Beyond books: Role of DR TULSI DAS library, PGIMER in supporting E-Learning

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Abstract:

The educational environment for medical students today has radically changed as compared to the days before the internet came into being. The paper investigates the benefits of digital libraries for e-learning in medical education as it is found that researchers and educators are enthusiastic about using online information resources for their research and teaching. Technology provides learners with the flexibility to tailor their experiences to meet their individual needs, which includes content, learning sequence, location, time, and after media. The use of Internet technology to improve knowledge and performance is known as e-learning. A growing infrastructure for the support of e-learning in medical education involves repositories, digital libraries, for managing access to instructional materials, technical standardisation, and peer review procedures..

Keywords: e-learning, self-directed learning, web-based learning, e-library, medical education

Introduction:

E-Learning provides quick access to specific knowledge and information, making it an important development in the field of education. A variety of electronic learning technologies are used to deliver online education, including web-based courses, online discussion groups, video and audio streaming, Web chat, simulations, and virtual mentoring. By creating a unified virtual learning environment, businesses can overcome geographical distances and internal organisational barriers.

As the epidemic continues to impact society, education and medicine are struggling to adapt to new circumstances. This raises awareness of how essential medical technicians are. Students' studies are suspended or significantly altered around the world, and teaching methods are in desperate need of adaptation, making eLearning one of the most effective solutions.

While practical application and real-world experience are still necessary for every medical professional, online learning has opened up opportunities for growth and development on multiple levels. Here, we'll look at some of the most significant effects of eLearning on medical education, as well as how medical students and future experts will benefit.

E-learning is also known as web-based learning, online learning, dispersed learning, computer-assisted instruction, and Internet-based learning. Remote learning and computer-assisted training have traditionally been the two categories of e-learning.(Baluja, 2023; McGee & Begg, 2008) Distance learning is a means of leveraging information technology to give instruction to learners who are located far away from a central location. Computer-assisted instruction (also known as computer-based learning or computer-based training) is a method of employing computers to deliver stand-alone multimedia learning and teaching packages. These two modes of learning are merging into e-learning as the Internet becomes the integrating technology.

Education was impacted by the recent developments in information technology. With the growth and development of information and communication technologies (ICT), electronic learning (e-learning) has emerged as new paradigm of teaching and learning.

E learning refers to the utilization of Internet technologies to improve knowledge and performance. These technologies empower learners by giving them control, over the content learning sequence, pace, timing and often media enabling them to customize their learning experiences according to their objectives. (Ruiz et al., 2006)The medical education does not remain untouched of the e-revolution in teaching and learning. In this age of computers and handheld devices, teaching and learning have extended beyond textbooks encompassing various aspects of the digital world. The inclusion of multimedia makes e-learning more useful for medical education as multimedia includes videos, images, online classrooms, lectures, sound etc. A user can easily understand with the help of multimedia. Multimedia can make learning outcomes much more efficient and effective. As the medical students are having busy schedule and sometimes they miss important lectures, e-learning comes as a ray of hope for them. Now it is possible for them to access or attend recorded lecture. Both the United Nations and WHO recognize e learning as a tool to address needs among healthcare workers particularly in developing countries . According to Ellaway & Masters, "e-learning encompasses a pedagogical approach that typically aspires to be flexible, engaging and learner–cantered; one that encourages interaction (staff–staff, staff–student, student–student), and collaboration and communication, often asynchronously (though not exclusively so)." (Dhir et al., 2017)The faculty, researchers and students prefer to access information digitally at 24X7 from anywhere. Being the information hub, the libraries need to cope with changing preferences of its esteemed reader therefore the libraries mended mend its collection development policy and started incorporating large no. of e-resources and supporting e-learning. E-learning in medical education is more effective way to provide training to healthcare workers and treated as continuous learning. The continuous professional development keeps a medical professional up-to-date with latest healthcare treatment and procedures resulted in better patient care service. Besides there are many e-learning tools in medical sciences which can be used to diagnosis and prognosis on basis of cause and symptoms of a patient. Therefore e-learning provide time-efficient and effective way to stay ahead with latest information and development in diagnosis and treatment of various ailments.

