A Legal Analysis of a Human Rights Based Approach to Digitalised Education in South Africa

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Abstract

This paper scrutinises the interpretation of the content and scope of a human rights approach to digitalised education in South Africa. It further examines the relevance and effectiveness of the legal instruments that provide and promote the right to have access to digitalised education within a human rights framework in South Africa. By locating the right to have access to education, as enshrined in section 29 of the Constitution of the Republic of South Africa, 1996 ('the Constitution'), this paper shows that digital education plays an important role in recalibrating and preparing learners for the digitalised economy of the 21st century. Finally, this paper concludes by addressing the extent to which South Africa has utilised local and international instruments that promote inclusive education to improve the content and nature of the right to have access to digitalised education.

Keywords: Access, Digitalised Education, Learners, Institutions of Learning, Human Right, Commodity.

Introduction

Times have changed and the digitalised economy of today requires institutions of learning to invest in the quality of education, which will enable learners to creatively advance their career development and to use technology in addressing the socio-economic challenges facing society (Kaputa et al., 2022). Consequently, everyone should have the opportunity to participate in education that embraces growth, emotional development, community engagement, social responsibility, and digitalised education.

The Fourth Industrial Revolution and the employment of new technology in teaching and learning have created much hysteria (Gleason, 2018; Elayyan, 2021; Zarei and Mohammadi, 2021). Education has continuously been transformed by technology, and the sudden changes driven by COVID-19 have highlighted this more than ever before. The COVID-19 pandemic has aggravated the global e-learning crisis and resulted in the widespread interruption of education (Manca and Meluzzi). In this context, the majority of institutions of learning are currently moving towards a blended approach to teaching and learning, which demonstrates that the way in which we do things has changed.

Consequently, it is important to locate the issue of digitalised education holistically, against the backdrop of South Africa's troubled past which denied the majority of Black South Africans access to education and material resources to access digital education (Gallo, 2020). Accordingly, the advancement and introduction of e-learning transcends the issue of digital transformation. It is therefore critical to develop innovative and inclusive policies that will regulate and address matters relating to the digitalisation of the education sector in South Africa. It is submitted that this policy development will promote inclusive participation in the digitalisation of the educational sector.

Considering the above, this paper examines the opportunities and challenges of digitalised education in South Africa. To achieve this objective, this paper is divided into six sections. Firstly, it unpacks the research approach and methodology that was adopted. Secondly, it explores the rise of digital literacy as an important pillar of modern education. Thirdly, it examines the legal framework for the right to have access to digital education in South Africa. Fourthly, the paper discusses the issue of digital literacy as a human right. Fifthly, it focuses on the digital inequality paradox in terms of the socio-economic bottlenecks that hamper access to digitalised education. Lastly, the paper examines policy considerations in the digitalisation of the educational sector and how to prepare learners for the world of digitalised education. In its conclusion, this paper provides some concluding remarks on locating the right to have access to digitalised education within a human rights framework, as well as the adoption of possible inclusive policy considerations in the digitalisation of the South African educational sector.

Methodological approach

The methodology used in writing this paper is doctrinal in nature. Doctrinal research interprets, assesses and develops the doctrines (concepts, rules and principles) on

which a field of enquiry is based (Hutchison and Duncan, 2012). Doctrinal research questions the rule that applies to a specific subject. It examines legal theory and how it is formed and implemented. The most popular approach used for doctrinal research in this paper is library-based and desktop analysis. This is theoretical research that combines basic research aimed at locating a particular legal argument or legal study with more nuanced reasoning and depth. It is a library-based study to identify the 'only correct answer' to specific legal issues or questions (Hutchison and Duncan, 2012).

The rise of digital literacy as an important pillar of modern education

Digital education plays a crucial role in modern democracy. According to Nazarova and Nazarov, digitisation has become a global industry that is integrated into all processes of society, economy and politics, starting with the initial large-scale technological trend, and is becoming an important factor in the socialisation of modern people (Nazarova and Nazarov, 2021). The authors aver that the younger generation perceives everything that happens in this field as a natural process, whereas older people are very ambivalent about digital technologies and their active role in their lives.

