

ISSN 2229-5984 (Print)
ISSN 2249-5576 (Online)



INTERNATIONAL JOURNAL OF INFORMATION DISSEMINATION AND TECHNOLOGY

Volume 13

Issue 3

July-Sept. 2023



INDEX COPERNICUS VALUE
2015 : 70.77



editor.ijdt@mmumullana.org

www.ijdt.com



The Role of the Librarian in the OER-Based Material Creation Framework for the Strategic Implementation of OER

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To Cite: Joshi, N.S., Parmar, R.S. & Vasava, J.D. (2023). The role of the librarian in the OER-based material creation framework for the strategic implementation of OER. *International Journal of Information Dissemination and Technology*, 13(3), 97-104.

ABSTRACT

E-learning enables more efficient learning at a lower cost, as well as expanded global access to learning and explicit accountability for all learning participants. The use of open educational resources (OER) in modern Indian higher education is becoming more important for both developed and developing countries to improve the quality of education. This will also help us fulfill the NEP 2020 prophecy, which says that all Indian languages and literature, which contain a rich reservoir of our soil, will improve the education system. The issue is getting different stakeholders to understand the many open educational resources that are freely available to them. Both students and teachers must make the best use of it. The goal of open educational resources (OER) is to make this information freely available, thereby increasing educational opportunities for previously underserved groups of society and thus equalizing access. The study investigates the advantages and characteristics associated with open pedagogy, the strategic implementation of OER, and the prospects of OER. It also discusses recommendations made to address these concerns.

KeyTerms: OER, Open Education, Education Reforms, Higher Education, Libraries, and OERs: A Model of OER and How to Use OER

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INTRODUCTION

E-learning helps students and schools. Students can learn from any Internet-connected area. It enables organizations to serve more children while reducing costs. The online programme increased course organizers' workload despite being beneficial. The program's success earned them the 2013 University Innovation Award. Students interacted with OER, tutors, and other students. Interaction and engagement are crucial to developing talents, encouraging critical thinking and reflection, and demonstrating knowledge, skills, and attitudes. OER is part of online learning. A case study indicates it saves time and resources. OER are "educational products that have been approved by ICT for use by a community for non-commercial purposes" (John Stone, 2005). Open educational resources are digital content for teaching, learning, and research.

industrialized countries. "Freedom to share information" and "open legal, social, and technological knowledge" are OER's essential concepts. Mishra says OER helps comprehend community and wealth. OER adoption enhances education and access. Free educational resources are key. UNESCO describes OER as publicly licensed or "public domain" learning content (2017). Open works can be copied, modified, and shared lawfully. The OECD defines open educational resources (OER) as "free digital resources for teaching, learning, and research" (2007). These views emphasize OER freedom.

LITERATURE REVIEW

Here are a few studies that show how hard librarians in India have worked to spread the word about OER:
Ramesh C. Gaur and Jaya Raju's article, "Librarians' Role in the Open Educational Resources Movement: The Case of India," is available online. In this study, the role of librarians in promoting and raising awareness of open educational resources (OER) in India is covered, along with instances of librarians' successful leadership

Quality instructional content affects student learning. Open educational resources can improve education. MOOCs and OERs are critical to educational institutions all over the world. Olcott foresaw "a new education cosmos." In 2002, UNESCO defined "OER" to describe open educational programmes in

TIME LAG

Received on : 31.07.23
Revised on : 22.08.23
Accepted on : 20.09.23

Online Access
www.ijdt.com
DOI
10.5958/2249-5576.2023.00019.5
QR Barcode

of OER initiatives. "Open Educational Resources in India: Initiatives, Benefits, and Challenges" by J. K. Vijayakumar and K. S. Chudamani This study focuses on the role of librarians in promoting and supporting OER initiatives as it examines the difficulties and advantages of implementing OER in India. Ritu Bhagia and Sanjay Kataria's study, "Open Educational Resources and Institutional Repositories in India: A Survey of Trends and Best Practices," was published. This study looks at how institutional repositories in India are used to promote and spread OER. It focuses on the role of librarians in managing and putting together OER collections.

Bhojaraju Gunjal and Krishnamurthy M.'s article, "Creating an OER Ecosystem in Indian Higher Education: The Role of Librarians," describes this process. This study discusses the potential of librarians to spearhead the creation of an OER ecosystem in Indian higher education as well as the necessity of stakeholder advocacy and cooperation. Overall, these studies show how important librarians are in getting people in India to use and learn about OER. They also show what the opportunities and challenges are for using OER in this setting.