Dr Tulsi das library cannot remain untouched of this aptly E-revolution. From its inception in 1964 to 2000, it is considered a storehouse of books and a cool place to study in. As the advancement in technology impacted the way of teaching, patient-care & researches of medical professionals of PGIMER, the library also started switching gradually its subscription from print to digital resources. Moreover creation of separate computer section with facility of computers and free Wi-Fi connection boomed the use of library as learning resource centre with huge collection of medical e-resources. This paper will discuss the significance of e-learning for medical professionals and role Dr Tulsi das library play in supporting e-learning.

Objective:

The main objective of this paper is to highlight the involvement of Library Professionals of Dr Tulsi Das library in supporting e-learning, Significance of e-learning for healthcare professionals and challenges encounter to carry on education programs of various e-learning platforms. Further the paper will also elucidate the way the library should enhance its services and reach each of its users.

E-learning:

E-learning was created to provide learners with the tools they need to complete their studies and improve their skills. They can also earn a degree certificate without ever attending a school, university, or other educational institution. () (5)

It is a terrific source of income for tutors because they may teach from anywhere at any time. By incorporating e-learning into all levels of education, students were able to comprehend the material more thoroughly and at a faster rate. The audio-visual approach of teaching, according to psychology, creates a disciplined learning environment. There is a good tutor and there are student engagements. One of the advantages of e-learning in school is that both instructors and students can improve their learning skills. One such breakthrough is the creation and sale of eBooks.

Significance of e-learning in medical sciences & Role of Libraries:

E-learning has the potential to revolutionize medical education and healthcare practice. It offers a number of advantages over traditional learning approaches like the flexibility to learn at their own pace and on their own schedule, useful for those who work full-

time or have other obligations, accessible from any location with an internet connection, more interactive than traditional means of learning etc. This can improve the learning experience and help pupils retain material better. E-learning is already being used in medical education and healthcare practice in a variety of ways. E-learning, for example, is used to: Teach innovative techniques and treatments to medical students and professionals. Teach healthcare workers how to use new technologies.(Masic, 2008)

Because they provide a range of approaches to knowledge development and acquisition, libraries are an excellent resource for e-learning in medical education. Students and medical professionals may expect a comprehensive and rewarding learning experience from this relationship. To begin with, e-learning libraries offer a wide range of resources, such as research articles, textbooks, journals, and multimedia components. These materials are made with the specific needs of medical students in mind, providing them with the most recent and relevant information accessible. Convenience is increased by the availability of digital access, which lets students study whenever and at their own pace. In addition, many e-learning platforms have components that encourage participation and collaborative learning among medical community members.

Medical students can converse, debate case studies, and learn from each other in virtual discussion boards, webinars, and interactive sessions that replicate the cooperative atmosphere of traditional library settings. This fosters academic progress and a sense of camaraderie among the students. Medical students may do research quickly thanks to the accessibility of a large number of digital libraries and databases from anywhere, which further advances evidence-based learning. This not only fosters self-directed learning, which is essential in medical education, but it also improves research and critical thinking abilities. In a field that is always evolving, staying current with the most recent advancements and discoveries in medicine is essential. Medical students may stay up to date on the latest research, techniques, and technology with the help of e-learning libraries, which offer real-time updates. The process of continuous evolution aids in the formation of a comprehensive medical practitioner who can adjust to the ever-changing healthcare environment. Last but not least, the incorporation of libraries and e-learning into medical education enhances the learning process by enabling instant access to a

wealth of pertinent information, promoting collaboration and discourse, developing research abilities, and enabling real-time knowledge updates. This collaboration promotes a culture of lifelong learning and development among medical professionals in addition to raising the bar for medical education.

Use of e-learning in Medical sciences:

The importance of e-learning in the medical sciences is considerable, and the inclusion of libraries considerably enhances this value. When these two components are combined, medical education, research, and professional development are transformed. Access to a vast array of educational resources, such as interactive modules, multimedia lectures, online journals, and e-books, is made possible by e-learning in the medical sciences. These readily available materials enable students to repeat difficult ideas and study at their own pace, leading to a deeper understanding of the material.

E-learning offers medical professionals and students' flexibility and convenience by enabling them to fit their learning around their schedules. This is particularly helpful for medical professionals who have to juggle work and school commitments. Libraries support this by providing a plethora of online resources, guaranteeing that access to essential teaching materials is not compromised.

The financial burden connected with traditional brick-and-mortar learning is sometimes reduced by e-learning. Open-access journals and educational websites are only two examples of the many free or inexpensive services that libraries, especially digital ones, offer. This evens the playing field for pupils and democratises access to high-quality information.