Similarly, scholars agree that like the printing press, mechanical flight, gunpowder, the telegraph, the telephone, the microchip, radio and television, the internet is a transformative technology (Fry et al., 2008). Digital technologies are transforming the way in which we access information, enabling networks of interest and communities of practice to flourish across physical distance with an immediacy and breadth that were impossible less than a generation ago.

Digital literacy is defined as 'the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills' (Loewus, 2024). The rise of digital literacy can be seen as an important pillar of modern education. With the increased importance of technology in society, digital literacy is gaining recognition as the most valuable tool for lifelong learning (Kshema, 2016). Essentially, as citizens of a global society, the influence of technology and online resources is massive (Haleem et al., 2022; Miller et al, 1998). For learners and children in general, access to a home computer with internet increases their social and academic development. In order for these results to be effective, it is important that learners are supervised by their parents with respect to assignments, grades and online attendance using student information system software (Fairlie and Kalil, 2017). For adults, the ever-evolving technological

world can either help them succeed or hold them back (Lynch, 2017). According to Nascimbeni and Vosloo, the importance of digital literacy in contemporary societies is paramount, for both adults and children (Nascimbeni and Vosloo, 2019).

At the height of nationwide lockdowns due to the COVID-19 pandemic, up to 1.6 billion children were affected by school closures, causing the largest mass disruption of education in modern history (UNICEF, 2020). Nonetheless, even before schools closed their doors, one in five school-age children (3 to 17 years old) was out of school, and even children in schools were not necessarily learning, with 617 million children and adolescents worldwide failing to reach minimum proficiency levels in reading and mathematics (Educational UN, 2018). A growing number of governments have recognised the importance of investing in digital skills and digital inclusion (Bülow, 2022). The COVID-19 pandemic further demonstrated the significant role of information and communications technology ('ICT'), with institutions of learning having to deal with an increased demand for ICT services and acceleration of the digitalisation of education.

Researchers show that in 2018, 64, 7% of South African households had at least one member who had access to or used the internet, whether at home, work, place of study, or internet cafés (Pather and Booi, 2020; Oyedemi and Choung, 2020; Mdluli and Dunga, 2022). Significantly expanding internet access is vital for ensuring that all learners acquire the knowledge and skills they need to support a sustainable future. It is also critical in ensuring that learners are able to compete in and adapt to the digitalised world.

Roztocki *et al* acknowledges that in this information age, ICT plays an essential role in political, social, and economic sectors (Roztocki et al., 2019). Accordingly, there is a need to equip both educators and learners with adequate ICT skills for them to appreciate and adapt to the ever-changing world of technology, in line with industry and community needs. Despite the noble goals of introducing ICT in order to assist future learners to champion digital technology, we have recently witnessed an increase in incidences of digital divide. The term 'digital divide' is defined as 'a social inequality between individuals regarding access to ICT, frequency of use of technology, and the ability to use ICT for different purposes' (Sanders and Scanlon, 2021).

In South Africa, COVID-19 and the recent electricity crisis (load shedding) have exacerbated the ICT digital divide at higher education levels. Households are struggling through several hours of darkness each day as a result of the worst

electrical blackouts that the nation has experienced in more than two years. These blackouts were supposed to relieve pressure on the ageing power grid following years of infrastructure neglect. Unfortunately, the power outages have also disrupted teaching and learning (McCain, 2022).

