THE OER – A TEACHING-LEARNING TOOL IN THE TIMES OF COVID-19 IN INDIA

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ABSTRACT

All the sectors of human life, including education, is affected due to COVID-19. This pandemic has forced for developing a system where teachers, students have to maintain social distance and continue their education process. Thus, in this context, distance education in place of face-to-face mode with specific innovations is the best mode to reach adult learners, and this mode also advocates lifelong learning for all stages. The Open Educational Resources (OERs) are also an innovation which is in practice for a long time now in education. These resources are exclusively at use in higher education in distance mode because the stakeholders i.e. teachers and students both are competent to develop and use the OERs. The learners at higher stage also have devices that facilitate access and make the material available to them easily. This situation at the school level, which is predominantly, a face-to-face mode is quite contrary to higher education. An overview indicates that the teachers and students are not much competent to develop such programmes; moreover, students at this stage do not have devices readily available to access the digitised material. In such cases, there is a considerable obligation on the part of State, Central Government and NGOs for development of contents in OER useful for teachers and students and provide suitable devices for students for the use of OERs during the time of COVID-19 pandemic.

Many efforts are being made by various government and non-government agencies in India, and this paper attempts to dive at the school level to examine available materials by selecting a few websites and online resources. These OERs are available in different formats in curricular and co-curricular areas, which different stakeholders can access from different devices. There is a considerable amount of educational material available on paid services, but based on the OER philosophy present article attempts to examine only openly available digital material in the public domain. The Analysis indicates that individuals are making isolated efforts with few unorganised governments and non-government organisations efforts. However, the study indicates that a collaborative effort on a common platform for all kind stakeholders is required.

Keywords: COVID-19, OER, status of education, higher education, school education, agencies for OER

INTRODUCTION

The COVID-19 pandemic has brought us to a stage, which leads all of us to rethink of the education system at a various level, including school education. It is necessary to look into this disease to understand prevailing situations and the pros and cons of social living. Education is an essential societal activity which keeps us bound together, especially younger generations. There are various stages of education, and essential stages generally discussed are school education and higher education. Best way to reach the stakeholder during a pandemic is through innovative ways under distance education, and various agencies are creating OER. Before we go further, it is better to understand the disease and how it has affected social and educational set up.

WHAT IS COVID-19?

COVID-19 is an emergent situation arouse due to coronavirus discovered during 2019 and is a pandemic disease. According to WHO, "COVID-19 is the infectious disease caused by the most recently discovered coronavirus. This new virus and disease were unknown before the outbreak began in Wuhan, China, in December 2019. COVID-19 is now a pandemic affecting many countries globally" (WHO, 2020). The entire life of an individual and all society members have come to a standstill, and social and physical mobility, economic activities and education system have found to collapse (Bozkurt & Sharma, 2020). Social distancing has become a buzzword to prevent further rapid expansion of this pandemic. School In such circumstances, neither schools are functioning, nor examinations are taking place. In such a situation, we cannot shy away from the education of the children. Hence, we need to find out new ways of teaching them.

OER DEFINED

"OERs are freely accessible, usually openly licensed materials that are useful for teaching, learning, educational assessment and research purposes. There are many definitions of OER, but some of the most widely used ones are from The William and Flora Hewlett Foundation, the Organisation for Economic Cooperation and Development (OECD) and Commonwealth of Learning" (Menon, Naidu, Mishra, & Bhandigadi, 2014).

Menon et al. (2014) also write that the William and Flora Hewlett Foundation (n.d.), has defined OER as "teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and repurposing by others". The document also quotes the OECD (2007), which defines OER as "digitised materials offered freely and openly for educators, students, and self-learners to use and reuse for teaching, learning, and research. OER includes learning content, software tools to develop, use, and distribute content, and implementation resources such as open licenses, that are useful for teaching, learning, educational assessment and research purposes." Thakran & Sharma (2016) examined and discussed several OER initiatives that are currently advancing India's efforts to create strong institutional mechanisms to overcome the country's educational challenges through a national strategic framework designed to improve access to quality higher education.

STATUS OF EDUCATION

The School Education and Higher Education are two components of Education System in India. Following paragraphs attempt to look into the same from OER perspective.