Enhanced Interactivity and Engagement:

Interactive elements like tests, role-playing, and virtual labs are common in e-learning platforms and promote participation and active learning. Libraries, both physical and digital, can supplement this involvement by holding webinars, online forums, and discussion boards that promote cooperation, information exchange, and problem-solving within the medical community. Global Learning Community: Because e-learning crosses geographical barriers, medical students can connect and engage with classmates and professionals from all around the world. Libraries play an important role in

promoting this global learning community by providing venues for information sharing, allowing a varied range of perspectives and experiences to strengthen the learning process.

Medical sciences are constantly evolving, with new research and discoveries being made on a daily basis. E-learning platforms, aided by digital libraries, provide real-time updates on medical advances, research discoveries, and treatment options. This guarantees that medical personnel are up to date on the most recent and evidence-based practises.

Continuing Professional Development:

In the medical sector, lifelong learning is crucial. E-learning, in conjunction with libraries, promotes ongoing professional growth. Accredited courses, conferences, and continuing education programmes are available to medical professionals in order to broaden their knowledge and skills, thereby improving their practise and ultimately benefiting patient care.

In summary, the integration of libraries in e-learning within the medical sciences maximizes the advantages of both, offering accessible, flexible, cost-effective, interactive, and continually updated learning experiences. This dynamic combination supports the education and growth of medical students and professionals, ultimately elevating the standards of healthcare and positively impacting society.

Web 2.0 in Health Education:

Web 2.0 refers to a group of web-based technologies that share a user-centric approach to design and functionality, allowing users to actively participate in content production and editing through open collaboration among members of communities of practise.(Ahmadi et al., 2012) Web 2.0 websites like Facebook and Myspace have become some of the most popular on the Internet thanks to the current generation of medical students. Understanding and implementing Web 2.0 concepts to the curriculum and linked websites can help medical educators and manufacturers of educational software solutions. Health science institutions have been experimenting with wikis,

blogs, and other Web 2.0 applications, identifying both benefits and drawbacks to these relatively open, student-centred communication tools.(McGee & Begg, 2008)

We have seen a new revolution in the sphere of communication in recent years, thanks to the Internet. The traditional web is being replaced by Web 2.0, which provides content through collaboration, discussion, and sharing among more users.(Santoro, 2007) Leaving aside the health implications, we've seen a movement in the internet environment from unidirectional and "read-only" communication to multidirectional communication marked by involvement, cooperation, and openness. Individuals get information and contribute to online material in an interactive, networked environment through social media sites such as Facebook, YouTube, blogs, and forums. PatientsLikeMe, for example, is an online community that allows people to connect with others who have the same illness and share information about symptoms and treatment options. When it comes to public health, Web 2.0 media is upending old health promotion models and encouraging the development of new health.

Podcasts, wikis, and blogs are becoming increasingly popular as educational tools for health care providers, physicians, and medical students. Online medical journals (such as the New England Journal of Medicine, the Lancet, the British Medical Journal, and the JAMA) as well as medical societies, medical schools, and health institutions have developed medical podcasts to communicate with and educate physicians, students, patients, and health consumers.(Santoro, 2007)

Web 2.0 technologies are rapidly being studied by educators in all specialities of medicine in order to maximise postgraduate medical education of house staff. Microblogging, blogs, RSS feeds, podcasts, wikis, and social bookmarking and networking are examples of these technologies.(Bennett et al., 2012)

How has e-learning altered the way medical educators teach?

In the medical education field, e-learning has also transformed learning delivery. Here's how to do it:

Increasing information accessibility:

Medical students can quickly locate the materials they require. Digital content is simple to share and can be used by several students at the same time.

Ease of updating content:

Compared to printed material, electronic content is easier to update. Educators can quickly revise their materials.

Content standardisation:

Educators may now make content uniform and consistent for learners using e-learning technology.

Medical students have more flexibility over the content, pace of learning, learning sequence, time, and medium with which they can adapt their experiences to meet their own learning goals. Digital library services, which give users access to a wide variety of tools and materials, are essential for promoting e-learning in the healthcare industry. The following are some significant ways that digital library services help e-learning in the healthcare industry:

Access to Information:

Healthcare professionals, educators, and students can access a variety of digital assets through digital library services, including databases, research papers, journals, and electronic books. These tools guarantee that students have access to the most recent knowledge and scientific advancements by offering up-to-date material on a range of healthcare topics.(Masters & Ellaway, 2008)

Flexibility and Convenience:

Flexible study periods and remote access to educational resources are common features of e-learning in the healthcare sector. The limitations of physical libraries are lifted when students use digital library services, giving them access to knowledge anytime and wherever they choose. Students can access the materials on their own devices, which allows for self-paced study and flexibility in meeting different learning styles.

