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E- Learning Methodology

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Abstract: *Many organizations and. institutions are using e-learning because it can be as effective as Traditional at a lower cost. Developing e-learning is more expensive classroom materials and training the trainers especially if multimedia or highly interactive methods are used however, delivery costs for e-learning (includes costs of web servers & technical support) are considerably lower than those for classroom facilities instructor time • participants travel. & Job time lost to attend classroom sessions. This paper focus on methodology of e learning in India here & also compare the growth rate of e-learning India's with respect to other developed, countries although e-learning has a potential in India. e-learning can offer effective instructional methods such as practising with associated feedback combining collaboration activities with self- peace study, personalizing learning path based on learner's needs & using simulation& games. Further all learners receive the Same quality of instructional because there is no dependence on a specific Instructor.*

Keywords: E-learning

I. INTRODUCTION

E-learning is defined as acquisition of knowledge and skills, using electronic technologies such of computer, Internet based course ware & local, & wide area network. E-learning isa way of providing training & development to the employees, through various electronic media such as interact audio -video in a society. The student generations have to realise the importance of technology & have to be well aware how to teach the future leaders. it can be also defined as a internet based training (IBT)

1.1 Objective of Research

1. The basics objective of this study isto understand the concept of E-learning
2. To develop E-learning
3. To examine the types of E-learning
4. To compare traditional learning classroom and E-learning
5. to know the basic types of e learning courses and their components
6. How to combine E-learning with traditional face to face learning
7. To know various approaches of E-learning

1.2 E-Learning is a Good Option When

There is a significant amount of content to be delivered to a large number of learners;

- Learners come from geographically dispersed locations;
- Learners have limited mobility;
- Learners have limited daily time to devote to learning:
- Learners do not have effective listening and reading skills;
- Learners have at least basic computer and internet skills;
- Learners are required to develop homogeneous background knowledge on the topic, > learners are highly motivated to learn and appreciate proceeding at their own pace,
- Content must be reused for different learners' groups in the future;
- Training aims to build cognitive skills rather than psychomotor skills;
- The course addresses long-term rather than short-term training needs;

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- There is a need to collect and track data.

Since e-learning is not ideal for all purposes, it is unlikely that it will replace classroom training completely in an organization. The most cost-effective application of e-learning may be to complement conventional training in order to reach as many learners as possible.

II. E-LEARNING APPROACHES

There are two general approaches to e-learning: self-paced and facilitated/instructor-led.
Self-paced learners are alone and completely independent, while facilitated and instructor-led e-learning courses provide different levels of support from tutors and instructors and collaboration among learners.
Often, e-learning courses combine both approaches, but for simplicity it is easy to consider the two separately.

2.1 Self-Paced E-Learning

Learners are offered e-learning courseware (also called Web-based training (WBTI), which can be complemented by supplemental resources and assessments.
Courseware is usually housed on a Web server, and learners can access it from an online learning platform or on CD-ROM.
Learners are free to learn at their own pace and to define personal learning paths based on their individual needs and interests.
E-learning providers do not have to schedule, manage or track learners through a process E-leaming content is developed according to a set of learning objectives and is delivered using different media elements, such as text, graphics, audio and video. It must provide as much learning support as possible through explanations, examples, interactivity, feedback, glossaries, etc.), in order to make learners self-sufficient. However, some kind of support, such as e-mail-based technical support or e-tutoring, is normally offered to learners.
When self-paced e-learning is offered through an Internet connection, there is the potential to track learners' actions in a central database.

2.2 Instructor-Led and Facilitated E-Learning

In this model, a linear curriculum is developed that integrates several content elements and activities into a chronological course or syllabus. The course is scheduled and led by an instructor and/ or facilitator through an online learning platform. E-learning content for individual study can be integrated with instructor's lectures, individual assignments and collaborative activities among learners. Learners, facilitators and instructors can use communication tools such as e-mails, discussion forums, chats, polls, whiteboards, application sharing and audio and video conferencing to communicate and work together. At the end, a final step typically includes an exercise or assessment to measure learning

2.3 E-learning Components

As we have seen, e-learning approaches can combine different types of e-learning components, including:

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Let's have a quick look at these components.

A. E-learning Content

- E-learning content can include:
- Simple learning resources;
- Interactive e-lessons;
- Electronic simulations; and
- Job aids.

B. Simple Learning Resources

Simple learning resources are non-interactive resources such as documents, PowerPoint presentations, videos or audio files. These materials are non-interactive in the sense that learners can only read or watch content without performing any other action. These resources can be quickly developed and, when they match defined learning objectives and are designed in a structured way, they can be a valuable learning resource even though they don't provide any interactivity.