Furthermore, the divide between the digital haves and have-nots is growing, as those who can afford internet data, generators, and solar panels are able to survive (Gillwald et al., 2018). However, for many others, their studies, businesses, and ability to work from home are compromised. These challenges are exacerbated by high data costs (Moyo, 2024). Likewise, during the nation's COVID-19 lockdowns, most of the institutions of learning in South Africa adopted multimodal education, wherein learners/students were given data packages to enable them to study from home (Statistics South Africa, 2022). Be that as it may, these multimodal teaching initiatives are not always user-friendly for students who are visually impaired and technologically illiterate. In other words, these students have to find resources for themselves in order to participate in multimodal teaching activities. In addition, due to power failures which have an impact on internet/Wi-Fi coverage, some students are unable to take part in multimodal teaching and learning with ease (Statistics South Africa, 2022). It is submitted that this digital divide caused by power cuts can only be addressed when there is a strategic plan for investing in a reliable electricity infrastructure, as well as a plan that promotes and encourages investment in the training of future learners in the digitalised economy.

Legal framework on the right to have access to digital education in South Africa

It is important to note that for the right to have access to digitalised education to be effective, it should be located within a legal and policy framework. This legal and policy framework will serve as a powerful tool that can be used by any persons who want to access the right to digitalised education, in order to hold the state accountable.

In this context, the right to basic education is one of the recognised socio-economic rights in the Constitution. Although the Constitution does not address the right to have access to digital education in South Africa, it provides in section 29(1) that 'everyone has the right; (a) to a basic education, including adult basic education'. Furthermore, this section provides that the state, through reasonable measures, must ensure that the right to basic education is progressively available and accessible (section 29 (1)(a) Constitution of the Republic of South Africa, 1996).

The Constitution is silent on the issue of digitalised education. However, the state is required to ensure that the right to education is progressively available and accessible to everyone. In other words, it can be argued that there is a legal obligation on the state to ensure that everyone has access to education, which includes digital education. For example, the Electronic Communication and Transactions Act (discussed below) can be interpreted widely to complement the right to have access to education (Electronic Communication and Transactions Act, 2002). Similarly, as enunciated by the Constitutional Court in *Government of the Republic of South Africa v Grootboom,* the state is required to `devise a comprehensive and workable plan to meet its obligations' (Grootboom, 2000). This obligation is not unqualified and is defined by the state's obligation to take reasonable measures to achieve the progressive realisation of the right within available resources (Grootboom, 2000 par 38). Furthermore, the Constitutional Court in the *Grootboom* case held that a reasonable programme must `clearly allocate responsibilities and tasks to the different spheres of government and ensure that the appropriate financial and human resources are available' (Grootboom, 2000 par 39).

In giving effect to its constitutional obligation, as discussed above, the government has guaranteed universal access to the internet to everyone through the Electronic Communication and Transactions Act. In terms of section 6 of this Act, government must, with respect to universal access, ensure that there is a national e-strategy that outlines strategies and programmes, particularly in the following key areas;

(a) provide internet connectivity to disadvantaged communities;

(b) encourage the private sector to initiate schemes to provide universal access;
(c) foster the adoption and use of new technologies for attaining universal access;
(d) stimulate public awareness, understanding and acceptance of the benefits of internet connectivity and electronic transacting.

In the context of addressing the plight of previously disadvantaged learners and communities, section 7 of the Electronic Communication and Transactions Act requires the government to develop a national e-strategy, which must provide ways of maximising the benefits of electronic transactions for historically disadvantaged persons and communities, including, but not limited to-

(a) “making facilities and infrastructure available or accessible to such persons and communities to enable the marketing and sale of their goods or services by way of electronic transactions;

(b) providing or securing support services for such facilities and infrastructure to assist with the efficient execution of electronic transactions; and

(c) rendering assistance and advice to such persons and communities on ways to adopt and utilise electronic transactions efficiently" (section 7 of Electronic Communication and Transactions Act, 2002).

In light of the above discussion, it becomes clear that ICT skills are a vital component of equipping future learners with sophisticated technology skills, as well as providing human resources with a capacity growth path. This will enable the government and private sector to flourish in the world of digital economy (Department of Communications and Digital Technologies 'Implementation Programme for the National Digital and Future Skills Strategy of South Africa, 2021 – 2025, 2021).

