aspire to learn and do not restrict admission. Admission to MOOCs is not based on previous academic qualifications, age or any other criteria. MOOCs are also affordable and learners are not required to pay fee but some providers charge fee for certification. However not all providers use an open source platform and they retain the right over the courseware they provide.

MOOCs are *online*, and hence learners need access to computer and Internet, and access to broadband facilitates learning.

MOOCs are *courses* and not just online content. The courses are designed for teaching and have objectives and assess learning following the delivery of instructions.

Why do people enroll in MOOCs? Many enroll for supplementing /complementing learning from traditional institutions. MOOCs are also emerging as a means for lifelong learning. Moreover, MOOCs developed and delivered by well known institutions democratise not just educational opportunities but quality learning opportunities. Further, learners can learn from their own place and to some extent at their own pace. Furthermore, learning is interactive as MOOCs often include a discussion forum. Secondly there are MOOCs that encourage collaborative learning, and also project based learning that requires learners to develop artefacts, and thus these ensure learning by doing. Hence, MOOCS although may include video based and text based lectures but their pedagogy can be suitable for active and collaborative learning. Therefore, according to some authors MOOCs are revolutionising education. However some feel that it benefits mainly those who are already privileged. This is because subject-wise readiness for learning, computer skills, access to technology, and knowledge of English help to learn from MOOCs. Further the enrolment in MOOCs is high but the dropout rate is equally high (Bates, 2015)

Bates (2015) describes different types of MOOCs. He says that xMOOCs use mainly a behaviourist approach and transmit information through online recorded short duration videos on a weekly basis over a period of 10-13 weeks. These MOOCs include computer marked assessment and offer immediate feedback, and

some have some scope for peer assessment (assessment by classmates). These MOOCs are offered through special cloud-based software platforms such as Coursera, Udacity and edX, and are known as xMOOCs . Some of these include additional resources like slides, supplementary audio files, URLs to other resources, and online articles. Discussions forums are a part of some of these MOOCs but moderation of discussions by instructor is not extensive. cMOOCs on the other hand are based on network learning, with discussions between participants over social media leading to learning. Experts usually initiate the discussions but participants lead the discussions. Usually there is no formal assessment. MOOCs are popular means of delivering instructions and learner can select what they want to learn instead of institutions deciding what learners should learn.

Developing MOOCs requires institutional resources and teachers' time and technical support. Second MOOCs are meant for delivering short courses that can be covered within a few weeks/a few months. MOOCs can therefore supplement long duration courses and programs but may not serve as their substitute.

To know more you can vist https://opentextbc.ca/teachinginadigitalage/part/chapter-7-moocs/

Check your progress 2

State whether the following statements are true/false:

1. Blended learning can result from the use of a DVD with a film, conferencing and radio programmes.
2. Blended learning makes teacher facilitator of learning for some content.
3. m-learning using an app is not meant for learning any time anywhere.
4. M-learning is the same as mobile app based learning.
5. LMS has the potential for delivering instructions in such a way that learning becomes a social process.
6. MOOCs are suitable for teaching long duration programmes comprising several courses.

7.6 SUMMARY

This unit is about delivery of instructions We have discussed this in terms of the media used for delivering instructions, and have described the use of broadcast and non broadcast modes of delivering instructions. After that we have discussed the delivery of instructions for online courses in synchronous and asynchronous manner, and have stated that instructions delivered synchronously can be captured as videos and transcripts and made available asynchronously. Different approaches to online delivery of instructions also have been discussed. Blended learning is one such strategy. It integrates traditional classroom teaching with technology mediated instructions. There are many models of blended learning and all these models are based on the idea of expanding the learning environment beyond the confines of the classroom. Flipped classrooms also involve an instructional strategy that ensures that learner are active while learning. This strategy flips the activities carried out for learning. This requires that learners asynchronously use videos and other resources for learning before they come to the classroom. After that they participate in active learning processes involving assignments, projects requiring problem solving and the like that are traditionally assigned as homework, within classrooms. This unit

also discusses the means of delivering instructions and explains the concept of mobile learning (m-learning). M-learning involves the use of mobile devices like smart phone, tablet and the like for learning. It makes learning flexible but some technical challenges are to be overcome for m-learning. Mobile apps deliver instructions and once downloaded these can work even offline. LMS is another means of delivering instructions. It integrates teaching and support for learning. MOOCs have also emerged as means for delivering courseware. These are online courses that are free of cost and are can support huge enrolment.

7.7 UNIT END ACTIVITIES

1. Suppose you need to teach the topic 'instructional designing' through the blended mode. Which aspects of this topic will you prefer to teach in the classroom. Courseware for which aspects will you deliver using technology? Which technologies will you use? Why?

2. Critique the practices pertaining to delivery of instructions for this course. Do you think instructions delivered in the classroom would have been more effective? Why?

3. Explore MOOCs offered by MOOCs providers like edX, Coursera, MIT, Swayam and the like. Take admission to a MOOC. Critically examine the mechanisms used for delivering instructions.

4. Select a topic and develop a plan for teaching through flipped classroom. Specify the medium you will use for teaching the various components of the topic and describe the instructional strategy you will use.

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7.9 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress 1

1- synchronous -a, d; asynchronous b, c

2- True-a, d

Check Your Progress 2

1-false; 2true; 3-false;4-false;5-true;6-false