LIBRARIES, OPEN ACCESS AND THE FUTURE OF LEARNING

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Abstract

Libraries are not just evolving; they are going through a fundamental change that will make them engines for free access and educational innovation. As education becomes more digital and global, open access and libraries are crucial to the future of learning. With the addition of online courses, research databases, and collaboration spaces, libraries are evolving from being just places to store books and instructional materials to becoming centers of digital learning. A culture of openness and transparency in research and education is also being promoted via libraries and open access. This change encourages increased accountability and knowledge sharing across boundaries and specialties. As a result, interdisciplinary cooperation, data-driven decision-making, and novel pedagogical techniques will define the learning of the future. In this study, the history, models, features, mechanisms and the resources of open access were explored. The challenges involved and future prospects of library and open access were also examined. It was also mentioned how libraries can be used as a tool for future learning through open access. This study paves the door for additional investigation into the ways that libraries will continue to influence the direction of education.

Keywords: Libraries, open access, models, features, resources, challenges and future of learning

INTRODUCTION

For centuries, Libraries have been the cornerstone of knowledge, offering resources and services that play a pivotal role in education, personal development, research, knowledge dissemination and learning. These institutions have traditionally served as repositories of information, connecting people or offering access to a wide range of resources such as books, journals, magazines, digital or multimedia resources, and more (Johnson, 2017). However, with the advent of digital technology and the internet, the concept of libraries has evolved beyond physical spaces, giving rise to the idea of open access and revolutionizing the future of learning in the cyber space.

In this digital era, the concept of Open Access has gained traction as a response to the challenges of restricted access to scholarly content. Open Access (OA) is a practice of making scholarly research, information and educational resources freely available to the public via online, without any cost of accessibility (Piwowar, et al. 2018). This movement aimed to democratize knowledge by removing the financial constraints that often limit access to valuable information which in line with libraries that offer free services as a means to empowers individuals, promote education, foster community engagement, and uphold democratic values.

Suber (2015) opined that Open Access (OA) entails the practice of providing unrestricted and free online access to scholarly research articles, educational materials, and other types of contents. This approach removes financial and legal barriers, enabling anyone with an internet connection to read, download, share, and sometimes even modify the content, subject to certain licensing conditions. Fitzgerald (2010) cited in Piwowar, et al. (2018) opined that Open Access "aims to disseminate knowledge broadly and freely across the internet in a timely fashion through availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of an articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself." OA can also apply to non-scholarly content, like music, movies, and novels.

A publication is considered as Open Access if: its content is universally and freely accessible, at no cost to the reader, via the Internet or otherwise; the author or copyright owner irrevocably grants to all users, for an unlimited period, the right to use, copy, or distribute the article, on condition that proper attribution is given; it is deposited, immediately in full and in a

suitable electronic form, in at least it is widely and internationally recognized as repository committed to open access (UNESCO, 2018).The fundamental mission of any library is to connect people with information and the goals of OA make librarians a natural advocate for promoting greater access to scholarly works. How advocacy and support for OA has evolved illustrates the creative ways that libraries are adapting to the changes in scholarly communication process and their relationships with publishers and authors, and the dissemination of information.

Historical Background of Open Access (OA)

Open access, a movement that gained momentum with the advent of the internet, has redefined how information is disseminated. The movement gained momentum in the late 20th century as a response to the increasing costs and limited accessibility of scholarly publications. One of the seminal events in the history of Open Access is the Budapest Open Access Initiative (BOAI), which was launched in December 2001 and resulted in the Budapest Open Access Initiative Declaration in February 2002. The BOAI called for free and unrestricted online access to peer-reviewed scholarly research. It promoted two main strategies for achieving open access: self-archiving (green open access) and open-access journals (gold open access). The Berlin Declaration, established in October 2003, expanded upon the principles outlined in the BOAI. It emphasized the importance of open access for the advancement of research and scholarship in all fields of science and humanities. It also encouraged researchers, institutions, and funding organizations to promote and support open access. The Public Library of Science (PLOS) played a significant role in advancing the Open Access movement through its establishment of a series of open-access scientific journals. PLOS Biology, PLOS Medicine, and other journals pioneered the open-access publishing model, where articles are freely accessible to readers while authors bear the costs of publication.

