Review Article

The Effects of Digital Divide on the Educational Rights of Marginalised

ABSTRACT

The contemporary education system in Kerala, India, has adapted to the online teaching-learning process with the inevitable integration of technological advancements. Within the diverse socioeconomic-political landscapes in India, the gap in various forms of capital available for individuals also expands to the realm of digital engagement. The aim of the current study is to analyse how spatial locations intersect with digital access to education. This paper showcases multiple factors responsible for creating the crisis of digital divide among geographically estranged communities. The current study employs a descriptive design and presents its findings through a thorough narrative review of the existing literature.

Keywords:digital divide, access, inclusion, education, technology, spatial marginalisation.

1. INTRODUCTION

Since ages, technology has been developing and upgrading in various ways. Each decade has witnessed innovative findings and inventions within technology, and besides that, unavoidable transformation happens in human lives and society as a whole. In parallel to that, there has been a series of inequalities and discrimination in society, persisting even at this moment. The history of the world and nation-states, local and global, tells the same story: the struggle of class, inequalities, and who is privileged and who is not. Access to technology, be that from printing technology to artificial intelligence, does play a role in determining these categorical divisions of privileged and non-privileged. The education system has been adopting technology and adapting to its advancements since a long time [1]. The use of modern technology in education was started in the early 20th century. In and out, technology has been operating in the teaching-learning process. The presence of modern technology in academia became evident and a prerequisite for the continuity of education during the pandemic-lockdown phase [2]. Across the world, modern technological tools, including internet facilities, began to be utilised for imparting education in schools, colleges and universities. Albeit these advancements played a significant role in facilitating education, as always witnessed in history, some were not able to access nor be availed the modern technological facilities and hence could not take part in the learning process. In simple terms, the digital divide is the cause of this situation [3,4]. Rooted in social, cultural, economic, and spatial factors, the digital divide exacerbates marginalisation.

Considering the given context, this study examines the exclusionary effects of the digital divide on education, specifically in Kerala, India, shedding light on spatially marginalisedcommunities' challenges in accessing online learning. The study specifically looks into (a) how marginalisation and the digital divide intersect, (b) how government policies and schemes address the digital exclusion of structurally unprivileged strata of society, and (c) the gaps in the current administrative system in combating digital inequality. The aims of the study will be addressed using descriptions of relevant secondary data.

2. METHODS

This study employed a descriptive and narrative review of the literature. A comprehensive search was conducted across various sources including books, journals, and both print and digital news media, focusing on the digital divide and marginalised communities in Kerala. Databases such as Google Scholar, JSTOR, and OECD were utilised, employing search terms such as 'digital divide', 'marginalised sections', 'Kerala', 'internet access', 'information technology', 'digital

inclusion', and 'e-governance'. Inclusion criteria encompassed English language publications, a focus on the digital divide among marginalised communities in Kerala, peer-reviewed status, and publication within the past decade. Relevant data from selected sources was synthesised using thematic analysis, identifying and consolidating themes pertinent to the digital divide among marginalised communities in Kerala.

3. MARGINALISATION AND DIGITAL DIVIDE: A SOCIAL REALITY

A study by Azim Premji University [5] revealed that the COVID-19 pandemic and subsequent closure of schools have necessitated a reliance on online mediums for educational delivery as a substitute for traditional schooling [5]. Both globally and within the Indian context, scholarly investigations have emphasised the significant digital divide, wherein marginalised populations lack access to requisite digital infrastructure for effective engagement with digital learning initiatives [6]. Despite the proliferation of digital educational content aimed at supporting students during the pandemic, the extent to which it has reached learners, as well as their level of engagement with it remains uncertain due to limited available data [7].

In the examination of marginalisation and the digital divide, it is essential to first deconstruct these concepts. Marginalisation refers to the phenomenon characterised by the peripheralisation of individuals and groups from a central, dominant majority population [8]. This intricate sociopolitical process delineates the privileging of certain ideas and individuals over others within a specific period of time [9]. At its core, marginalisation is inherently tied to power relations, wherein shifts in power dynamics can lead to the silencing, neglect, invisibility, trivialisation, and 'otherisation' of any individual or group. The genesis of marginalisation is rooted in the collective struggles of diverse groups across various contextual landscapes.

