A Review Paper on E-Learning Methodologies, Tools and Rise of Adaptability Innovative Digital Learning in COVID19

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Abstract: *E-learning is best platform to gather knowledge and education through internet transformation. E-learning has implemented world of education and the adaptability of educators drastically increases due to digital learning also in COVID -19 pandemics. This paper overview on synchronous and asynchronous learning environments to allow any time learning model also discuss effective E-learning methods and explain the type of content to which each is best suited for* right *training strategy This paper discussed on E-learning is an implementation of electronic media for a variety of learning purposes to facilitate the delivery of distance education, online learning or blended learning which includes distance education, blended learning, hybrid learning, online learning. The main focus of paper is e-learning methodologies and e-learning tools. E-learning is revolutionary way to empower workforce with the skill and knowledge discussed with this paper also overview on e –learning tools used for knowledge managements and application of digital learning increases in pandemic period of COVID19.*

Keywords: E-Learning, Methodologies, Tools, Knowledge Managements, Digital Learning

I. INTRODUCTION

E-Learning has a vast amount of uses across all sectors of society and educational field which is important explosion propelled by the internet transformation. E-learning has been implemented world of education. The adaptability of educators drastically increases due to digital learning. There were no needs for attendance at a physical location whenever course meetings virtual and facilities to listen pre-recorded lectures.To facilitate the delivery of distance education and blended learning are implementation of E-learningusing electronic media. There are many terminologies regarding the e-learning which includes distance education, blended learning, hybrid learning, online learning etc.[1] Digital learning that you can undertake wherever you are offers countless advantages if you have a busy professional life.Effective E-learning methods of online programs are provided to society in open access medium.E-learning by synchronous and asynchronous methods have been benefited to students. [2] E-learning possible using electronic information and communications technologies (ICTs) which delivered content methods are computer-based operation, video conferencing and audio conferencing, internet worldwide websites and computer assisted instruction and systematized feedback system.[3]. Applications of E-learning are digitalcollaboration, Web-based learning,computer based and virtual classroom.Internet-Based training is when content is delivered via the Internet,intranet/extranet, audio or video tape, satellite TV and CDROM. E-learning is not only about training and instruction but also about learning that is tailored to individual.[3,4].

II. E-LEARNING CATEGORIES

2.1 Synchronous and Asynchronous Learning

E-Learning methods can basically be divided into synchronous and asynchronous formats. Any time and in any location learning possible, Where learning can be undertaken, it is known as asynchronous learning. However, synchronous learning as digital learning formats occasionally require participants to be present at least at the same time in other words, live session

2.2 Blended Learning

Blended learning is not purely eLearning. Blended learning combines analog face-to-face sessions with online courses. In which face-to-face sessions contents are not repeated online; instead, all learning is divided between the face-to-face session and the online course. When time is short and complex theoretical this method is suitable also conveyed practical and theoretical contents so theoretical knowledge online and focus on practical learning in our face-to-face session offered by blended learning. Of course, whether you schedule the online course before or after the in-person session depends on the content and is your decision. [5]

2.3 Informal Learning

One of the most dynamic and adaptable features of learning is information learning drives our search as search engines (like Google) coupled with information storage tools and knowledge management tools like wikis and blogs present a powerful toolset in the knowledge workers portfolio [6,7].

2.4 Knowledge Management

e-learning technology has the potential to bring improved learning opportunities to a larger audience also one of effective routes to becoming inceases successful knowledge economy in learning society[8].Knowledge management is an essential process which is concern with how to create atmosphere for people to share knowledge on distribution, adoption and information exchange activities in an organization [9,10,11].

III. WHICH IS EFFECTIVE KNOWLEDGE MANAGEMENT TOOL IN E-LEARNING?

Many companies promotes e-learning as part of its knowledge managementstrategy, defines the benefits of e-learning as follows Cisco Systems, 2001: "E-learning provides a new set of tools that can add value to all the traditional learning modes – classroom experiences, textbook study, CD-ROM, and traditional computer-based training.

IV. E-LEARNING METHODOLOGIES

Web technology has its basic technical infrastructure to deliver knowledge in e-learning methods. In future a higher demand of technology must use software tools supporting the critical task of instruction design should provide automated support for the analysis, design, documentation, implementation, and deployment of instruction via Web based as e-learning.[8]

4.1 Interaction in Learning

Interaction between Learner(s) - Tutors(s)and Learner(s) - Learner(s) these two types of interactions.The research of Computer Supported Collaborative Learning (CSCL) an online class students should be more motivated to actively participate and should perceive the medium as relatively friendly and personal as a result of the online social interactions rather than individuals learning [12].

