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Covid-19 : A Catalyst Towards Taking A Leap In Transformation Of Digital Information And Its Dissemination For Providing Global Education

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ABSTRACT

As the world responds to the Covid-19 pandemic, most governments have temporarily closed all educational institutions. These nationwide closures have impacted 90 per cent of the world's academic population. Consequently, there is a transition to distance learning on an unprecedented scale. Institutes are racing to shift their courses online; students are engaging en masse with e-books and e-learning; and researchers are drawing chiefly on electronic content. As an emergency response Digital libraries and publishers have risen to the occasion, offering more and more free content and curating personalized collections so that people can continue to read and learn without disruption. Indeed, as the demand for credible e-resources surges, digital libraries have emerged as vital pathways to high-quality e-books, journals and educational content. UNESCO has launched the Global Education Coalition to help countries scale up their best distance learning practices. In this study we examine the digital transformation initiated by the COVID-19 pandemic in the education of the young generation, the variety of digital divides emerging and reinforced, and the possible barriers reported along the way.

Introduction

Library closures are witnessed all over the world. Libraries around the world are facing hard choices around which services to offer and how, ranging from minimal restrictions to full closure. Libraries are managing different approaches to restrictions. We are currently aware of entire public library systems being closed in several countries all over the world We are aware that governments themselves are taking different approaches, sometimes ordering the closure of all institutions, others indicating that life should continue as usual, and others simply leaving decisions up to library directors.

The COVID-19 pandemic initiated an extensive, sudden and dramatic digital transformation in the society. The pandemic forced us to take an extraordinary digital leap in our everyday life and practices, including our children and their education. In a flash, their education was transformed from a traditional classroom practice to a remote, digitalized one. Suddenly, an entire generation of children had to start managing and mastering with digital tools to participate in their compulsory basic education. This required significant adjustments not only from children and their teachers, but also from their families, school administration and the entire society. Teachers and schools had to take the lead in this sudden, unexpected digital transformation of children's basic education, without being well prepared for it. Even if digitalization in education has been a hot topic already for ages within different disciplines and digital tools are extensively already utilized in schools, teachers, schools and educational administration have

been poorly prepared for acting as leaders and change agents in digital transformation (e.g. Papagiannidis, Harris, & Morton, 2020; Vial, 2019), especially as all this happened with such a fast pace, concerned everyone and covered all educational levels. A great burden was placed also on children and their families who suddenly had to possess a variety of skills, competencies, and resources.

It is maintained that the digital divide, identified unfortunately picture it strong in the current COVID-19 new normalcy. Definitely not all children are in equal position to engage in their digitalized basic education. There are issues with technology access and use (Agarwal et al., 2009; Riggins & Dewan, 2005; Song et al., 2020, Srivastava and Shainesh, 2015) – both among adults and children involved: there may even be issues with having access to the internet, devices, and applications needed. There are children and families lacking such. Moreover, there may be issues with skills and competences to use the tools, both among parents, children and teachers, as well as issues with being able to integrate the digital tools into learning and teaching practices in meaningful ways and gaining benefits from them (Livingstone & Helsper, 2007; Mariën & Prodnik, 2014; Song et al., 2020; Warschauer, 2002). Some children are seen to truly benefit from the digital transformation: they are reported to enjoy, be capable of and benefit from independent, self-directed and personalized learning, while there are also children lacking in all these respects, suffering greatly from the current state of affairs. Some children have missed out education altogether. Some parents are reported of being active and capable of supporting their children, whereas other parents are reported of being less well-equipped to offer their children such support. Students have been shown to depend greatly on their parents to take part in the education. For some children, parents' support would have been vital during these critical times, but the parents may have been not present or unable to offer the support due to other reasons. Moreover, it has become evident that among teachers there are differences in the digital skills and competencies. Also some teachers may have relied on their technology savvy family members to digitalize their teaching. Teaching and its preparation may have been very burdensome for teachers. Then again, the teachers have showed great resilience, creativity and perseverance in responding to the challenging situation of the COVID-19. Some have identified valuable digital practices that they wish to utilize also in the future. Schools and educational administration of the city may have provided valuable support.