Multimedia Content:

Multimedia resources like as movies, interactive modules, webinars, and simulations are commonly available through online libraries. These materials enhance learning by

presenting content in engaging and interactive ways. For example, students can watch educational movies depicting medical procedures or practise clinical skills using virtual simulations.(Ghafar et al., 2023)

Collaboration and Networking:

Healthcare professionals and students can network and collaborate through digital library services. Students can communicate, exchange knowledge, and hold discussions with one other using social networking sites, message boards, and online discussion forums. Students are able to benefit from the many perspectives and experiences of others because of the collaborative environment that fosters a feeling of community.

Continuous Learning and Professional Development:

Healthcare professionals need to keep up with changes in their area through continuous learning and professional development. Access to resources for continuing education, such as webinars, courses, and certificates, is made possible by digital library services.(Sharma Pant & Poudel Panthi, 2018) With the help of these tools, professionals can advance their knowledge and skills at their own speed, supporting lifelong learning.

Research Support:

Access to databases and powerful search tools are provided through digital library services, which support research in the medical field. To collect factual knowledge, students can examine literature reviews, conduct systematic reviews, and access research databases. To assist learners in efficiently organising their references and citations, digital libraries frequently include citation management software.

Remote learning during Pandemics:

Digital library services become crucial for continuous e-learning in healthcare during times of crises or pandemics, when physical access to educational institutions may be restricted. With the use of digital tools, students can complete their education from a distance, continuing to be involved in their studies despite any physical limits.(Hermawan, 2021)

Overall, digital library services promote research efforts, encourage collaboration and networking, support e-learning in healthcare, and facilitate ongoing professional growth.

They do this by giving easy access to a variety of information. These services greatly expand and grow healthcare education, which eventually enhances patient care.

Pinnacle Role of Dr Tulsi Das Library in supporting e-learning:

Dr. Tulsi Das Library, PGIMER (Postgraduate Institute of Medical Education and Research) is a pivotal institution that acts as an intellectual and academic hub for faculty, residents, students, staff, and researchers. The library, named after the great Indian physician & first Director PGIMER Dr. Tulsi Das, exemplifies the institution's commitment to developing medical education, research, and healthcare. The library's foundations has been laid with the goal of delivering extensive materials and an ideal atmosphere for learning for the medical and healthcare community of the institute. The Dr. Tulsi Das Library has a large and diverse collection of academic literature, primarily in the medical and healthcare fields. Books, periodicals, research papers, electronic resources, and multimedia materials are among the items in its collection allowing its readers to stay up to date on the newest development in the area. In keeping with the digital age, the library has made tremendously progress in subscribing e-resources i.e. e-journals, e-books, e-learning resources namely Uptodate anywhere, BMJ Learning, Thieme Medone suits, Access Medicine, Access Pediatrics etc. This not only improves research convenience but also minimizes dependency on physical materials. The access these collection, is provided to the users through OpenAthen, single sign-on platform incorporated with Ovid discovery search feature. Besides providing access through single sign-on and search platform, the library also extended it’s helping hand to promote the e-resources subscribe by it through orientation programmes, arranging workshops, training programmes, webinars, and providing guiding steps etc. Here are some key initiatives of Dr Tulsi Das Library for supporting e-learning:

1. **Provide Access to e-Resources**:

The library subscribe to approx. 4000 e-journals, 13000 ebooks and 35 e-resources comprising of eminemt software or resources of medical sciences which not only help them in patient care but also keep them update in their field with providing latest imformation e.g. Uptodate anywhere, embase, scopus, web of sciences, JCR, turnitin ,Grammarly .

2. **Literacy support for e-resources**:

The professional staff of library play vital role in enhancing e-learning by apprising them about the contents of e-resources relating to their subjects; teaching the medical fraternity how, why and where to use the contents of subscribed e-resources. The library professional also provide hand-on-training session for encouraging users to use e-learning resources.