In the United Kingdom, the Finch Report was a pivotal moment in OA history. Published in June 2012, the report recommended a shift toward open access publishing, urging universities and funding agencies to support the cost of publication. This report played a role in shaping open access policies in the UK and beyond. Plan S, launched in September 2018 by a coalition of European research funders, aimed to accelerate the transition to full and immediate open access. It required that, starting in 2021, research funded by participating organizations be published in compliant open-access journals or platforms. These events and initiatives represent just a fraction

of the historical developments in the open access movement, which continues to evolve as researchers, institutions, and policymakers seek to make scholarly research more accessible to all

Models of Open Access

Green Open Access (Self-Archiving): In this model, authors publish their work in traditional subscription-based journals but also deposit a version of their manuscript (usually the final accepted version) in an open access repository such as an institutional repository or a subject-specific repository (Suber, 2012). This allows for broader access to the work while still complying with the journal's copyright policies.

Gold Open Access (Open Access Journals): In this model, authors publish their work in open access journals that make all articles freely available to readers(Budapest Open Access Initiative, 2002) to cover the costs of publication and peer review, authors often pay article processing charges (APCs). These charges are typically covered by research institutions, funding agencies, or the authors themselves.

Features of Open Access

Open access (OA) is characterized by several key features. These features promote the free and unrestricted access to scholarly research and information. Here are the main features of open access as sited in

- *Free Access:* Open access content is freely available to anyone with an internet connection. Readers can read, download, print, and distribute the material without any subscription or payment barriers.
- *Online Availability:* Open access content is primarily available online, ensuring wide and immediate dissemination of research findings.
- *Permission to Reuse:* Open access works often come with licenses that allow various levels of reuse, including copying, distribution, adaptation, and even commercial use. Creative commons licenses are commonly used to provide clear permissions for reuse.
- *Public Domain:* Some open access content is released into the public domain, meaning that there are no copyright restrictions on its use. This allows for maximum freedom of use and distribution.
- *Variety of Formats:* Open access materials can encompass a wide range of formats, including articles, preprints, theses, books, datasets, and more.

- *Rapid Publication:* Open access can accelerate the publication process, as articles can be made available online more quickly compared to traditional publishing models.
- *Increased Visibility:* Open access materials are often more discoverable and visible due to their availability on the internet. This can lead to higher citation rates and broader dissemination of research findings.
- *Global Accessibility:* Open access aims to bridge the knowledge gap between researchers in different parts of the world by providing equal access to scholarly resources, benefiting both researchers in resource-rich and resource-poor settings.
- *Enhanced Collaboration:* Open access encourages collaboration and interdisciplinary research by allowing researchers from different fields to access each other's work easily.
- *Innovation and Creativity:* Open access fosters innovation by enabling researchers to build upon and remix existing knowledge without unnecessary legal or financial barriers.

Open Access Mechanisms

Open access is achieved through various mechanisms that provide unrestricted access to scholarly literature. These mechanisms can be classified into different categories:

- *Open Access Journals:* These are journals that are openly accessible immediately upon publication. They provide complete and unrestricted access to their content without subscription or pay wall barriers Suber (2012). Examples include journals like Public Library of Science (PLOS), BioMed Central and Springer Open

- *Institutional and Digital Repositories:* These are domain-specific or subject-specific repositories where authors or their institutions make their publications freely available online. These repositories can be administered by organizations, scholarly societies, or individual institutions. (Crow 2022). An example of such a repository are DASH (Digital Access to Scholarship at Harvard), Oxford University Research Archive (ORA), MIT DSpace atMassachusetts Institute of Technology and eScholarship by University of California Arxiv, which focuses on physics and related disciplines.