COVID 19 and Urgency of Digital Transformation:

Digital transformation i.e. "a process that aims to improve an entity by triggering significant changes to its properties through combinations of information, computing, communication, and connectivity technologies" (Vial, 2019: 118), is generally taking place in all spheres of our life and affecting everyone for sure. It is not confined only to organizations and the workplace anymore.

We are particularly interested in the digital transformation pushed forward by the COVID-19 pandemic concerning children and their basic education. We acknowledge that the digital transformation under consideration is somewhat unorthodox as those responsible for the basic education did not strategically initiate or lead this process, but instead they merely reacted and desperately tried to adjust to the state of the affairs. Nevertheless, they extensively relied on digital technologies in transforming their offerings and along the way tried to deal with and manage a variety of structural and cultural changes and barriers (cf. e.g. Vial, 2019). Inertia and resistance have been identified as significant barriers in digital transformation (Vial, 2019). Existing resources and capabilities, including factors such as technology, culture, practices, people's skills and competences as well as their values, attitudes, identities and mindsets, have been considered as barriers to digital transformation (Vial, 2019).

It's a need of time that information management research should acknowledge children, their digitalized everyday life and their basic education as significant areas of concern. We should understand

them as well as allow them to shape the education we offer in the context of higher education, but we should also aim at influencing the basic education of the young generation – for the purpose of equipping them with important skills and competencies but also for the purpose of arousing their interest in this important field, maybe even as a career option.

Digital libraries: the knowledge portals:

We believe though that the role of e-libraries extends beyond providing access to content. As the UNESCO–IFLA Manifesto recommends, they should also raise awareness about intellectual property rights, support the preservation of cultural heritage, and ensure that disadvantaged groups enjoy equity of access. The Covid-19 crisis has acted as an inflection point, throwing into sharp relief the many benefits of digital libraries. Indeed, digital libraries have demonstrated their potential not just to enable a richer, more diverse public domain, but to promote human development itself.

In the Indian context, the relatively young National Digital Library of India (NDLI) – headquartered at IIT Kharagpur – has established itself the as country's largest online learning platform. A premier gateway to over 48 million e-books and knowledge products across disciplines, it has nearly 3 million regular users today.

Globally, virtual libraries are at the frontline of efforts to preserve documentary heritage. They are uniquely placed to advocate for and provide for the needs of disadvantaged groups such as persons with disabilities ,and must be integrated into the very design of digital libraries. India's Sugamaya Pustakalaya, for example, is a remarkable online library that allows the visually impaired to access ebooks.

It is heartening that some of India's larger e-libraries including the NDLI are undertaking to develop disability-friendly technologies. Collectively, however, we need to do much more to make access for persons with disabilities a reality.

Implications for information management research and practice

We should also be more active in preparing the society for digital transformation. We claim to be the experts in understanding and facilitating digital transformation in industry and public sector organizations, while we should start to approach digital transformation of education as one of our core concerns, joining forces with educational sciences. We should consider how we could better integrate information management and digitalization topics into the basic education of students, giving them the needed means and tools to manage and master in the middle of extensive digitalization of the society and everyday life (see also Iivari et al., 2016, 2018). We should also aim to empower them to start more proactively shaping and making our digital futures as protagonists (Iivari & Kinnula, 2018; Iversen et al., 2017), who not merely accept digitalization as is but critically reflect on it and try to shape its trajectories.

We should also consider how we could empower the teachers, schools and teacher education to act as leaders of digital transformation of education. Probably already during teacher education, the future educators should be given skills and competencies to understand, reflect upon, plan and lead the process by which they generate strategic responses through digital technologies to disruptions emerging in society and along the way consider the optimal value creation paths as well as manage the structural changes and organizational barriers that emerge (cf. Vial, 2019).