Higher Education

Open educational resources are emerging as an innovative tool in the field of teaching-learning activity. These efforts are bringing quality education from across the globe overcoming geographical barriers of borders direct to the learner's devices. Individuals,

groups or institutions from remote geographical locations can access the same material as accessed by students of metropolitan cities using these provisions. It is a presumption that the majority of the cost of creation of material and effort is bone by the creators under creative commons licence. The access is cost-effective for the learner as it is merely a learner's device and an internet connection, which brings content and expert to the learner. Thus, sharing of knowledge and expertise of resource persons has become as simple as a click of a button. Accessing and learning from these resources is open for all ages, subjects, with a different type of media like text, audio, and/or video material. Moreover, the content is cafeteria based, and as per the choice of the learner, who learns on convenience time. The use of Open Educational Resources at various levels have a vast scope.

It is pertinent to know the developments at higher education in India, "At the time of Independence of India, there were only 20 Universities and 500 Colleges in the country with 2.1 lakhs students in higher education. The numbers now have increased 52.35 times in the case of the Degree awarding Universities (1047), 83.87 times in the case of Colleges (41935) and the students' enrolment (37399388) has gone up to over 178.09 times in the system of higher education in comparison to the figures at the time of independence" (UGC, 2019).

The Analysis of University types offering distance education in higher education indicates the following Table 1.

Table 1. The type of Universities

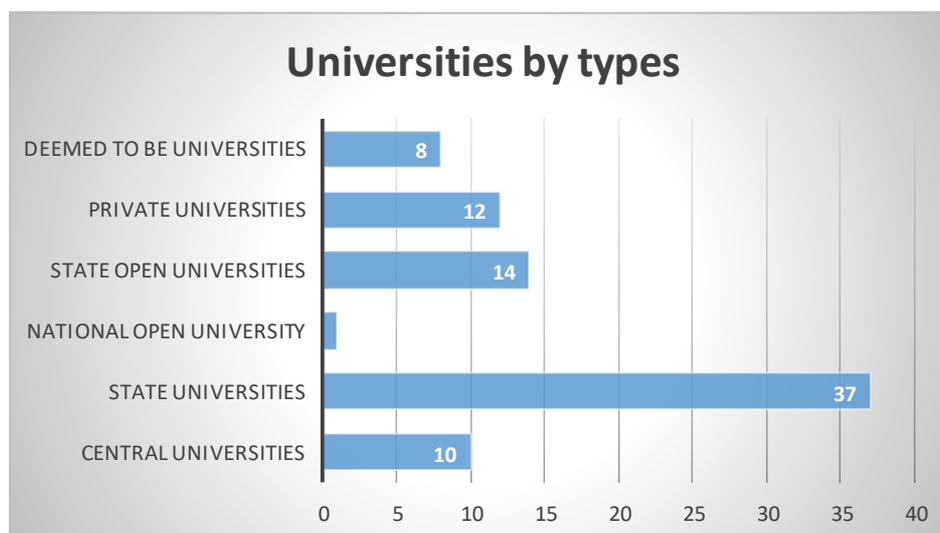| Type of Universities		Number
Central Universities		10
State Universities		37
National Open University		1
State Open Universities		14
Private Universities		12
Deemed to be Universities		8
Total		82

Source: UGC, Annual Report 2018-19

Figure 1. Universities by type offering Distance Education

Over some time, there is an improvement in the number of institutions, universities and students. However, a bird's eye view of this report, also indicates that there is no mention of any Open Educational Resource or its policy in the report, although there is a passing reference of Online Learning. The OER usage at primary or secondary schools' level is quite negligible.

School Education

The school education covered the education of children from 6-17 years and classified as Primary, Upper Primary, Secondary, Senior Secondary. The Analysis of data of various levels of education gives the following picture.