THE CURRENT STUDY

A review of the empirical literature is needed to understand what open pedagogy is, what it means, and how it affects how students learn and how teachers teach. A literature review would synthesize open pedagogy's definitions and applications to illuminate research findings. This review would identify literature gaps and guide future research.

RESEARCH QUESTIONS

- How does open pedagogy vary across studies?
- What factors affect your OER adoption and use?
- How does OER impact student learning?
- How can OER fit into existing educational practices and curricula?
- What are your OER implementation best practices?
- How might OER implementation evolve in your context?
- How can librarians best implement OER?

- How can librarians help faculty and students find, evaluate, and use OERs?

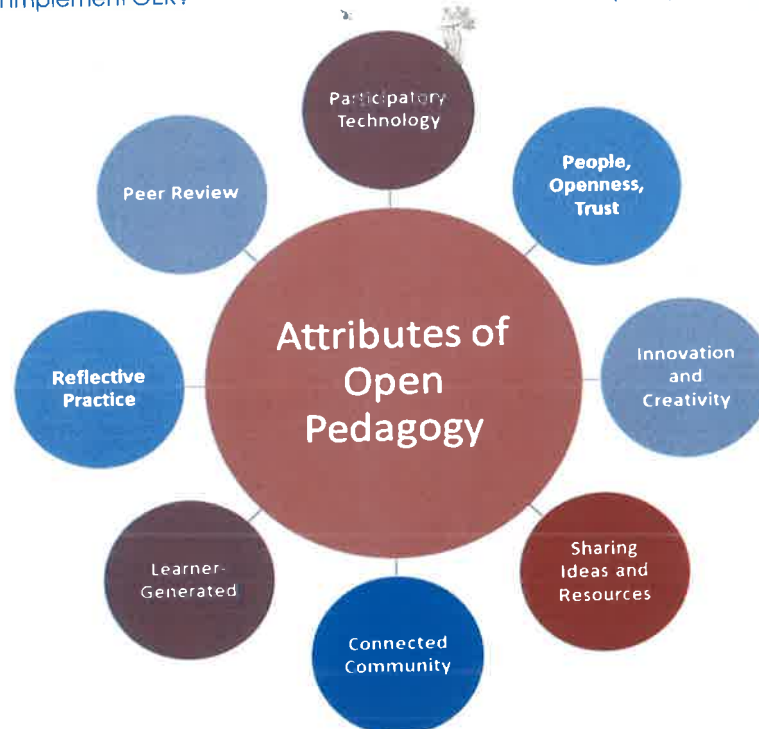
Eight Attributes of Open Pedagogy

The evidence surrounding each of the eight attributes associated with open pedagogy and their contribution to the model, as well as links to open educational practices, are considered and deconstructed. I consider how important each attribute is for successful participation in open pedagogy.

- (Hegarty, 2015) Hegarty's attributes of open pedagogy. Image: Hegarty, 2015.

Attribute 1: Participatory Technologies

OER on its own won't make a culture where people share information, resources, and ideas through social networks. Media used to build OER, content sharing, and participation-encouraging technology are crucial. Socially generated media includes blogs, wikis, video, photo, and audio-sharing sites, forums, chat rooms, and email (Blackall, 2011). A generation accustomed to media and internet communication develops learner-generated content, says Blackall (2011a). Learners encounter outside ideas, authorities, sharing and collaboration tools, and digital media. In a socially linked, pleasant society, seasoned contributors can coach less seasoned peers in a creative participatory culture (Jenkins, Clinton, Purushotma, Robinson, & Weigel, 2006). Peer-to-peer learning, a changing attitude towards intellectual property, cultural diversity, employment skills, and a more empowered perspective of citizenship result (Jenkins et al., 2006). Four necessities: 1. Affiliations: online communities on social media and games. Creating "new artistic forms" by merging media (e.g., mash-ups). 3. Formal and informative group work involves collaborative problem-solving (e.g., Wikipedia). 4. media-slanted information circulation (e.g. podcasting and blogging). (2010) In a participatory setting, resources must be shared and publicly accessible to be reused, altered, remixed, and redistributed (Wiley, 2013). Attribution-Share Alike



necessary (Blackall, 2001, b; Siemens, 2003). In my opinion, open pedagogy requires a participatory culture. Open learning and teaching require adaptable materials (Hegarty, 2014c; Siemens, 2003). Material licensing and sharing methods and technologies are important in an open educational environment. "Web 2.0" allows users to share their contributions, encouraging a participatory culture. His methods improve students', teachers', and companies' learning practices. His technique is problematic as an open pedagogy because students invited classmates into Web 2.0 areas they developed to share content, limiting openness to classroom participants and lecturers and not the whole community. Web 2.0 and mobile technologies are key to an open pedagogy with strong support and convergent, respectful communities.