The National Integrated ICT Policy states that in order to have a vibrant and inclusive knowledge economy, there is a need to: provide affordable access to communication (equity); increase accessibility of services, devices, infrastructure and content to all citizens (accessibility); improve the quality of life (social development); and ensure proper data governance (user protections), which are all preconditions for an equitable digital economy and society (White Paper on Electronic Communications Act: National Integrated ICT Policy (GN 1212 in GG 40325, 2016).

As a point of departure, it is important to develop a multipronged institutional strategy that will unite all relevant institutions (for example, the Department of Basic Education, Department of Higher Education, Department of Communications and Digital Technologies, and Department of Higher Education and Training) in order to facilitate the uniform roll-out and investment in the digital skills ecosystem (the full set of factors, actors and institutions that makes the acquisition of digital skills possible and within which digital skills are usable).

According to the National Planning Commission, such an integrated policy will enable the country to create the necessary conditions to leverage the benefits of advanced technological developments and mitigate the risks associated with them (National Planning Commission, 2020). This must cut across all government departments to enable the high level of integrated planning and implementation, as well as public and private sector coordination that are required for an equitable and competitive digital economy.

Digital literacy as a human right: Opportunities and pitfalls

The importance of digital technologies cannot be emphasised enough, given their pervasiveness in all aspects of life and the use of the internet for exercising several fundamental rights. While the digitalisation of society has made ICT skills and access to technology important, the COVID-19 pandemic has turned digital technology into an essential human right in terms of the educational, social and professional needs of children and young people. Digital development that does not adhere to the principles of inclusion, sustainability, and respect for human rights in the digital environment can exacerbate social exclusionary trends and unsustainable production and resource exploitation practices, as well as their detrimental effects on the environment (Economic Commission for Latin America and the Caribbean (ECLAC) 'Digital technologies for a new future (LC/TS.2021/43)' 2021, 27, Santiago, 2021).

In this case, the lack of connectivity among the most marginalised households places them at an extreme disadvantage and eliminates any chance they might have of participating in the digitalised economy (Ruiz-Martínez and Esparcia, 2020).

Within this context, the United Nations (UN) Secretary-General, António Guterres, was correct when he emphasised the need for universal access to the internet (United Nations, 2022). Recognising internet access as a human right follows an announcement by the UN in 2016 that, 'measures to intentionally prevent or disrupt access to or dissemination of information online (is) in violation of international human rights law' (Ben-Hassine, 2019). The UN noted that access to the internet needed to be anchored in a human rights-based approach, and that the internet should 'be open, accessible, and nurtured by multi-stakeholder participation' (Ben-Hassine, 2019).

It is important to note that there is currently no international treaty that directly establishes the right of access to the internet, although some countries, mostly in Europe, have domestic legislation that does (Article 5A (2) of the Constitution of Greece, 1975; Jasmontaite and De Hert, 2019). In simple terms, it is not a human right if the international community has not recognised it as such in a binding instrument, and there is no discussion in any forum regarding a new treaty that will do this.

Access to the internet is not an economic right that can be construed from Article 11 of the International Covenant on Economic, Social and Cultural Rights, 1966, (ICECSR) and Article 25 of the Universal Declaration of Human Rights, 1948

(UDHR), as they are representative of standards of living that cannot be considered on the same scale for countries in different stages of development. Scholars argue that digital inclusion policies carry concerns regarding the true beneficiary. On the one hand, access to policies will benefit those users with devices that are able to access the internet, hence exacerbating inequalities (García-Escribano, 2020). On the other hand, a lack of control by governments will create the need for investment in private telecommunications companies, which would grant them economic benefits before citizens.

According to the UN Report of the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression, access to the internet and the necessary infrastructure enables individuals to exercise their right to freedom of opinion and expression, as well as a range of other human rights, and to promote the progress of society as a whole (United Nations 'Report of the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression, 2022).