Marginalisation manifests at both individual and group levels, predominantly through experiences of exclusion. One potential remedy for this is mobility, which necessitates access to requisite resources. These resources are typically acquired through the accumulation of specific forms of capital. For example, mobility often occurs through employment, which in turn requires the acquisition of educational capital. Access to educational capital, however, is contingent upon the ability to reach the institutions providing such education, such as schools and universities. Yet, access to these institutions remains limited for many within the existing social structure.Compounding this challenge, the onset of the pandemic compelled institutions to adopt alternative means to transmit education and sustain the operational functionality of the education system. Consequently, digital education emerged as a viable option. The question of who could access digital education tools gave rise to the concept of the 'digital divide'.

The term 'digital divide' gained prominence in the late 1990s, entering public discourse and garnering widespread attention. It was first conceptualised in 1995 by the National Telecommunications and Information Administration in their publication 'Falling through the Net' [10]. The Organisation for Economic Cooperation and Development defines the digital divide as "the gap between individuals, households, businesses, and geographic areas at different socio-economic levels in terms of their opportunities to access ICTs and their use of the Internet for various activities" [11].This divide is evident across various dimensions, including spatial, educational, socioeconomic, and core-periphery distinctions. It originates from unequal access to the internet, marking the genesis of early discussions on digital technology and its societal implications. The classification of individuals into digital 'haves' and 'have-nots' formed the basis of this divide [12,13,14].Initially, the digital divide primarily focused on access to information and communication technology across socio-economic and geographical strata, constituting the first-order divide. Subsequently, as attention broadened to encompass broader factors influencing digital access, such as social, human, economic, and spatial aspects, the concept of the second-order digital divide emerged [12,15]. Consequently, within the paradigm of social exclusion, attention began shifting towards the exclusionary aspects of information and communication technology.

The profound digital divide significantly diminishes and restricts access to social infrastructure facilitated by the internet and communication technology [16]. Addressing the digital divide assumes paramount importance in ensuring social and economic equality, social mobility, and overall economic and social progress [17]. It can be argued that individuals who are digitally excluded are also socially excluded, indicating a direct correlation between economic and social stratification and digital disparities [18].Examining the context of Kerala reveals two major historically marginalised groups within the state: tribal or indigenous communities and coastal fisherfolk communities. Their marginalisation stems from both social and economic factors, compounded by their spatial locations, which aggravates their marginalised status. Spatialmarginalisation, as a tangible reality, leads to double marginalisation when intersecting with digital marginalisation. Consequently, exclusionary dynamics are further amplified. During the pandemic, historically marginalised communities across various regions of Kerala encountered significant challenges in accessing digital education offered by the state.

Quoting a study conducted by the Kerala Shastra Sahitya Parishad [19], the leader of the Opposition party in Kerala remarked that "an estimated population of seven lakh students are deprived of digital learning facilities. The majority of

them belong to the traditionally disadvantaged categories, which include Scheduled Caste/Scheduled Tribe communities, fisher families, and the plantation sector." Globally, the adoption of online teaching-learning methods has been widespread, and the state of Kerala has similarly embraced information technology to provide education to all residents. While this initiative represents a progressive step forward, certain segments of the population, particularly those marginalised spatially within the state, remain excluded from its benefits.

4. GOVERNMENT INITIATIVES AND EFFECTS

Education is a subject that falls under the concurrent list of the Indian constitution. The Government of India consulted states, union territories and civil society organisations at various levels for the purpose of resolving the learning gap during the pandemic times [20]. The Government introduced a set of measures under an umbrella scheme called PM e-VIDYA to ensure systematic online education. This was initiated to provide multi-mode access to education. This scheme covered platforms like DIKSHA, Swayam Prabha TV channel, apps like e-kaksha, Shiksha Vani podcast, etc. Additionally, the government issued several guidelines aimed at mitigating the pandemic's impact on children's education. Despite these efforts, a study conducted by the Azim Premji Foundation [5] revealed that nearly 60 per cent of children in India were unable to access digital learning opportunities.