This requires much more than mere adoption of digital tools in teaching practices. This requires strategic thinking, awareness of technology potential, ability to envision alternative futures and to reflect on them as well as change management skills and competences. For sure, teacher education does not equip future educators with all these skills and competences, but we could offer a valuable contribution – even if this study outlined many positive findings on teachers' flourishment, creativity and resilience in the middle of the crisis, definitely help would have been appreciated.

India's education system has particularly felt the prolonged effects of the country's lockdown. In response, educational institutions across the country have started adopting more digital teaching practices and tools to bridge physical divides, showing signs of a long-anticipated evolution.

Tales on digital transformation of basic education pushed forward by COVID-19 pandemic Here an effort is made to summarize the present status of libraries and to look upon at a glance as to how the Libraries all over the world have carried out their efforts in addressing digital transformation of education caused by the COVID-19 pandemic in the context of basic education in different parts of the world and in the context of education in India.

Handling Materials

A webinar organised by the Institute of Museum and Library Services in the United States echoed this, suggesting that the risk from paper was low, with hard, regularly touched services posing more of a risk. The Dutch government has also suggested that the chance of catching the virus from paper surfaces, such as mail, is low, as has the Austrian Federal Institute for Risk Assessment and the guidance provided to Norwegian libraries, which notes that there has been no evidence of contagion through surfaces yet, a point also echoed by the main advisor to Swedish libraries on the subject.

In testing the survival of thevirus The set of test results focus on a new range of materials including braille, glossy and magazine pages, children's board books and archival folders, and a third looking at plastics used for audiobooks, video or music, talking book or USB cassettes, acrylic display cases or partitions, plastic storage bags and plastic storage boxes.

Providing services remotely

Libraries around the world of all sorts have been working hard to provide access to collections and services remotely, often investing time and effort in updating websites and computer systems in order to deal with demand. While many libraries already had a strong digital presence, many others have now moved to create one in order to continue serving members. The share of libraries offering online programming jumped from 12% of respondents to 86%.

Different Libraries all over the world are striving hard to meet the needs and requirements ,offering different kinds of services in modified ways to keep up with the demands of public. A glance over the modified services and tactics to cope up with the pandemic time is enumerated in the following table.

US Library of Congress's Folklife Centre	running weekly concerts online,
Bibliothèque nationale de France	organising virtual exhibitions and other learning tools
National Library of Morocco and the Public Library in Aarhus,	providing free eBooks,
Granby library in Quebec, Canada	highlighting content focused on learning new skills
National Library and Information Service of Trinidad and Tobago's Heritage Library Division	accelerated its shift towards runningonline bookclubspreparingcampaigns encouraging people across the country to read more online,
Kota public library in India	increased its online services, promoting bibliotherapy
READ Bhutan	developed materials to support parents and children, working closely with schools and even broadcasting content.

Contd....

National Library of Morocco	free eBooks
Public Library in Aarhus	put its digital content at the front of its website
National Library and Information Service of Trinidad and Tobago	created packs of digital resources for primary and secondary school courses, and has also brought its library and information literacy instruction online,
National Library of Pozega in Serbia	doing online storytimes that have hit the national news
Libraries in Huesca, Spain	have responded by developing new training materials for users
Livadia public library ,Greece	has made its job-search support service available online for free
Library of Congress	organizing a virtual transcribathon
National Library of Norway	encouraging users to access its podcasts
Dutch National Library	teamed up with a writers' organisation to provide an 'author on your screen' service
Arlington Public Library U.S.	working with local children and artists to produce 'quaranzines'
Malaysia Library	heart of delivery of e-NILAM, a programme for encouraging reading
Aarhus Public Library	music quiz, writing competition, alongside online poetry slams, online homework help and public debates
Sweden, Helsingborg libraries	have established a chat function on their website
Johannesburg public libraries , South Africa	running video competitions to encourage young users to share digital skills an sharing the results on their Facebook page.
University of Malaya	set up a COVID-19 Evidence Retrieval Service to support doctors developing tools to facilitate online discovery and evidence retrieval about the COVID-19 pandemic, preparing posters
Abgu Papazian University library ,Armenia	has set up opportunities to contact librarians remotely
Diyala University and Imam Al-Kadhum College Central Library, Iraq,	are making use of email to provide access to resources and respond to the users
Rabindra Sadhan Girls' College, Assam, India,	is doing the same, but through WhatsApp groups
Al-rawdha-Al-haydari Library in Iraq	has been making more use of its website in order to promote electronic resources
Diyala University, Iraq.	building new interfaces for access to materials
Federal University of Rio de Janeiro	is doing the same, as well as providing consultation via WhatsApp and videoconferencing.
Austrian and Croatian libraries	have expanded access to e Lending to the whole population