4.2 E –learning Tools

Three types of e-learning tools:
1. Digital library tools
2. Curriculum tools,
3. Knowledge representation tools

A. Digital library Tools

Digital library tools focus on locating resource and curriculum tools support class functions. With the help of digital library tools users find the right information amidst a huge amount of digital material also support the exploration and collection phases of information.Usually digital library included features are search, browsing, and discovering special collections.

B. Curriculum Tools

To facilitate class activities curriculum tools are widely used in high school and college of education, and authorization. There are three commercial tools instructional tools, administration tools, and student tools. Instructional tools include curriculum design and online quizzes with automated grading. Administration tools include file management authentication.

Student tool functions include:

- Browsing class material: readings, assignments, projects, other resources.
- Asynchronous and synchronous bulletin boards and discussion forums
- Learning progress scheduling and tracking: assignment reminders and submission, personal calendars, and activity logs.
- Self-testing and evaluation: To evaluate student performance tests designed by instructors The most popular commercial curriculum tools are WebCT and Blackboard.
- A review comparing these two tools suggests that Blackboard's flexible content management and group work support [8] make it more suitable for independent and collaborative learning Embedded support tools of WebCT's structure make it more appropriate for less independent learning and guided learning.

C. Knowledge Representation Tools

In this tool learner to visually capture, review and develop knowledge. Curriculum tools rely primarily on a text-based, syllabus approach to describing course content so fails to show the knowledgebase that a learner will have acquired at the end of his/her course of study. Learners and instructors are engaged in an active learning process using a visualization tool when they construct spatial semantic displays of the knowledge, concepts, and skills that the learner possesses and acquires [13]. The evolution process in e-learning has required instructional designer for the analysis, design, implementation, and delivery of instruction via the Web [14]. By using authoring tools provided automated support [15].These tools should implement suitable e-learning process design methodologies [16] [17].

The Rise of Innovative Digital Learning in COVID19

There are different methods have developed and implemented version of digital learning application at the time of COVID-19 pandemics using smart phones. Using digital platforms rise of adaptability of E-learning, in which instructions are done remotely.

Mobile Learning

E-learning using mobile or smart phones process undertaken on a mobile device instead of a desktop PC. As comparatively "classic learning" learners of digital learning enables even more flexibly eLearning to learn things at any time, wherever learners are with the help of right software and using fully responsive display. Mobile learning can also be used as an extension to make use of downtime, such as morning train journeys, or to transmit knowledge in specifically selected environments. Mobile learning enables unrestricted learning, anywhere and at any time [18].

Podcasts

Podcasts are on trend we can listen to them online, but unlike individual audio files, they are serialized so you can subscribe to them. There are anti-stress and time management podcasts, entertainment podcast which is also an excellent way of imparting knowledge on a regular basis, at any time and wherever your listeners are. Depending on the platform, you can also make your podcast available to a closed group. Podcasts offer maximum flexibility, allowing people to learn while performing everyday tasks that require little concentration, such as cleaning or going for a walk.

Video Training

Video training beneficial for both auditory and to visual learners also remote distance learning and more motivating for learners than texts which are advantages of videos. For particular present complex topics, it had easier in these ways learners can understand. But it's essential to ensure the sound quality is good.

Online Seminars

Online seminars are digital versions of seminar in other words, lecture in front of groups of participants. For enabling direct interaction between the lecturer and the participants

an online seminar is held live. In this method has accessed large groups of participants so suitable where it is not possible to hold a face-to-face session. The key advantage of online seminars has enabling learners to attend wherever they can listen recorded and made available to learners later, allowing them to watch again and consolidate their knowledge. Benefits of online seminars are ideal for large groups of participants that are not able to gather in one location [19].

V. CONCLUSION

E-learning methods are necessary to check the overall progress of the learner by evaluation and questionaries. According to this review e-learning methods are more convenient than the traditional methods. E-learning methods become more feasiblein the middle of a crisis. without compromising with our safety in our home we can continue to do them. E-learning provides a platform to the learners to voice their opinion from their understanding of the subject. It also helps the instructor see who the active participants in the discussion are and who tend to shy away, after collecting input the instructor can prepare further questionnaires by analysis process-learning delivers content through electronic information and communications technologies. This review finally we conclude that synchronous tools should be integrated into asynchronous environments to allow for "Any-time" learning model. All over the world to seek alternatives to face-to-face instruction in COVID-19. As a result, online teaching and learning have been used on an unprecedented scale by teachers and students[19].Using digital platforms rise of e-learning, in which instructions are done remotely.

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