Looking at the situation of Kerala, the state government brought an initiative on 29th May 2020, called 'First Bell', a program of digital classes broadcasted through the state education channel KITE-VICTERS (Kerala Infrastructure and Technology for Education- Versatile ICT Enabled Resource for Students). The Victers channel launched in 2005 with the objective of providing educational services to everyone using digital technology. The pandemic period was the apt time to make use of it at the advanced level. Despite the objective of narrowing the learning gap, disadvantaged segments of the population in Kerala encountered obstacles in accessing this digital education. The curriculum for the broadcasted classes was developed by the State Council of Educational Research and Training (SCERT), Samagra Shiksha Kerala (SSK), and the State Institute of Educational Technology (SIET), under the oversight of the Director of General Education. Implementation was overseen by SCERT, with technical coordination managed by KITE. Classes were scheduled from 9:30 am to 5:30 pm, Monday to Friday, covering all grades from 1 to 10 and 12th [21]. Additionally, the state government instructed school authorities to arrange necessary facilities to facilitate digital education, while private schools devised their own online teaching-learning systems.

5. SOCIAL JUSTICE IN THE DIGITAL AGE

It is important to make use of digital advancements in the state to enhance social justice for its citizens. Education serves as a crucial mechanism for ensuring social justice and fulfilling the state's social responsibility. Throughout various stages of technological advancement, a stark contrast has persisted between the mainstream population and marginalised groups in terms of access and utility. This disparityindicates the enduring gap among social classes and categorical inequalities. With the increasing reliance on virtual platforms for education, the widening of this disparity has inevitably resulted in the denial of social justice and welfare to marginalised citizens.

Before launching the trial classes, Samagra Shiksha Kerala conducted an extensive survey to assess the number of students from aided and government schools lacking access to television or internet connections. The results indicated that over 2,61,754 lakh families, constituting approximately six per cent of the total fell into this category [22,23]. Consequently, during the initial phase of the 'First Bell' initiative, it was identified that 2.6 lakh students lacked access to virtual classes. However, by the second phase, immediate government intervention reduced this number to 1.15 lakh. The suicide of a ninth-grade student, Devika, from Malappuram, on the first day of the virtual class due to concern about her inability to access classes was a striking incident marking the seriousness of the digital divide. When this incident took place, the ruling government faced vehement criticism from civil society and opposition parties,highlighting the government's alleged oversight regarding the situation of underprivileged marginalised communities. Subsequently, the gravity of the digital divide and social inequalities in Kerala was exposed afterwards [24]. Although NGOs and local self-government bodies had arranged virtual classrooms in tribal and Dalit localities [25], about 40 percent of the students from tribal communities in Wayanad were unable to attend classes on the first day due to the inaccessibility of the internet and television [26,27].

Even though the Government tried to reduce the digital divide, the inequality was not reducing but only widening due to various circumstances. An academician in Kerala noted that "the assumption that the digital divide can be bridged with digital tools is a naive one. Quality of the tools, availability of electricity, the internet, technical knowledge of parents, and capability to sustain connectivity are also part of it. Digital divide is a complex amalgamation of economic, social, cultural and regional divisions" [22]. This observation indicates that the digital divide is not easily rectifiable. Economic inequality has already intensified with the arrival of the pandemic with widespread job losses and layoffs becoming commonplace. The number of educated unemployed and underemployed has reached alarming levels.Economic disparities cannot be

disentangled from social divisions and ensuing inequalities. Economic stability hinges on employment opportunities, which are currently lacking adequate social welfare support. Regional disparities further compound these inequalities, creating a multifaceted challenge. Corresponding to that lies the elements of accessibility, affordability and adaptability. If digital infrastructure has to be accessible, at first, it needs to be affordable, which is entirely dependent on the socioeconomic condition of an individual. Furthermore, adapting to technological advancements poses another challenge, necessitating significant governmental intervention.