Contd....

Culture Connect Organization , Belgium	works with libraries, has also opened up its content to unregistered users,
United States,	there has been a call on libraries to leave networks on so that users can access the internet from their cars
Topeka County, in the US	, bookmobiles equipped with WiFi routers are visiting communities with low connectivity.
IFLA.	signed the ICOLC Statement on resource access and COVID-19, and produced their own set of principles for use by library associations in negotiations with rightholders
Publishers like Macmillan and Penguin	provided open access to materials related to COVID-19. Others have facilitated access by making it easier to log-in and access materials from outside of official networks
Audible	providing access to hundreds of audiobooks.
National Library and Archives of Iran	which not only put the national children's library of 28 000 titles online for free,
Internet Archive	have also made large volumes of materials available with fewer limits
Open Education Resources (OER) Commons,	which provides access to materials curated by a team of librarians.
UNESCO's Education Division	is also providing links to valuable educational resources, and its Archives have a collection of sound recordings from the past
MOOC	hosted on the Commonwealth of Learning platform.
National Autonomous University of Mexico,	holding a series of webinars on misinformation, information overload, open access and COVID 19 , and is building a list of open access resources
Brazil FEBAB	has created a resource page on COVID-19 (in Portuguese)

Managing Remote Working

With libraries and library associations closing offices – where they have them – many in the library field are facing challenges around how to manage remote working effectively. Some libraries have increased efforts to encourage use of automatic options - such as self-service machines - in order to limit contact, while Canadian urban libraries are encouraged to see whether such machines can be made touch-free. Others are setting up spaces to collect books without person-to-person interaction, as in Australia, or via drive-through or kerbside pick-up (as at the National University Library of Croatia). Billerica Public Library, Massachusetts, has developed a protocol for this. Where this is not possible, some libraries are installing screens in order to protect both users and library and information workers. Similarly, where payments need to be made for services, contactless has been recommended, or charges have simply been scrapped, such as for printing. Meanwhile, staff are using stylus pointers to indicate which computers visitors can use .ALIA has also published an interim report on libraries' response to COVID-19. With libraries re-opening, ALIA has launched a 'We're back' communications campaign, encouraging users to share what they missed while the library was closed. In Brazil FEBAB has created a

resource page on COVID-19 (in Portuguese), while IBICT has brought together a range of sources on its page (both concerning COVID-19 itself, and scientific materials to support learning at all ages), and added COVID-19 data to its interactive map of the country. although following a legal challenge from a number of publishers.

Conclusion

Looking ahead, we are confident that the use of e-libraries will continue to grow exponentially. This growth will be driven by immediate exigencies and global trends such as the explosion in smart phone penetration, the increase in ownership of ICT-based reading devices, and the now entrenched habit of seeking information online. Nonetheless, it is important that all rights holders take steps to ensure that access to information for research, education and culture can continue as best possible. In India, there have been calls for more focus to be placed on accessibility. IFLA has also highlighted the challenges faced in particular by university libraries in accessing eBooks, and explored where there may be the grounds for a competition investigation.