- **Attribute 2: People, Trust, Openness**

In open networks, students' willingness to learn is fragile; participation and exchanges won't grow without trust. Due to unfavorable forum experiences, individuals preferred blogging in the Participatory Culture and Connective Knowledge MOOC. These diminished opportunities for an open, trustworthy, and varied learning environment made course interactions less engaging. Negative experiences in an open environment can be counterintuitive and undermine co-learner confidence. A support structure that engages learners in critical learning on an open network **should create a space or community where people feel safe, trusted, and valued and can access and interact with materials and each other.** Building confidence and freedom in an open learning environment would seem to motivate people to unearth their inner creativity and become trendsetters. How to get mainstream instructors to join this stream remains a mystery.

- **Attribute 3: Innovation and Creativity**

Emerging technology trends include social media, mobile learning, open content, and open licenses.

Students are using social media to become information producers rather than information consumers. Knowing how to apply these tools is vital for current and future teachers, but using them because they're trendy is not enough. If students are to engage more in their studies, pedagogy must change. He helped teachers build unique teaching practices that encouraged learner-driven innovation and open collaboration. Using educational technologies to construct creative learning models that tailor experiences and incorporate informal learning opportunities Personalised learning can lead to increased workplace learning opportunities and qualification through competency and knowledge portfolios. This requires creativity and facilitation. Open educational approaches and open pedagogy components aren't mentioned. The trend is towards greater learner autonomy and the use of technology that can connect users across multiple networks. Whether the educational sector adopts this trend needs to be seen. To do so effectively, digital methods and technologies that encourage knowledge and resource sharing must be selected.

- **Attribute 4: Sharing Ideas and Resources**

Who benefits? Throughout the years with higher education teachers about sharing resources and using OER. "I'm uncomfortable posting online." My work may not be good enough to critique. "Why bother if others will just steal it?" Teachers sometimes have trouble seeing

the benefits of OER and OEP. I've heard several opinions on OER and OEP. Some people are pleased to share their work because they use OER and want to give back. Even though they routinely use OER, some people haven't considered sharing their materials, and some are uncomfortable uploading them publicly. Teachers need a strong internet presence to create open education models. People actively sought aid, shared skills, and ideas, and learned best practices for open settings in a peer-to-peer social network. If the organization encouraged innovative learning and teaching, teachers would have more confidence to do so. OER can increase teaching methodologies, learning environment design, and learning and teaching materials quality and diversity. Open settings encourage user-generated content, sharing, and active learning. Open pedagogy requires a connected, trustworthy professional community. Sharing materials, concepts, and knowledge benefits teachers. Personalized learning requires teachers to access, reuse, and alter learning materials. Sharing resources speeds up the creation and promotion of educational products. Taking must be accompanied by giving. Over time, collaborative media-sharing platforms and creation methods have grown. MOOCs are a recent example of massive cooperation. They aren't always open-minded. Sir John Daniel (2012) discusses the progression of the MOOC from a participatory and linked phenomenon (cMOOC) to the current information transmission and behaviorist model (xMOOC). In the latter model, participation is confined to reading publicly available pre-packaged content; although called OER, these resources cannot be reused and shared. The xMOOC pedagogy is considered questionable and of low quality (Daniel, 2012), and it lacks several open pedagogy qualities. Learning designs don't usually include socially networked learner communities. Milheim (2013) has more on MOOCs.

- **Attribute 5: Connected Community**

A connected community is a sign of a culture where people work together and share resources. It is also necessary for cooperation and sharing resources. Social media or another technology system must be used as a conduit to engage in a connected community. According to the 2015 NMC Horizon study, students will have unlimited access to a global network called the "Internet of Things" during the following four to five years, which will have an impact on education as we currently know it. All of these initiatives aimed to create interconnected communities, but the low participation rates might be a sign that contributors are reluctant to fully participate. They might not have enjoyed using Web 2.0 tools or have experienced a "fear of rejection," a condition that peer pressure and community involvement can help to lessen. By "creating open ICTs that connect users to groups that are meaningful to them [and] can encourage their engagement," he advised, a culture of openness could be created. He found that putting social media and mobile learning together in a learning community helped students create content, connect, and share knowledge.