C. Interactive e-Lessons

The most common approach for self-paced e-learning is Web-based training consisting of a set of interactive e-lessons. An e-lesson is a linear sequence of screens which can include text, graphics, animations, audio, video and interactivity in the form of questions and feedback. E-lessons can also include recommended reading and links to online resources, as well as additional information on specific topics.

D. Electronic Simulations

Simulations are highly interactive forms of e-learning. The term "simulation" basically means creating a learning environment that "simulates" the real world, allowing the learner to learn by doing. Simulations are a specific form of Web-based training that immerse the learner in a real-world situation and respond in a dynamic way to his/her behaviour

E. Job Aids

Job aids provide just-in-time knowledge. They can take several forms and be delivered on different platforms (e.g. computer, printed document, mobile phone). They usually provide immediate answers to specific questions, thus helping users accomplish job tasks. Technical glossaries and checklists are a few examples of simple job aids, but sophisticated expert systems can also be developed to assist workers in complex decision-making.

(b) E-tutoring, E-Coaching, E-Mentoring

Services which provide human and social dimensions can be offered to learners to support them through the learning experience.

E-tutoring, e-coaching and e-mentoring provide individual support and feedback to learners through online tools and facilitation techniques.

(c) Collaborative Learning

Collaborative activities range from discussions and knowledge-sharing to working together on a common project. Social software, such as chats, discussion forums and blogs, are used for online collaboration among learners.

Online Discussions

Synchronous and asynchronous online discussions are designed to facilitate communication and knowledge-sharing among learners. Learners can comment and exchange ideas about course activities or contribute to group learning by sharing their knowledge.

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Collaboration

Collaborative project work implies collaboration among learners to perform a task. Collaborative activities can include project work and scenario-based assignments.

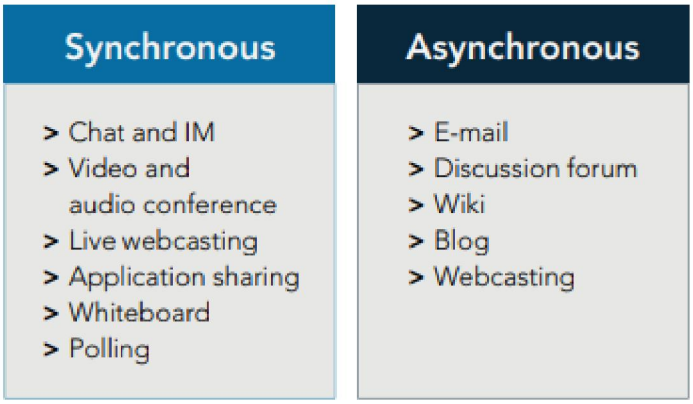
(d) Virtual classroom

A virtual classroom is the instructional method most similar to traditional classroom training, as it is led completely by an instructor.

A virtual classroom is an e- learning event where an instructor teaches remotely and in real time to a group of learners using a combination of materials (e.g. PowerPoint slides, audio or video materials). It is also called synchronous learning. This method requires the least amount of effort to convert materials (but instructors still have to prepare them). Appropriate technology must be in place for both the learners and providers (e.g. software for the virtual classroom and good connectivity)

Synchronous and Asynchronous E-Learning

- **Synchronous:** Synchronous events take place in real time. Synchronous communication between two people requires them to both be present at a given time. Examples of synchronous activities are chat conversations and audio/video conferencing.
- **Asynchronous:** Asynchronous events are time-independent. A self-paced course is an example of asynchronous e-learning because online learning takes place at any time. E-mail or discussion forums are examples of asynchronous communication tools.



III. QUALITY OF E-LEARNING

The quality of an e-learning course is enhanced by:

- **Learner-centred content:** E-learning curricula should be relevant and specific to learners' needs, roles and responsibilities in professional life. Skills, knowledge and information should be provided to this end.
- **Granularity:** E-learning content should be segmented to facilitate assimilation of new knowledge and to allow flexible scheduling of time for learning.
- E**ngaging content:** Instructional methods and techniques should be used creatively to develop an engaging and motivating learning experience.
- **Interactivity:** Frequent learner interaction is needed to sustain attention and promote learning.
- **Personalization:** Self-paced courses should be customizable to reflect learners' interests and needs; in instructor-led courses, tutors and facilitators should be able to follow the learners' progress and performance individually