- *Limited Access Journals:* Some conventional journals adopt a limited access approach where they provide open access to certain sections or articles within their issues while keeping the rest behind a paywall (Björk & Solomon, 2012). For instance, Elsevier (The Lancet, Cell, Journal of Financial Economics), Springer Nature (Nature, Scientific

Reports, Journal of Business Ethics), Wiley (Advanced Materials, Journal of Political Economy) and Taylor & Francis (International Journal of Production Research) are renowned limited access journals that offers open access to specific articles while the majority of its content requires a subscription.

- *Delayed Open Access:* This mechanism involves periodicals initially being available through traditional subscription models and later transitioning to open access after a specified period of time from the date of publication (Harnad, 2015). Publishers may impose an embargo period before making the content freely accessible. Platforms like PNAS (Proceedings of the National Academy of Sciences), Oxford University Press Journals, Elsevier and Springer Journals, HighWire Press journals follow this approach.
- *Dual Mode:* This model is also known as Hybrid Open Access because it combines aspects of both closed and open publishing. Björk, (2012) analyzed this model as a publishing model where a journal offers both a subscription-based print edition and an open-access online edition. The British Medical Journal (BMJ), Taylor & Francis Open Select, Springer Open Choice are example of a dual-mode journal, providing a print version for subscribers and an open-access online version.
- *Economy-based Access:* Certain mechanisms aim to provide open access to periodicals based on the economic capacity of countries or institutions. Initiatives like HINARI and AGORA offer free or low-cost access to scholarly literature to institutions in developing countries or regions with limited resources.

These different mechanisms contribute to the overall goal of open access by providing avenues for researchers, academics, and the public to access and utilize scholarly literature without financial barriers. They offer alternatives to traditional subscription-based models, promote knowledge sharing, and foster collaboration and innovation in research and academia.

Open Access Resources

Open access resources refer to digital content that is freely available and accessible to the public without any financial barriers. These resources encompass a wide range of scholarly literature, research outputs, educational materials, and other types of content that can be accessed and utilized by anyone with an internet connection. Here are some examples of open-access resources:

- *Open Access Journals:* There are numerous OA journals across various disciplines that publish research articles and make them freely available to readers (Suber, 2012). Examples include PLOS ONE, BioMed Central, and Directory of Open Access Journals (DOAJ).
- *Institutional Repositories:* Many universities and research institutions have established institutional repositories where researchers can deposit and share their scholarly publications, such as articles, conference papers, and theses (Pinfield, 2015). These repositories provide open access to the intellectual output of the institution. Examples include Harvard DASH and Stanford Digital Repository.
- *Preprint Servers:* Ginsparg (2011) cited in Tennant, et al. (2018), that Preprint servers host early versions of research papers, allowing researchers to share their findings before formal peer review. Preprints are openly accessible and can be found on platforms like arXiv (for physics, mathematics, computer science, and more) and bioRxiv (for biological sciences).
- *Open Educational Resources (OER):* OER is freely available educational materials that can be used for teaching, learning, and research purposes (Willinsky, 2019). They include textbooks, lecture notes, slides, videos, and interactive modules. Examples of OER platforms include OpenStax, MIT OpenCourseWare, and OER Commons.
- *Government and Institutional Reports:* Many governmental organizations, research institutes, and international bodies publish reports and data sets that are freely available to the public (World Bank, 2023). The Publication entails information on national and international government agencies, covering economic, social, scientific, and policy research. Examples include reports from the World Health Organization (WHO), the World Bank Open Knowledge Repository, United Nations Human Development Reports and the National Institutes of Health (NIH).
- *Digital Libraries and Archives:* Digital libraries and archives provide access to a wide range of digitized content, including historical documents, manuscripts, photographs, and artworks (HathiTrust, 2023). These repositories support Open Access (OA), long-term preservation, and global knowledge dissemination. Examples include: HathiTrust Digital Library, the Digital Public Library of America (DPLA), Directory of Open Access Books (DOAB), Europeana, and the Internet Archive.