- **Attribute 6: Learner-Generated**

It's important to be open to changing learning experiences if you want to stick to an openness philosophy and think about how OER could help open educational practice move forward. This requires "opening" the process so that students can take charge,

find solutions, and collaborate to create artifacts that they can share, debate, reorganize, and deploy. When students are encouraged to fully participate in the learning process, something "magical" happens and creative work can be made. Building relationships is, in my opinion, the most important part of an open pedagogy. This is shown when learning communities work together, which leads to peer review and reflective learning.

● Attribute 7: Reflective Practise

In today's digitally rich world, where students have access to a lot of information, teaching methods are changing from broadcasting to curating. Social curation, which is defined as "the discovery, collection, and sharing of digital artifacts like links, photographs, and videos by an individual for a social purpose," seems to be more suitable for education. It may be inferred that teachers' selection of OER resources for their students, and vice versa, is fundamentally influenced by experiential learning. Alevizou (2012) also recommends co-constructing professional knowledge through facilitated and shared reflective practice since it promotes creativity and change in curriculum design. Teachers conversed with one another and reflected critically on the applicability and quality of not only the resources they discovered but also those they created by accessing and posting OER within media-sharing networks. In other words, the possibility of public criticism catalyzed contemplative activity (Alevizou, 2012). Without any data, we cannot presume that this new tendency will be advantageous for education. When curriculum resources are openly licensed, there is a greater chance that critical reflection and collaborative modification will take place because more organizations and individuals may access them and contribute their knowledge (Sapire, Reed, & Welch, 2012). Sapire and colleagues were able to reduce the amount of time needed to produce OER by combining reflective practice with collaborative curriculum design (internal and cross-institutional teams). Their method helped establish a community of practice and promoted more use of OER (Sapire et al., 2012).

● Attribute 8: Peer Review

Peer review technologies encourage more open practices, so they naturally encourage learner-generated content, peer critique, and collective aggregation. Peer feedback, tagging, sharing, and modifying (Conole, 2014) can be used by the larger community to improve the information that people have collected or made. Both tight-knit COPs and loose networks are forming so that people can share their knowledge and give each other feedback on their work. Conole (2014) has added the trend toward openness to her 7C learning design paradigm by using OER and collaborative techniques. Peer interactions and criticism are part of the learning process, and learners also act as publishers and users of a wide range of open technologies. But, as was already said, planning for a socially connected learning experience doesn't always lead to full participation or engagement. Fear of peer criticism has been shown to make people less likely to join an open learning community (Cocciolo, 2009). If teachers don't feel comfortable being judged by their peers or by people they see as experts, it may be impossible for them to take part. A participatory culture is thought to be fundamental to performance when it comes to open peer review (Conole, 2012). Richter and

Ehlers' (2011) research with European teachers showed that teachers needed to be able to see that the OER they chose were of the highest quality. This group was worried about how true the ideas presented in learner-generated content were, which brought up another possible problem for teachers. Also, they found that teachers were worried about the lack of a body to monitor the quality of OER materials. This showed that teachers didn't know how important peer networks are.

○ The Five Phases of Implementation

Although there isn't much literature on OER implementation, there is enough on related topics, including innovation, higher education, instructional design, and change management. Ellsworth's (2000) analysis of educational transformation theories shows that innovation spread in the 1940s and general systems theory came about in the 1950s. Later, because of changes in the way schools are set up (Jenlink, Reigeluth, Carr, & Nelson, 1996; Jenlink, Reigeluth, Carr, & Nelson, 1998; Reigeluth, 1992; Reigeluth, 1994), these two research areas were brought together. This research brings together educational change models and change theories to come up with an OER implementation paradigm for higher education. The five steps and related elements make up the suggested OER implementation paradigm. The phases are analysis, adoption, optimization, evaluation, and stabilization. Some phases are iterative and reciprocal rather than sequential.