3. **Organizing Training session**:

The library organize tutorials & workshop of the publisher of subscribed or important e-resources for empowering library users to navigate through the subscribed e-contents. The guidance on creating effective search strategies, critical evaluation of e-resources, citation analysis, reference manager, systematic review etc is provided from the publishers.

4. **Tech Support and Training**:

Provide users with technical assistance and training so they can make the most of the materials available if they are unfamiliar with e-learning platforms. The library staff frequently taking the sessions of residents and research scholars for the course on research methodology and biostatistics twice in a year.

5. **Guiding for literature Search & building search strategy**:

Offer virtual reference services via chat, email, or telephonically to help students and instructors locate pertinent e-learning resources and carry out research. The library staff is also helpful to create search strategies for the research scholars.

6. **Support for Research and Evidence-Based Practice**:

Give students support and resources for any technological difficulties they may experience throughout the course and encourage them to seek out help when they need it and to ask questions and also providing Systematic review training through PubMed, OVID Medline,Uptodate, BMJ learning

7. **Training for TURNITIN, ENDNOTE**:

To offer practical sessions, tutorials, and access to help resources like user guides and online discussion boards to facilitate learning. Additionally, during the training programs, provide opportunity for participants to ask questions and get clarification.

Give complete instruction on how to utilize the TURNITIN plagiarism detection programme for their thesis and article. EndNote training is necessary to enable users to efficiently organize, manage, and cite references in their research papers and thesis. EndNote is a reference management programme that is frequently used by researchers, and academics. The library staff provide training to its users regarding how to use Endnote to create bibliographies for their research work. Encourage users to put their newfound knowledge into practise by importing references and building an EndNote library and help them with the process of organizing, adding, and citing references.

8. **Promotion of Digital Literacy:**

To increase awareness among students and faculty, constantly promote e-learning resources and services through workshops, webinars, social media, and library outreach programs. Work closely with the faculty to pinpoint specific e-learning requirements, compile pertinent resources, and provide digital tools to support course creation.

9. **Training for e-teaching platform:**

The library staff provide training to its users regarding how to use BMJ learning Database, and how to access or download book chapters from Access medicine, Access Pediatrics and Access Surgery etc.

Discussion:

Dr Tulsi Das Library, PGIMER play a vital role in supporting e-learning for healthcare professionals and students. It gives users access to a multitude of digital resources, including databases, e-books, journals, and online learning environments. It also provides assistance and training on how to make efficient use of these resources. The professionals at the library are also masters at evaluating and retrieving information. They facilitate the search for the most current and pertinent information on a certain subject for academics, residents, and professionals. They also aid in determining any biases and evaluating the accuracy of the information.(Makol & Tandon, 2022)

Libraries also give professionals and students a place to meet, work together, and exchange knowledge. They might provide study areas, conference rooms, and other tools to aid with online learning. With a large computer room furnished with PCs and free internet access available around-the-clock, the Dr. Tulsi Das Library offers an ideal

setting for online learning. When needed, the library professional offers residents and scholars in-library instruction for any e-learning resource. All things considered, medical libraries are crucial allies for students and healthcare professionals on their e-learning journeys. They offer the tools, encouragement, and direction required to prosper in this quickly evolving setting.

Conclusion:

In conclusion, PGIMER's Dr. Tulsi Das Library is a wonderful illustration of how well-established institute may use e-learning to thrive in the digital age. As we've seen, this library has evolved from its conventional role as a collection of books to a bustling hub for the dissemination of knowledge by integrating digital resources and e-learning activities. The commitment of the library to providing e-learning support has had a noteworthy impact on the professional and academic growth of its users. Thanks to the library's extensive collection of electronic books, online journals, and databases, PGIMER's faculty, researchers, and students may now stay up to date on the latest advancements in their fields. Additionally, the library's commitment to organising, curating, and facilitating access to these materials has made e-learning for its users a seamless and enriching experience.

The library offers more than just resources when it comes to e-learning support. It also frequently takes part in webinars, workshops, and training sessions aimed at enhancing the research and digital literacy of its users. This comprehensive approach guarantees that the PGIMER community not only has access to information but also the necessary abilities to make the most of e-learning. In essence, PGIMER's Dr. Tulsi Das Library is more than just a collection of books; it also acts as a centre for information, an online learning environment, and an inspiration for the school to strive for excellence. Its "Beyond Books" journey honours the transformative power of libraries and serves as a reminder that knowledge—in all its digital forms—continues to be a fundamental component of advancement and enlightenment.

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