5.1 Accessibility

Studies have shown that 'access' plays a pivotal role in determining societal equality, particularly regarding access to various resources, including digital resources.This notion, pertinent in the context of digital resources, depends on whether stakeholders belong to privileged or underprivileged classes, as well as the efficacy of their access. The concept of the "new digital divide" [28] encapsulates this idea, focusing on disparities in accessing information through digital platforms. Crawford highlights the inability of the working class and poor to fully participate in digital social life, where education also becomes a sought-after commodity. Class and spatial divisions strongly intersect in this context.Since the advent of smartphones, the internet and other ICT facilities started to find their place in India, there existed a strong digital barrier. This digital hindrance was due to the situation where a privileged few only was able to have the ability to avail data and communicate utilising those digital facilities [29]. This barrier has only intensified over time, widening the divide across various facets of life and estranging a large group of people who struggle to make ends meet, the 'unprivileged vulnerable citizens'[29]. In order to foster inclusion, the key is accessibility [30]. At times, when marginalised students get access to digital devices through some government schemes, as a result of issues in maintenance or substandard product quality, problems with charging or recharging those devices, they become unusable, forcing users to discontinue their usage.

5.2Affordability

The annual India Inequality Report 2022 by Oxfam [31]sheds light on the unequal and unjust possibilities of development and progress that Digital India envisions. The scope of opportunities and advancement through the Digital India project puts the economically marginalised sections of the population, and it will not concern the privileged few [29]. The report underscores that "technology and digitalisation have benefited the privileged but have also been the cause of inequalities creating a digital divide. This divide largely stems from unequal access to and use of Information and Communication Technologies (ICTs)" [31]. India ranks 47th among 110 countries with respect to data affordability. Rather than accessing the internet, accessing technological gadgets is more difficult and hence unbalanced among people based on what socioeconomic categories they belong to.

5.3Adaptability

As crucial as discussions on accessibility and affordability are, the aspect of adaptability holds equal significance.Often, the regionally and socially marginalised population lacks the digital literacy necessary to adapt to advanced technological devices. While the new generation may show comparatively better adaptability, it still requires basic training. Addressing the issue of adaptability primarily involves ensuring access to essential requirements.As Bourdieu &Passeron[32] identified, there is societal inequality through unequal economic, social and cultural capital. Digital inequality results from lacking all of these, along with technical capital. Uneven distribution of capital is directly correlated with class differences in educational attainment. As Gramsci [33] observes, the correspondences and contradictions that exist in educational spaces and the social reality are in a dialectical tension. Kerala has higher standards of human development indices and is renowned for the 'Kerala development model' [34]. However, the state has to be cautious and aware of the problems within its system, and it is high time to act accordingly. The social exclusion faced by the spatiallymarginalised, not just them, those marginalised in terms of a multitude of factors, needs to be taken care of with utmost importance at this point. Reflecting on Kerala's celebrated achievements, it becomes essential to identify shortcomings and areas requiring heightened attention to ensure inclusion for all underprivileged communities who are marginalised.

6. THE PITFALLS IN THE SYSTEM

Despite glaring issues related to internet accessibility, digital connectivity, and digital literacy among marginalised student populations, both central and state governments have opted to universalise online education. Bijulal[35] points out that the lack of access to the underprivileged sections to take part in knowledge transactions in an equal and effective manner was neglected by the policymakers, and hence, this inequality perpetuates. According to the Internet and Mobile Association of India (IAMAI) data, as of April 2020, India has a total of 504 million active Internet users. This is a clear

indication that the majority of the population is outside the requirements for online transactions of any kind. In parallel to that, many households find themselves in a position where parents are compelled to seek additional sources of income to purchase smartphones or obtain cable or internet connections to facilitate their child's learning.