- *Funding Agency Platforms:* Funding agency platforms are online systems that facilitate the dissemination, application, and management of research funding opportunities provided by government agencies, private foundations, and international organizations. European Commission (2022) opined that This platforms help researchers access grants, fellowships, and project funding to support academic and scientific advancements. Some funding agencies require grantees to make their research outputs openly accessible. Platforms like PubMed Central (National Institutes of Health (NIH) funded research) and Europe PubMed Central (Europe PMC) host open-access articles resulting from funded research.

Challenges and Prospect of Open Access

The rapid growth of scholarly literature also caused challenges in terms of accessibility, particularly for libraries. The complete volume of literature made it difficult for libraries to provide access to their users, while the increasing prices of academic journals imposed financial burdens on institutions supporting research activities (Piwowar, Priem, and Larivière 2018). Furthermore, the transition to electronic publishing resulted in the bundling of journals into databases controlled by large commercial publishers, leading to restrictive licensing terms for access and usage (Lawson, Gray, and Mauri, 2016). These measures, although profitable for publishers, often failed to meet the specific need of libraries and information centers.

In response to these challenges, the open-access initiative emerged as a transformative solution to assist library to achieve its primary objective to select, acquire, organize, preserve and make accessibility by its clients within the quickest possible time all forms of relevant information materials which they required, the evolution of open access has been facilitating these routines for libraries in this present time.

Open access aims to overcome the commercialization of scholarly publications and the serials crisis by promoting free and unrestricted access to scholarly publications through the Internet. By removing price and permission barriers, open access ensures the widest possible dissemination of research, enabling a global community of researchers and scientists to access and utilize scholarly literature (World Bank, 2023). It is a movement that seeks to democratize knowledge, foster collaboration, and facilitate the advancement of research and scientific progress. Through open access, researchers and scholars are empowered to share their findings openly and contribute to the collective body of knowledge. By embracing open access

principles, the scholarly community strives to create a more inclusive and equitable research ecosystem, where access to information is not limited by financial constraints or restrictive licensing agreements. Open Access has gained momentum over the years, with numerous initiatives, policies, and funding mandates promoting and supporting its implementation across various disciplines.

ROLES OF LIBRARIES IN OPEN ACCESS AS A TOOL FOR FUTURE LEARNING

The relationship between open access and libraries is a significant one, as libraries play a crucial role in supporting and promoting open access initiatives. Libraries often serve as advocates for open access; provide resources for researchers to publish in open access journals, and work to increase the visibility of open access content. Here are some key aspects of the relationship between open access and libraries:

- *Advocacy and Education:* The libraries take on the role of advocating for open access within their institutions and the broader academic community (Pinfield, 2015). They educate researchers, faculty, and students about the benefits of open access, helping them understand how it aligns with the principles of scholarly communication.
- *Support for Open Access Publishing:* Morrison, (2016) reported that libraries provide funding or support for researchers to publish in open access journals. They might have agreements with publishers to cover or discount article processing charges (APCs) for authors affiliated with their institution.
- *Hosting Institutional Repositories:* Many libraries operate institutional repositories where researchers can deposit and share their scholarly outputs, including pre prints, post prints, datasets, and other research materials. These repositories promote open access and provide a platform for showcasing the institution's research.
- *Open Educational Resources (OER):* Libraries often play a role in supporting the creation, adoption, and dissemination of open educational resources (Willinsky, 2019). OER are freely accessible educational materials that can include textbooks, lecture notes, and other educational content.
- *Information and Guidance:* Libraries offer information and guidance to researchers on copyright issues, licensing, and open access policies. They help authors navigate the complexities of open access publishing and ensure that their rights are protected.

- *Collection Development and Access:* Libraries curate collections of open access resources that are freely available to their patrons. They integrate open access materials into their collections to provide a wider range of resources for researchers and students (Björk, 2017).
- *Data Sharing and Preservation:* Libraries contribute to the open access movement by facilitating the sharing and preservation of research data. They often provide services and resources for researchers to manage, store, and share their data openly.