(Hegarty, 2015) Despite the lack of literature on OER implementation, there is much in related fields, such as higher education, innovation, instructional design, and change management. The OER implementation model contains five steps and related components. Analyse, adopt, optimise, evaluate, and stabilise. Second, adopt. Some phases are recurring, reciprocal, and not always sequential. The analysis phase sets the initiative's framework. It acts similarly to a needs assessment and is described as "occurring each time an actual condition differs from a desired condition in the human aspect of organisational performance or when a change in present human knowledge, abilities, or attitudes can bring about the desired performance." Academicians and change theorists have provided models of change, among which the first phase is problem awareness and developing methods and remedies. Creating early goals is vital because it dictates the execution direction; the other parts described below must align with the initial goals and vision. The analysis includes these steps:

- Create an OER task force.
- Explain what problems OER can solve.
- Develop a goal-oriented OER initiative.
- Define OER's goals.
- Examine OER materials.
- Assess OER's technical foundation.

Align OER with the organization's mission and values. h
Create a viable OER schedule. Build or use an OER platform.]
Find outside partners to help implement OER. Implement
OER. Because OER materials are of greater quality and easier
to access, many higher education institutions have adopted
them at the course, programme, and department levels
Effective OER requires a comprehensive implementation
approach that includes a wide range of stakeholders.

First, HEIs should organise an OER implementation task force
This procedure involves university leadership, the IT director,
library representatives, and online education professionals
Choosing a leader or leaders to manage and direct

implementation is crucial. Leadership is essential to most creative processes, say scholars. Initial task force meetings should focus on identifying challenges or potential improvement areas to move initiative discussions forward. Leaders and team members consider the initiative's aims in light of a long-term vision before deciding on related targets. Since most OER content is on the Web and electronic devices, organizations should determine if they have the human and financial resources, a strong supporting technological infrastructure, and adequate technical standards for optimal implementation results. Higher education institutions should consider whether OER project goals align with their mission and values. In this phase, a schedule analysis must be conducted to ensure realistic and reasonable deadlines for each milestone and goal. This can assist members of an organization in setting outcome standards and reinforcing their vision and goals. Colleges must select whether to use OpenStax, Open Courseware (OCW) or construct a new OER platform. In this case, it's crucial to distinguish between innovation development and execution, which may seem similar. While implementation entails using an innovation, development encompasses its genesis. Innovation development and implementation have similar timelines. Either path requires distinct facilitators of change. There are currently several OER platforms available; therefore, picking the optimal one requires research and strategic engagement with an outside vendor to execute the OER project.

• Adoption Phase

Beginning the adoption phase should follow the analysis phase. This phase includes macro-level implementation plans, pilot testing, and formative evaluation of the programme so university administrators can decide whether to implement it institution-wide. Below the list of adoption components is phase-specific information.

- Plan OER implementation.
- Define the roles and responsibilities of stakeholders during OER implementation.
- Use or create OER.
- Try out OER. The OER pilot needs action research.
- Integrate OER into your LMS using Learning Tools Interoperability (LTI).
- Imagine an OER CMS.
- Create a production plan and budget.

In the adoption phase, the first step is to make a thorough implementation plan that fits with the goals and aims of the initiative. After the analysis phase, the adoption phase should start developing implementation methods. Creating implementation strategies involves determining the macro- and micro-level strategies and tactics for successful implementation, as well as the initiative's short-, mid-, and long-term consequences. In this phase, successful implementation actions and tactics are outlined. The chosen strategies should build on knowledge gained and case study descriptions of other deployments. Define the roles and responsibilities of the stakeholders to determine who is responsible for what during implementation. After that, the company implements small-scale tests to predict the innovation's impact. We recommend adopting or developing OER resources, then pilot-testing them and using action research to provide summative and formative feedback. Throughout the pilot and large-scale adoption phases, university stakeholders should review their defined roles and responsibilities to ensure they are aligned with changing OER implementation needs. Since an LMS may

contain OER, the plug-in (LTI) process must be compatible with the LMS environment. IT specialists create a CMS development roadmap to conceptualize an OER Content Management System (for example, a learning repository). With these steps, businesses can plan and budget for OER production. To help, organizations should collaborate with OER leaders like OpenStax.

• Optimization Phase

Optimizing After adoption, organizations can maximize OER by contextualizing and localizing innovation. This includes designing plans for innovation spread, marketing, enculturation, and adapting the overall implementation framework for the region. List of optimization phase elements:

- Adapt OER to the institutional environment.
- Spreading and promoting OER.
- Make OER a company-wide project.
- Modify the Open Educational Resources framework (technologies, competencies, business model, incentive system, and organizational structure).