The intersectionality of one's social, cultural, religious, gender, and regional identities interplay in deciding who will get access to the digital world. A study by J.S.&R.V.[36] points out that the learning process of the majority of students belonging to fisherfolk communities in Kerala was affected during the COVID-19 Pandemic. Only a few were aware and familiar with online learning before the pandemic.This study reflects upon the fact that the fisherfolk community is an essential fraction of the state population and how this community remains marginalised and neglected, considering Kerala's overall socioeconomic advancement. It also indicates another side of online classes where, although some were accessing digital classes in the Victers channel, how much less effective it was due to lack of interaction. A dearth of digital devices and proper networks for online classes is shown as a major issue that they faced. Along similar lines, a study by [24] has discussed the impact of the pandemic on the education of indigenous students. It states that the initiatives taken by the Kerala government before and during the COVID-19 phase to improve the educational status of the Adivasi communities are progressive. However, only a few Adivasi hamlets have benefitted from these initiatives. While exploring the digital divide among Adivasi communities in the district in Kerala with the highest Adivasi population, which is Wayanad, it was unravelled that only 60 percent of households of the Kurumar community had access to television. The situation of the Paniyar (50 percent) and Kattunaicker (45 percent) communities is even worse. The study concludes that while distributing digital devices to the deprived could address part of the problem, other prioritised issues remain. Furthermore, a report from a leading news media reveals that in Wayanad, out of 28,000 students, 10,000 lack internet facilities, with many unaware of class commencements [26].

Even after the peak phase of the pandemic passed, the learning gap that happened among students from marginalised backgrounds did not resolve efficiently. One possible good alternative for managing the situation to bridge the learning gap that happened to students from tribal communities was the Single Teacher Schools. Several students from tribal communities were receiving education from these Single Teacher Schools, also known as Multi-Grade Learning Centres (MGLCs). But by 2022, these were also stopped by the state government, which could have been a beneficial source of learning for underprivileged tribal students in remote places [37].

7. POSSIBILITIES AHEAD

In overcoming the persistent structural issues and overcoming the digital divide, community learning centres have acted in a significant manner. The involvement of Civil Society Organisations and Non-Governmental Organisations in providing digital devices and internet facilities has contributed to a significant degree to resolving the issue of the digital divide in Kerala. To a particular extent, it made an impact among the non-negotiable sections. The initiative from the Government to provide internet with the support of local internet service providers also benefitted to a certain level. However, continued support is necessary to ensure digital literacy, particularly among spatially and socially marginalised groups.

While most teachers became familiar with digital devices by the end of the online teaching period, it is evident that varying degrees of struggle were experienced.This underscores the challenge posed by the lack of consistent and proper training at the onset of digital education implementation. But the situation is quite different now. In the second phase itself, some training initiatives were introduced.Subsequent training needs to be given to the teachers and trainees considering the updating technological advancements in everyday social and technical situations. Efforts also must be taken to promote culturally sensitive and context-based interactions and engagement with pedagogical practices among students from spatially and socially marginalised backgrounds. This imperative extends beyond offline settings to include virtual classrooms, ensuring that digital education aligns with principles of justice and social responsibility.

8. CONCLUSION

This study highlights the urgent need to address the issue of digital disparity among spatially and socially sidelined populations in Kerala. The problem of denial of social justice due to the lack of digital inclusion has been portrayed in this study, which underscores the need to ensure equitable access to digital resources and technology. The study also sheds light on the concept of the new digital divide, which highlights the need to go beyond mere access to digital technology and resources, and to address the underlying factors that perpetuate social inequalities in virtual life that replicate real societal life. Moreover, the study reveals the ghettoisation of certain groups of people in all spheres of life, including education. The education of marginalised students, which is a basic right, is not spared from this phenomenon. The study highlights the importance of bridging the gaps and enhancing the 'life chances' of these students by providing them with access to digital resources and technology.

In conclusion, this study advocates for a holistic approach to tackle the issue of digital disparity among spatially and socially sidelined populations in Kerala. Such an approach must extend beyond mere provision of digital technology and resources, striving to address the root causes of social inequalities in virtual spaces. There is a clear need for further primary research in this area to inform the development of policies and programs aimed at promoting digital inclusion and ensuring social justice for all.