WAYS IN WHICH LIBRARIES AND OPEN ACCESS CAN HELP FUTURE LEARNING

Libraries are natural allies of the open access movement. They serve as conduits between content creators and users, offering expertise in curating, organizing, and disseminating information. Libraries also facilitate the archiving of open access materials, ensuring their long-term accessibility. Furthermore, libraries often collaborate with institutions to negotiate fair publishing agreements that prioritize open access principles, promoting a more sustainable and equitable scholarly publishing ecosystem. Open access libraries can significantly enhance future learning in the following of ways:

- *Unrestricted Access to Learning Resources:* Open access libraries will provide free access to a wide range of educational resources, including academic papers, research articles, textbooks, and other learning materials OECD. (2023). This eliminates financial barriers and ensures that anyone, regardless of their socio-economic background, can access valuable information.
- *Global Reach and Diverse Perspectives:* Open access resources allow learners from around the world to access materials without the need for physical presence, promoting cross-cultural understanding and diverse perspectives. (Hirtle, 2006). This global reach encourages diverse perspectives and cross-cultural understanding.
- *Continuous Learning and Lifelong Education:* Open access resources provide up-to-date information, enabling continuous learning beyond formal education. (Hilton, et al 2010). Learners can access up-to-date research, new discoveries, and evolving knowledge, ensuring that their learning journey remains relevant and current.
- *Lifelong Learning:* Open access resources support lifelong learning by allowing individuals to explore new subjects and deepen their knowledge in existing areas of

interest. Learners can explore various topics at their own pace, facilitating self-directed learning.

- *Enhanced Research and Critical Thinking:* Open access libraries provide access to research studies, fostering critical thinking and analytical skills. (Tenopir & King 2004). Access to primary sources, research studies, and academic papers allows learners to analyze information, form informed opinions, and contribute to discussions on various topics.
- *Collaboration and Networking:* Open access libraries foster collaboration and networking opportunities among learners, educators, researchers, and professional (Veletsianos & Kimmons 2012).This interaction can lead to discussions, shared insights, and the exchange of ideas.
- *Innovation and Interdisciplinary Learning:* Open access resources expose learners to diverse ideas and information from different disciplines (Weller 2014). This interdisciplinary approach can spark innovative thinking and creativity by encouraging learners to connect concepts from various fields.
- *Supplementing Formal Education:* Open access libraries provide supplementary resources by providing additional resources beyond what is covered in formal curricula that can deepen learners' understanding beyond formal curricula. (Kimmons and Veletsianos 2016).
- *Access to Research Findings:* Open access libraries make research findings readily available, bridging the gap between academic research and real-world applications. Learners can leverage this information for projects, assignments, and problem-solving.
- *Reduced Publishing Barriers:* For researchers and educators, open access libraries provide a platform to share their work without traditional publishing barriers. This fosters collaboration, accelerates the dissemination of knowledge, and encourages the growth of research communities.
- *Customized Learning Paths:* Open access libraries allow learners to create personalized learning paths based on their interests and goals. They can choose from a vast array of resources that cater to their specific learning preferences

Conclusion

The transformation of libraries from traditional repositories to dynamic centers of knowledge reflects the changing landscape of information dissemination. As libraries adapt to the digital age, the open access movement emerges as a significant force in reshaping the way society accesses and engages with scholarly content. By embracing open access principles, libraries not only uphold their mission of democratizing knowledge but also contribute to the advancement of research, innovation, and societal progress on a global scale. Open Access resources have shattered the barriers to knowledge and have ushered in a new era of accessibility and collaboration. From open-access journals to institutional repositories, preprint servers, and educational resources, these platforms have democratized access to information, empowering researchers, educators, and learners worldwide. By embracing open access, we can accelerate the pace of scientific discovery, foster innovation, and ensure that knowledge truly belongs to everyone. So let's unlock the doors to knowledge and embrace the vast world of open-access resources.

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