

E-LEARNING; AN END TO TRADITIONAL TEACHING

PROF. MUHAMMAD MOIN

Director Department of Medical Education, Head of the Department of Ophthalmology, PGMI/AMC/LGH, Lahore

Before the launch of the internet distance learning was offered to the students. The students would get education material and they would send their assignments and tests using surface mail. Computer testing started in early twentieth century but with the establishment of internet at the end of the century the tools and delivery methods for e-learning really expanded¹.

eLearning can be started using simple methods such as micro learning in which chunking of information is done and it is pushed to the user using digital media. SMS or emails are used to send small chunks of information for learning. Students use critical thinking in a convenient way with the ability to interact. Gamification is another method using game mechanics and game thinking to engage users in solving non-game problems³. It is developed in such a way that the students are motivated to complete it and they enjoy the activity as well. Advanced methods include learning management systems (LMS) which are learning platforms where courses can be designed, course materials can be distributed and students can collaborate with the teachers⁴. There are free or open source and paid LMS available in the market. They can either be deployed on the local computers and used behind a firewall or they can be hosted on the internet. An LMS allows the teacher to register students, run courses, take online tests, distribute the results, accept assignments and communicate with the students. The graphic user interface (GUI) of the LMS can be modified according to the requirements of the users. Moreover, customization of language, notification setting and other features can be changed as required. The registered students can also keep track of their results and course progress. The LMS can also have a virtual classroom which enables you to use a white board system. Invitations to classrooms can be sent with reminders and scheduling with online calendars. It can also be linked to social media to share content or news through Facebook or Twitter. Learning pathways for students can be specified and reports can be generated to check for progress of learners¹.

eLearning can be divided into two categories: synchronous and asynchronous learning⁵. Synchronous learning takes place when the students and the teacher

are present online at the same time. This includes video conference or chat rooms. The teacher is there to answer any question during the course and engage in discussion. This helps the teacher to monitor the students as well. Asynchronous learning is done when the teacher uploads the teaching material online which can include lectures, videos and quizzes. The student can learn from the content at his own convenience and pace. He can later ask questions from the teacher through the comments section. Making an online course may be simple but making it effective is a difficult task. In order to make elearning more attractive to different learners a combination of visual, auditory and written material has to be incorporated in the course content. The goals of the course should be clearly defined for the students⁶. The teacher should also know his subject well to answer any type of questions. The website should be easy to navigate and teachers should be able to establish contact with the students to share the presentation and reading materials.

Hybrid or Blended learning is a combination of face to face learning and online learning so that both complement each other. It can be practiced with different variations of the two components as required by the institution⁷. The most useful aspect of this learning is that the students can share information with each other and collaborate in group activities gathered from online resources.

The advantages of eLearning are that it is self-paced, it makes sure that you improve continuously, there is complete freedom to learn from any resource, your instructor actually becomes your mentor and helps you in understanding things better, it is a great way for networking and learning from different people and it is very cost effective. It is Learner-centered and self-paced with complete flexibility of time and location. It is cost-effective for learners and it is potentially available to the global audience. There is unlimited access to knowledge with archival capability for knowledge reuse and sharing. Disadvantages include lack of immediate feedback in asynchronous e-learning. The instructor has to spend increased time for preparation of online teaching material. It can be uncomfortable to some people with a potential for frustration, anxiety, and confusion⁹.

The advantages of traditional learning are that your presence is verified by regular attendance, there is face to face interaction with the teachers, you are disciplined to obey schedule of classes, the teachers get an opportunity to assess their students personally and guide them accordingly. This method is more suitable for younger students who need guidance and direct supervision of the teachers. Teachers can motivate the students and most of the times students get immediate feedback to their queries. There is a cultivation of social community in this method as students and teachers become familiar to each other. Disadvantages are that it is instructor-centered with time and location constraints which make it more expensive to deliver¹⁰.

Petrarca et al in their study compared student satisfaction and assessment results of eLearning and didactic learning in ophthalmology¹¹. They found that the satisfaction ratings and examination results of eLearning showed small but significant benefit over traditional lectures. Therefore, in courses where didactic lectures are involved eLearning is going to be the future because it is student friendly and can be repeated and attended at convenience of the students. Although controlling attendance is much easier in traditional classroom setting. On the other hand, courses involving skills lab or clinical teaching a mixture of traditional and eLearning (blended) learning is the way forward⁷. Considering the benefits of blended learning institutions in our country should plan on incorporating this as part of their Undergraduate Medical School curriculum.

REFERENCES

1. Epignosis. LLC. e-Learning; concept, trends and application. <https://www.talentlms.com/wp-content/uploads/2018/09/elearning-101-concept-trends-applications.pdf>. Accessed 25 Jan, 2018.
2. De Gagne JC, Park HK, Hall K, Woodward A, Yamane S, Kim SS. Microlearning in Health Professions Education: Scoping Review. *JMIR Med Educ*. 2019 Jul 23;5(2):e13997. doi: 10.2196/13997. PMID: 31339105; PMCID: PMC6683654.
3. Ahmed M, Sherwani Y, Al-Jibury O, Najim M, Rabee R, Ashraf M. Gamification in medical education. *Med Educ Online*. 2015 Sep 29;20:29536. doi: 10.3402/meo.v20.29536. PMID: 26426401; PMCID: PMC4590351.
4. Dobre L. Learning Management Systems for Higher Education - An Overview of Available Options for Higher Education Organizations. *Procedia - Social and Behavioral Sciences* 2015; 180: 313-320.
5. Hrastinski S. Asynchronous and Synchronous E-Learning. *EDUCAUSE Quarterly Magazine*, Volume 2008;31(4): 51-55.
6. Pintz C, Posey L. Preparing students for graduate study: an eLearning approach. *Nurse Educ Today*. 2013;33:734-8.
7. Makhdoom N, Khoshhal KI, Algaidi S, Heissam K, Zolaly MA. 'Blended learning' as an effective teaching and learning strategy in clinical medicine: a comparative cross-sectional university based study. *J Taibah Univ Med Sci*. 2013;8:12-17.
8. Hugenholtz NI, de Croon EM, Smits PB, van Dijk FJ, Nieuwenhuijsen K. Effectiveness of e-learning in continuing medical education for occupational physicians. *Occup Med*. 2008;58: 370-2.
9. Ruiz JG, Mintzer MJ, Leipzig RM. The impact of E-learning in medical education. *Acad Med*. 2006;81:207-12.
10. Zhang D, Zhao JL, Zhou L, Nunamaker JF. Can E-Learning Replace Classroom Learning? *Communications of the ACM* 2004;47(5): 75-79.
11. Petrarca CA, Warner J, Simpson A, Petrarca R, Douiri A, Byrne D, Jackson TL. Evaluation of eLearning for the teaching of undergraduate ophthalmology at medical school: a randomised controlled crossover study. *Eye (Lond)*. 2018 Sep;32(9):1498-1503. doi: 10.1038/s41433-018-0096-1. Epub 2018 May 25. PMID: 29802293; PMCID: PMC6137043.