Table 2. The number of schools in India at different levels

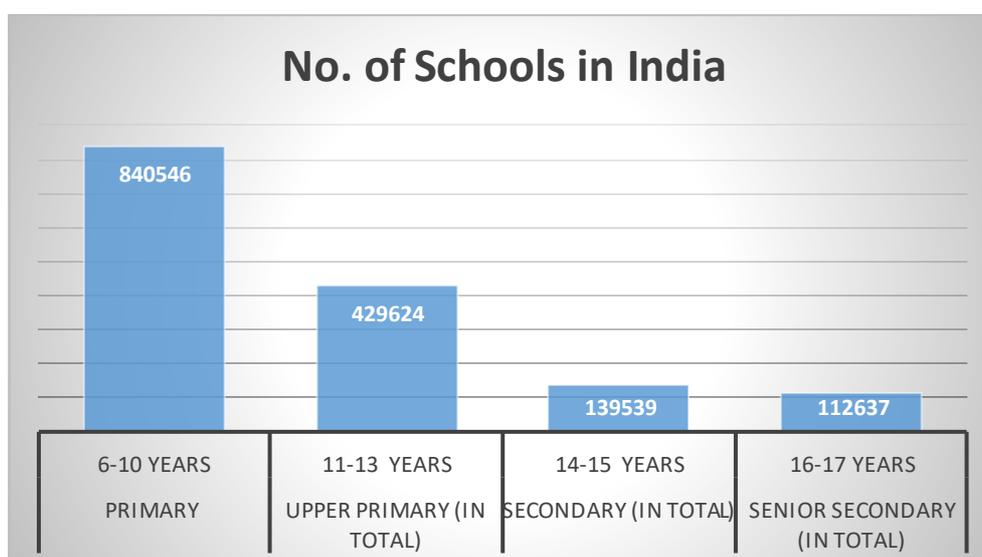| Level of Education	Age group	No. of Schools in India
Primary	6-10	840546
Upper Primary (in total)	11-13	429624
Secondary (in total)	14-15	139539
Senior Secondary (in total)	16-17	112637
Total		1522346

(GoI, 2018)

Figure 2. The number of schools in India at different levels

The above data indicates that there are more than fifteen lakh school, but it is clear that there is less effort for school education in distance mode or online learning. It is only NIOS which is offering school education in distance mode for dropout or adult learner. When there are fewer efforts in distance mode, naturally there are very few efforts for the development of OER at this level. However, during the pandemic period, it is observed that individuals and the private sector, are making efforts for taking up online education and

development of OER resources. Hence, there is a brighter chance of inculcation of OER in school education in due course of time.

Thus, it is evident that there is a lack of OER policy at higher education, and even there is no policy at primary or secondary education for the creation and use of OERs. Present efforts at these levels are only individual or sometimes institutional efforts, which are resulting in the development of OERs.

DEVICES FOR ONLINE EDUCATION AND OERS

The students are likely to use the mobile, tablet, desktop, laptop etc. for access to the internet. It is an observation that whereas offices prefer desktop, and tech-savvy professionals prefer a laptop for official works. Households use laptops at home for entertainment purposes. The educational purposes do not use mobile and tablets, as there are very few studies to show this.

The Economic Times indicates that there is a likelihood of the rise in Internet use in India to 40% using a smartphone by 2023. On closer examination, it is found that this report does not indicate the educational usage of mobiles. The report also elaborates by saying that the users download apps, data costs have gone down; they use for social media.

Krishnan, (2019) quotes about Pew study and writes in his article that one in four Indians have smartphones, indicates an expectation of growing use of social media, finds a sharp difference in the use of mobile among educated and uneducated. Mobile or desktop usage can be understood well by analysing traffic on the internet.

One of the studies indicates that mobile phones made 16.2 per cent of worldwide web traffic in 2013, whereas it was 52.2 per cent in 2019. Further, the average daily media use in the US has slightly gone down for computer but sharply increased for mobile in 2019 as compared to 2003. Internet use for desktop has gone down, whereas the same has gradually increased for mobile from 2009 to 2016 (BroadbandSearch, 2020).

FORMATS OF OERS - PRINT AND MEDIA

Menon et al. (2014) write that "Open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge".