"Localization" means adapting an invention to local conditions. Higher education institutions with distinct beliefs and missions set different aims and priorities. OER can help students save money, but it can also be a marketing tool for the university. In either scenario, placing OER within a university's context provides a sound framework for distribution. Diffusion of the invention is key and tied to stakeholder support for OER's success. Institutions must promote OER and its benefits. Due to the time and effort required to integrate OER, educators must be adept at communicating its benefits. Innovation dispersion requires collaborative learning. Higher education experts should form a learning community to explore adoption strategies. A community of inquiry, peer learning, and learning-by-teaching can help form this community. Institutionalisation. Embracing and ingraining OER as the standard in departments, programmes, and/or the university and understanding OER Institutions can establish or adjust their general framework, focusing on technology, competencies, business models, incentive systems, and organization.

• Evaluation Phase

In many instructional design frameworks and change theories, evaluation occurs after implementation. Evaluation of OER implementation must include the following elements:

- Ensure OER quality
- Measure the degree of OER awareness.
- evaluate the initiative's outcomes
- Assess teachers' and students' perceptions of OER.
- Analyze the OER initiative's effectiveness and efficiency.
- Check the availability of OER resources.
- Analyze the results of the student's learning.

OER scholars and practitioners are concerned with quality. Users have carefully considered the quality of OER materials. Higher education institutions should use practical and effective methods to ensure quality when embracing OER. OpenStax, a prominent OER player, used editors, reviewers, and proofreaders to ensure quality when generating OER resources. Individuals creating modest OER programmes should also consider quality. Form a quality assurance team. OER projects must also raise awareness. Since awareness is a

measurement construct, it may be used to assess the project's success. The proposal should meet the OER task committee's goals. Measuring such outcomes can show OER's success. Since the OER literature contains numerous measurement approaches, faculty and student perceptions of the OER effort can be assessed through a range of sub-constructs. The efficacy of OER literature is evaluated based on teacher effectiveness and OER's historical performance. The effectiveness of OER should be measured throughout the process. Higher education should benefit everyone. Accessibility should be considered, especially with technology. The Web Content Accessibility Guidelines 2.0 (WCAG 2.0) can be used to assess OER accessibility. Finally, assess the outcomes of the student's learning. Cost reductions are useless if OER resources reduce student learning. High student learning scores are good.

● **Stabilisation Phase**

When an invention is embraced and used, universities should ensure its sustainability. Last, integrate OER into university operations. This phase maintains and improves OER uptake and evaluates the effort. To maintain OER in higher education, do these:

- Create long-term OER strategies.
- Assure adequate OER funding and staffing.
- Offer continuous workshops and professional development.
- Install an evaluation system.
- Continue your OER development and research.
- Create a financially sound business plan to support the OER effort.

● **Create long-term OER strategies.**

This should include assigning positions and tasks to OER specialists. The University of Georgia hires an OER expert for OER-related duties. Librarians, UTOs, instructional designers, and leadership experts can help OER projects. Regular workshops and professional development seminars can assist consumers and providers in staying current on OER education and experience. Establish a feedback system and communication channels to manage and respond to professor, student, and administrator comments about OER and to detect and repair faults in iterative development. University academics can conduct research studies and tests to improve general initiatives and discover essential markers of a healthy and sustainable OER implementation using stakeholder feedback. Systematic investigation of user activity and the influence of OER on educational results, teaching, and learning can also help the field expand. To preserve OER, institutions need a business model and long-term support. Without funding, initiatives rarely last.

● **Implementation**

India's open educational resources movement is new. If specialists from top universities provided free education materials, teachers could click a mouse. World-famous professors and scholars will speak. Free educational materials for urban researchers will help rural students. These are typically interactive and web-based, allowing students to pose questions to lecturers. It's online-accessible. Open education resource portals offer online courses and credentials (depending on course availability, of course). Students can prepare for NEP 2020's credit bank concentration by accumulating more credits. It will aid school libraries. This helps us fulfill the NEP

2020 prophecy that all Indian languages and literature will enrich education. Understanding free, open educational resources is tough for stakeholders. It's for students and teachers. Because globalization has transformed education and its system, teachers must collaborate, adapt, and translate outside resources. Success in higher education with OER

● **Role of the Librarian in the Framework for the Strategic Implementation of Open Educational Resources for the Creation of OER-Based Material**

Librarians are very important when it comes to both the strategic use of open educational resources (OER) and the creation of materials based on OER. The following is a list of some of the most important roles that librarians play in this process:

● **Identification and evaluation of resources: Librarians are in a great position to find, evaluate, and choose high-quality open educational resources (OERs) for use in teaching and learning. They can help teachers find the best resources for their needs and make sure the materials meet standards for quality and usefulness.**

Collection development and management Librarians have the potential to play a pivotal role in the process of creating and managing a collection of open educational resources (OERs) that is tailored to the requirements of their particular institution or organization. They can also assist with the organization and management of open educational resources (OERs), making it more likely that these resources will be easily discovered by users and made available to them.