REFERENCES

1. Ng, Wan. New Digital Technology in Education: Conceptualizing Professional Learning for Educators. Springer International Publishing. 2015. https://doi.org/10.1007/978-3-319-05822-1
2. Budayová, Z., Pavlíková, M., Al-Adwan, A. S., &Klasnja, K. The Impact of Modern Technologies on Life in a Pandemic Situation. The Journal of Education, Culture, and Society. 2022; 13(1): 213–224.
3. Gorski, P. Education Equity and the Digital Divide. AACE Review (Formerly AACE Journal). 2005;13(1): 3–45.
4. Ritzhaupt, A. D., Cheng, L., Luo, W., & Hohlfeld, T. N. The Digital Divide in Formal Educational Settings: The Past, Present, and Future Relevance. In M. J. Bishop, E. Boling, J. Elen, & V. Svihla (Eds.), Handbook of Research in Educational Communications and Technology: Learning Design (pp. 483–504). Springer International Publishing; 2020. https://doi.org/10.1007/978-3-030-36119-8_23
5. Azim Premji. The Myths of Online Education. Azim Premji University. 2020. Available: https://azimpremjiuniversity.edu.in/field-studies-in-education/myths-of-online-education
6. UNICEF. India Case Study: Situation Analysis on the Effects of and Responses to COVID-19 on the Education Sector in Asia. UNESCO. 2021.
   Available: https://www.unicef.org/rosa/media/16511/file/India%20Case%20Study.pdf
7. Ziipao, Raile Rocky. Out of Coverage Area: Tribes and Digital Exclusion in North-East India. Journal of Development Policy and Practice. 2023.https://doi.org/10.1177/24551333231163930
8. Hall, J. M., Stevens, P. E., &Meleis, A. I. Marginalization: A guiding concept for valuing diversity in nursing knowledge development. Advances in Nursing Science. 1995; 16(4): 23–41. https://doi.org/10.1097/00012272-199406000-00005
9. Tucker, M. Director's foreword. In R. Ferguson, M. Gever, T. T. Minh-ha & C. West (Eds.), Out there: Marginalization and contemporary cultures (pp. 7-8). New York and Cambridge, MA: The New Museum of Contemporary Art and Massachusetts Institute of Technology; 1990.
10. Hacker, K. L., & van Dijk, J. Digital Democracy: Issues of Theory and Practice. SAGE Publications; 2000.
11. OECD. Understanding the Digital Divide. 2001.
    Available: https://www.oecd-ilibrary.org/content/paper/236405667766
12. Riggins, F., & Dewan, S. The Digital Divide: Current and Future Research Directions. Journal of the Association for Information Systems. 2005; 6(12): 298–337. https://doi.org/10.17705/1jais.00074
13. World Bank. World Development Report 2016: Digital Dividends. World Bank. 2016. Available: https://www.worldbank.org/en/publication/wdr2016
14. Sharma, A., & Banerjee, A. Socio-Economic Determinants of Digital Divide in India. Demography India. 2022; 5(1): 78–92.
15. Warschauer, Mark. 'Demystifying the Digital Divide'. Scientific American. 2003; 289(2): 42–47.
16. Rooksby, E., Weckert, J., & Lucas, R.The Rural Digital Divide. Rural Society. 2002; 12(3): 197–210. https://doi.org/10.5172/rsj.12.3.197
17. Fong, M. W. Digital Divide: The Case of Developing Countries. Issues in Informing Science and Information Technology. 2009; 6: 471–478. https://doi.org/10.28945/1074
18. Landers, C. S.The Digital Divide: Issues, Recommendations and Research. Nova Science Publishers; 2017.
19. KSSP. Digital Class: A Study. Kerala Sastra Sahitya Parishad. 2021.
20. PIB. Steps Taken by the Government to Ensure No Loss of Education during Covid. 2020.Available: https://pib.gov.in/Pressreleaseshare.aspx?PRID=1744059
21. A.R., Anupama, and M.V, Sreekala. How the Kerala Model of Bringing Classrooms Home Works. The Wire. 2020.Available: https://thewire.in/education/kerala-covid-19-education
22. Mukulika R.Kerala's "First Bell": A mass movement to democratise digital education. News Click; 2020. Available: https://www.newsclick.in/Kerala-First-Bell-Mass-Movement-Democratise-Digital-Education
23. The Hindu. 2.6 Lakh Students Have No Access to TV or Internet. The Hindu. 2020. Available: https://www.thehindu.com/news/national/kerala/26-lakh-students-have-no-access-to-tv-or-internet/article31625850.ece
24. Sihas, K. M. M., & Nair, L. V. Impact of COVID-19 on the Education of Adivasi Communities in Kerala. Indian Journal of Human Development. 2022; 16(1): 186–193. https://doi.org/10.1177/09737030221099261