The Open Educational Resources are available both in print and non-print format. More specifically, there is abundant material in digital format on the internet. The users have collaborated and developed text material in the form of Wikipedia, WikiEducator. Various institutions and agencies like NIOS, IGNOU, CEMCA, also publish Newspapers and eJournals as OER. These can be used for educational purposes by the teachers, students and functionaries in education with open licensing. The audio podcast available like Podbean, storytel, Audible, other news apps like news BBC, All India Radio (AIR) news, which is either limited for or small duration on trial bases or some of them are freely available. The freely available resources form part of OER. The video and multi-media programmes are also available on the internet. Most of the users are very much conversant in the use of YouTube video. However, many are not aware that these videos also are available on Creative Commons licence (CC), and searched through filters under features. In addition to this, the various Councils, Institutes, Organisation, Association are also working in the field of education and developing free content which can be accessed by for educational purposes. Thus, the OER is available in various formats like text, audio, visual and multi-media with varied licensing. Teachers can adapt the content as per the requirement of the syllabus and context necessary for the class.

CURRICULAR AND CO-CURRICULAR CONTENT AND EFFORTS OF VARIOUS AGENCIES

The intervention of the National Curriculum Framework 2005 has brought harmony among the curricular content of different states and boards. Despite this, we see that the content transacted in the schools at primary and secondary level depends on the type of institutes and their affiliation like state syllabus, CBSE, ICSE, IGCSE etc. Also, there is no uniformity in textbooks provided by schools, as in addition to the syllabus prescribed by the board, the schools subscribe to different publications for the school interventions to complete the syllabus. Completion of the syllabus and the classroom transaction although a curricular aspect, but there are various things which a student need to be made aware of in the form of co-curricular transactions. The philanthropists who are concerned for the education of children are developing curricular and co-curricular content for teachers and learners. Here some of the agencies,

AGENCIES FOR OER

The Government of India has passed Right to Education act (2009) for free and compulsory education from I to VIII grades (standards/classes) for children from 6-14. Government has taken various initiatives like the appointment of teachers, school building, provision of infrastructure, books, uniforms, mid-day meals but the provision of OER and devices for its usage are not yet the primary agenda. Government and non-Government agencies are working for the development and dissemination of Open Educational Resources. The following paragraphs look into resources developed by agencies funded by both state and central government as efforts by Government agencies and others as efforts by non-Government agencies.

EFFORTS BY GOVERNMENT AGENCIES

This section examines the efforts made by school education for students and higher education for teachers training.

Indira Gandhi National Open University (IGNOU)

The Indira Gandhi National Open University (IGNOU) offers various programme from certificate to Master's Degree in different subject areas. The text, audio, video and live interactions are placed in the public domain for the good of learners, which can be accessed by all the educators. Most of the content is also useful for higher education, but it also targets teacher education and indirectly affects school education.

National Institute of Open Schooling (NIOS)

The National Institute of Open Schooling (NIOS) is an institute working in the field of school education. This institute caters to the needs of dropout of school education or enriches learners using open and distance learning philosophy. They have made their books available in text, audio, video, format for public learning through their website and their mobile apps. In addition to this, these materials also train teachers through distance mode. Thus, the content for this target group is also available in an open domain, which impacts school education.

National Council of Educational Research and Training (NCERT)

The National Council of Educational Research and Training (NCERT) is an Apex body working for school education and provides various resources text, audio, video with open licensing. The website of NCERT provides textbooks of class I-XII in PDF, e-book, EPUB formats and links to publications of various State Council of Educational Research and Training (SCERTs). There are accessibility provisions for or textbooks of Delhi, Haryana, Uttar Pradesh, Andhra Pradesh, Karnataka and Manipur. The website gives syllabus in various subjects, for different classes, at elementary and secondary and higher secondary

classes. The NCERT website also provides information on National Policy on Education, National Curriculum Framework books for the teachers, i.e. pupil teachers etc. The website also gives access to textbooks in the form of epathshala, which is a mobile app for accessing textbooks for all students, teachers as well as parents.

Central Institute of Educational Technology (CIET)

The Central Institute of Educational Technology (CIET) is also a wing of NCERT developing audio, video, ICT based programme for school education. It has arranged for transmission of broadcast, telecast, and podcast. There is also a link for State Institutes of Educational Technology (SIET) which takes us to the websites of Andhra Pradesh, Gujarat, Kerala and Uttar Pradesh, who are also developing similar ICT based programmes for school education. All these programmes are available free of cost used for the stakeholders who are working in the field of school education.