● **Management of digital repositories: Many librarians have experience managing digital repositories and can help institutions set up and maintain their open educational resource (OER) repositories. They can make sure that the repository meets standards for how easy it is to access, how well it is kept, and how long it lasts.**

Librarians can help teachers and staff learn how to use open educational resources (OER) by teaching them how to use them and giving them support. This training and support can include how to find and use materials, how to create and share OERs, and how to integrate them into teaching and learning.

● **Advocacy and outreach: Librarians can be advocates for open educational resources (OERs) within their respective institutions and work to raise awareness about the advantages of utilizing OERs in educational settings such as teaching and learning. They can also get involved with communities on a local and national level to help build a network of OER practitioners and promote the use of open educational resources (OER).**

Overall, librarians play a crucial role in supporting the effective implementation of OERs and can help institutions realize the full potential of these resources in terms of improving access to education and promoting student success. This is because librarians have access to a wide variety of information sources that can be used to support the effective implementation of OERs.

THE FUTURE OF OER

Gurukuls had an impact on education in the past, and as the system changed, so did schools and higher education. Who would have imagined that such systems would be used in the future?

What kind of technology was invented that lets a person with a curious mind get as much information as he wants while

sitting at home? He does not need the help of a guru like Dronacharya. Thanks to open access to education (OER), one's desire to learn is enabled and satisfied by being allowed to study and learn about foreign languages or other foreign subjects as well. In the past, students had to travel to different libraries to conduct research; now, everything is accessible online and in institutional repositories. Pollution and its management have been hotly debated, but no concrete steps have been taken. How far have we progressed toward our goal of paperless education? However, if knowledge is freely available, education levels will rise, and we will be able to compete on a global scale. The government still needs a clear strategy on education, jobs, and qualifications. Since content and resources will be easily accessible if open education is offered, people will be able to acquire more and more knowledge and degrees, enhancing their personalities and enabling more effective and efficient work. Without technology, all manuscripts served as the only sources of knowledge in ancient times; however, the printing press revolutionized the world, and materials were only accessible on a national level; However, open educational resources (OER) have increased knowledge globally.

OER-specific start-ups are common, demonstrating that open education is attracting more people than traditional education, which cannot do it. Open education combined with artificial intelligence is what is quickly emerging. By assisting teachers in taking input and producing effective outputs, fostering real-time interaction, and offering quick access to pertinent information when needed, open education can help close the gap between students and teachers. Open education resources are more individualized for each learner because students come to class with a variety of skills, interests, and abilities. Additionally, it may make it possible to develop software that serves as a virtual advisor, explaining the learner's work and curriculum in light of their skills. The open education of professional courses to increase employability and efficiency will be the next hot market. As the world becomes a more connected, global community with more resources and chances to share knowledge, it will undoubtedly grow. Open educational resources are a lucrative industry that is rapidly being tested and adopted. It would not be surprising if education became entirely digital and online within the next few years, given how the Digital India campaign is being promoted.

CONCLUSION

India's OER movement is only beginning. If experts from prominent universities published open education materials, teachers could access them with a mouse click. Students will get to hear from world-renowned lecturers and researchers. Free learning resources are available. Rural students will have access to metropolitan researchers. These are often interactive and web-based, allowing learners to communicate with professors and clarify ambiguities. It's accessible from anywhere with internet access. One can sign up for online courses using these open education resource portals, gaining additional certificates (depending on course availability, of course). Gaining more credit at once would help students prepare for NEP 2020's credit bank focus. It will help schools that lack enough library resources. This will also help us fulfill the NEP 2020 prophecy, which promises that all Indian languages and literature will enrich the educational system. The difficulty is getting stakeholders to comprehend the various free, open educational resources. Students and teachers must use it well. Teachers must collaborate, adapt, and translate instructional resources from the outside world because globalization has

revolutionized education and its system. Higher education and the OER movement are both successful.

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