25. PTI. Amid COVID-19 Pandemic, New Academic Year Begins in Kerala; Classes Go Online. Press Trust of India. 2020. Available: https://archive.ptinews.com/news/11524383_Amid-COVID-19-pandemic--new-academic-year-begins-in-Kerala--classes-go-online
26. Balan, Saritha S. In Mammoth Exercise, Kerala Starts Virtual Classes for More than 40 Lakh Students. The News Minute. 2020. Available: https://www.thenewsminute.com/kerala/mammoth-exercise-kerala-starts-online-classes-45-lakh-students-125696
27. HuffPost.Kerala Govt's Education Plan for Students with no TV, Internet or Smartphone'. HuffPost. 2020. Available:https://www.huffpost.com/archive/in/entry/kerala-govt-online-classes-victers_in_5ed5d62bc5b6f9c2444ae11b.
28. Crawford, S. P.The New Digital Divide. The New York Times. 2011. Available: https://www.nytimes.com/2011/12/04/opinion/sunday/internet-access-and-the-new-divide.html
29. Dhar, D. Unequal Accessibility In The Digital World Replicates And Further Deepens Discriminatory Patterns in India. Feminism in India. 2022.https://feminisminindia.com/2022/12/15/unequal-accessibility-in-the-digital-world-replicates-and-further-deepens-discriminatory-patterns-in-india/
30. Kulkarni, Mukta. Digital Accessibility: Challenges and Opportunities. IIMB Management Review. ScienceDirect. 2019; 31(1): 91–98. https://doi.org/10.1016/j.iimb.2018.05.009
31. Oxfam India. Digital Divide_India Inequality Report 2022.Oxfam. 2022. Available: https://www.oxfamindia.org/knowledgehub/workingpaper/india-inequality-report-2022-digital-divide b
32. Bourdieu, Pierre, and Jean-Claude Passeron. Reproduction in Education, Society and Culture. SAGE Publications.1990.
33. Gramsci, Antonio. Prison Notebooks. Columbia University Press. 2011.
34. Ramachandran, V. K. On Kerala's Development Achievements. Indian Development: Selected Regional Perspectives, edited by Jean Drèze and Amartya Sen, Oxford University Press. 1997. https://doi.org/10.1093/acprof:oso/9780198292043.003.0004
35. Bijulal, M. V. The digital divide: Why Kerala is not ready for the online education plunge. Policy Circle [Blog]. Policy Circle. 2020.Available: https://www.policycircle.org/society/the-digital-divide-why-kerala-is-not-ready-for-the-online-education-plunge/
36. J.S., G., & R.V., R.Online Learning Among The Students of Fishermen Community During Covid-19. The Online Journal of Distance Education and E-Learning. 2022;10(3): 385–392.
37. Chandran, C. 344 Single Teacher Schools in Kerala Tribal Areas to Be Closed Down. The New Indian Express. 2022. Available:https://www.newindianexpress.com/states/kerala/2022/Mar/05/344-single-teacher-schools-in-tribal-areas-to-be-closed-down-2426880.html