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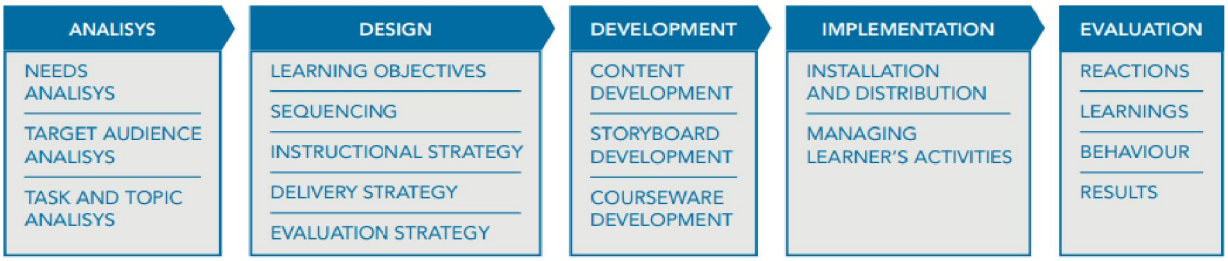
The ADDIE model for e-learning



The five stages in the ADDIE process are described below:

Analysis: A needs analysis should be conducted at the start of any development effort to determine whether:

- Training is required to fill a gap in professional knowledge and skills; and
- E-learning is the best solution to deliver the training. The needs analysis allows the identification of general, high-level course goals. Target audience analysis is another crucial step. The design and delivery of e-learning will be influenced by key characteristics of the learners (e.g. their previous knowledge and skills, geographical provenience, learning context and access to technology). Analysis also is needed to determine the course content:
- Task analysis identifies the job tasks that learners should learn or improve and the knowledge and skills that need to be developed or reinforced. This type of analysis is mainly used in courses designed to build specific job-related skills (also called "perform courses").
- Topic analysis is carried out to identify and classify the course content. This is typical of those courses that are primarily designed to provide information (also called "inform courses").

Design: The design stage encompasses the following activities:

- Formulating a set of learning objectives required to achieve the general, high-level course objective;
- Defining the order in which the objectives should be achieved (sequencing); and
- Selecting instructional, media, evaluation and delivery strategies. The outcome of the design stage is a blueprint that will be used as a reference to develop the course. The blueprint illustrates the curriculum structure (e.g. its organization in courses, units, lessons, activities); the learning objectives associated with each unit; and the delivery methods and formats (e.g. interactive self-paced materials, synchronous and/or asynchronous collaborative activities) to deliver each unit.

Development

In this stage, the e-learning content is actually produced. The content can vary considerably, depending on the available resources. For example, e-learning content may consist of only simpler materials (i.e. those with little or no interactivity or multimedia, such as structured PDF documents) which can be combined with other materials (e.g. audio or video files), assignments and tests. In that situation, storyboard development and the development of media and electronic interactions would not be conducted.

The development of multimedia interactive content is comprised of three main steps:

- Content development: writing or collecting all the required knowledge and information;
- Storyboard development: integrating instructional methods (all the pedagogical elements needed to support the learning process) and media elements. This is done by developing the storyboard, a document that describes all the components of the final interactive products, including images, text, interactions, assessment tests; and
- Courseware development: developing media and interactive components, producing the course in different formats for CD-Rom and Web delivery and integrating the content elements into a learning platform that learners can access.

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Implementation

At this stage the course is delivered to learners. The courseware is installed on a server and made accessible for learners. In facilitated and instructor-led courses, this stage also includes managing and facilitating learners' activities.**5**

Evaluation

An e-learning project can be evaluated for specific evaluation purposes. You may want to evaluate learners' reactions, the achievement of learning objectives, the transfer of job-related knowledge and skills, and the impact of the project on the organization.

IV. CONCLUSION

- E-learning is a convenient option for organizations in certain situations (e.g. when there is a need to reach many geographically dispersed learners).
- In a self-paced e-learning course, learners can study course materials at any time they wish. This requires that learners have access to a set of interactive and self-contained materials. Facilitated or instructor-led e-learning takes place at a specific time and usually integrates self-study with collaborative activities such as discussions or group work.
- Facilitated and instructor-led e-learning courses use communication tools which allow learners to communicate with facilitators and other participants. Tools can be asynchronous, such as e-mail or discussion groups, as well as synchronous, such as chat and audio conference.
- Both facilitated and self-paced e-learning activities and content should conform to a set of quality standards to ensure the effectiveness of the learning programme.
- In a blended approach, e-learning sessions can be integrated with face-to-face traditional activities using a variety of approaches.
- A series of activities are required to develop e-learning. According to the ADDIE model for instructional design, they can be grouped into five main stages: Analysis, Design, Development, Implementation, Evaluation.
- The following roles are generally required at different stages of the process (but some of them can be combined into a single job profile): project manager; instructional designer; subject matter expert; online administrator; e-tutor/facilitator; web developer; media editor; technical support specialists.
- Technology is needed both to create e-learning material and make it accessible to learners. Big projects may require the use of an LMS or other type of learning platform to track and administer learners' activities and manage e-learning content

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