National Repository on Open Educational Resources (NROER)

The National Repository on Open Educational Resources (NROER) is a web resource useful for educational purposes. This repository gives us a repository of resources in various formats collecting sources from NCERT, UNICEF, Azim Premji, SCERT, etc. at one platform. These sources cater to the needs of teachers' students and teacher educator and is an umbrella repository. This repository gives us resource is in various languages in addition to English and Hindi. The resources meet the requirement of Primary, Upper Primary, Secondary, Senior Secondary and Tertiary Level learners. The content available is not only in the subjects of Sciences and Mathematics but also covers Language, Social Sciences, Art, Education etc. The formats under which the files are available are documents, images, audios, videos, interactive material etc. Thus, NROER tries to meet the national requirement of students and teachers in a real sense from different perspectives of teaching and learning.

The Central and State Government differ in their prescribed school syllabus despite suggestions made in the National Curriculum Framework (NCF-2005) for school education. There are many variations in syllabus, transaction and affiliation boards in government and private schools. Hence, it is felt that the government has to create a specific platform which can compile and provide various resources at one place for the benefit of stakeholder.

EFFORTS BY NON-GOVERNMENT AGENCIES

There are a large number of Non-Governmental Organisations (NGOs), Companies, Collaborations, Associations, Commonwealth agencies which are also trying to create and maintain OER material. Following paragraphs are attempting to look into the same.

Azim Premji Foundation

The Azim Premji Foundation is a non-governmental organisation which is working in the area of school education and teacher education. They have developed various teaching-learning resources, including journals, articles, audio-podcast, videos etc. These materials are freely available and useful for educational and enrichment purposes.

Wikipedia

"A Wiki is a web site that is generally editable by anyone with a computer, a web browser, and an Internet connection. It gives people the ability to work collaboratively on the same document" (CEMCA).

The material so developed for the common cause and learning in a collaborative format can be useful for all. The content is globally available in various languages, including many Indian languages, which is useful for both teacher and students.

Wikieducator

This website is a community of educators, basically meant for the development of and use of educational resources purposes under Creative Commons licenses. The primary purpose of WikiEducator is, "planning of education projects linked with the development of free content, development of free content on Wikieducator for e-learning, work on building open education resources (OERs) on how to create OERs, and networking on funding proposals developed as free content" (Welcome to WikiEducator, 2020). This content is useful for various educational purposes, including teaching-learning at schools by teachers and students. This content is useful for various educational purposes, including teaching-learning at school by teachers and students.

Karnataka Open Educational Resource (KOER)

The Karnataka Open Educational Resource (KOER) is a collective and collaborative effort of teachers, students, schools, institutes. These resources work on Creative Commons licence CC by SA. The website indicates that the content is available in various subjects, themes, caters to various courses, has created a community of its own. These resources also take us to the various textbooks, video, question banks and other useful links interactive website.

These organisations also give materials in text, audio and video formats and can be accessible on mobile and computers. Thus, teachers can avail the use of material useful for school education and develop their capacities. The onus is left on teachers and learners to identify the content suitable content and adapt to learning. It is a matter to ponder, whether our stakeholders are competent to examine all sources and use them for the best educational purposes. Here, it is suggested to make an organised effort by some agency for compilation and adaptation of sources on one platform, and research and documentation need to be taken up on the best practice.

CONCLUSION

Thus, there are a large number of educational resources available in different digital formats that could be utilised by the learners just by a click of a button by both teacher and learner. These are made available by governmental and non-governmental agencies, which could be accessed by anyone, anywhere, anytime. The device like mobile, computer, kindle can be used for access to OER via the internet. This process also helps to follows principles of social distancing student can stay at their residence and learn during pandemic like COVID-19. The content is available for curricular subjects as well as enrichment materials. The students, teachers, parents and administrators, i.e. all stakeholders, can make use of these curricular and co-curricular contents. Thus, this is the best way to reach as a remote teaching-learning tool in the time of COVID-19 crises at school level in India.

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