The UN Special Rapporteur acknowledged that the internet has become an indispensable tool for realising a range of human rights, combating inequality, and accelerating development and human progress. It also ensures that universal access to the internet becomes a priority for all states. Therefore, each state should develop a concrete and effective policy, in consultation with individuals from all sections of society, including the private sector and relevant government ministries, in order to make the internet widely available, accessible and affordable to all segments of the population.

At the international level, the Special Rapporteur encourages states, in particular developed states, to honour their commitment as expressed, *inter alia*, in the Millennium Development Goals: to facilitate technology transfer to developing states, and to integrate effective programmes to facilitate universal internet access in their development and assistance policies (United Nations 'Report of the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression, 2022). Where the infrastructure for internet access is present, the Special Rapporteur encourages states to support initiatives to ensure that online information can be accessed in a meaningful way by all sectors of the population, including persons with disabilities and those belonging to linguistic minorities. States should include internet literacy skills in school curricula and support similar learning modules outside of schools.

In addition, training can also help individuals learn how to protect themselves against harmful content and explain the potential consequences of revealing private information on the internet (United Nations 'Report of the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression, 2022). Four essential features govern the nature of the right to education under international law, namely: *availability*, *accessibility*, *acceptability* and *adaptability* (United Nations 'General Comment No. 13, 1999). With respect to availability, it is expected that educational institutions will invest in infrastructure, resources and human capital, such as buildings, proper sanitation facilities, trained teachers, and training materials, such as textbooks, libraries, and computer information technology facilities (United Nations 'General Comment No. 13, 1999).

Accessibility requires that the right to education is accessible to all persons, including vulnerable groups, within safe physical reach, and affordable to them (United Nations 'General Comment No. 13, 1999). This defining factor requires that there is no discrimination in the provision of education in so far as the government is required to ensure that there is an immediate realisation of physical accessibility to this right (United Nations 'General Comment No. 13, 1999). With reference to acceptability, it is expected that the form and substance of education, in terms of the curriculum, are relevant and culturally appropriate. Adaptability requires that education should be flexible enough to adapt to the perceptions and needs of a changing society (United Nations 'General Comment No. 13, 1999).

The ICECSR provides for the immediate realisation of the right to education. Some of the obligations that are of immediate effect include the obligation to ensure that the provision of education is not marred by discrimination of any kind. The courts in South Africa have, in consonance with international law, consistently held that the right to basic education is immediately rather than progressively realisable (Juma Musjid, 2011). In summation, it is clear that we must build a better, safer, and more empowering digital world. Therefore, governments, companies, civil society, and citizens need to work together with institutions of learning to create this digital future. It should be a future where internet access is understood and realised as a basic human right.

Digital inequality paradox: socio-economic factors hampering access to digitalised education

This section highlights some of the socio-economic ills that hinder the right for indigents in South Africa to have access to digitalised education. As discussed above,

the COVID-19 pandemic demonstrated how digital technologies are making the world more interconnected and interdependent than ever before, while also revealing a deep divide between those with access to online services and learning spaces and those who are digitally excluded (Van Dijk, 2006). Solomon and Klyton acknowledge that there is a plethora of literature showing that digitalisation creates economic growth (Solomon and van Klyton, 2020). Scholars agree that digitalisation is enabled through information and communication technology, which is defined as 'any communication device or application, including radio, television, mobiles phones, computers, network hardware and software and satellite systems… and any associated applications (Solomon and van Klyton, 2020).

Andersson highlights that the implementation of e-learning systems in higher education institutions in developing countries has not always been successful. This is due to many challenges, such as lack of infrastructure, among others (Andersson, 2008). Some other challenges that have been found to impede the effective implementation of e-learning include lack of appropriate computer skills among learners and their instructors, inconsistent and unreliable internet connection, and lack of consistent and affordable electricity (Johnson et al., 2016).

Gillwald asserts that digital inequality in South Africa is being amplified rather than reduced (Gillwald, 2020). According to the author, this is not only the case between those who are online and those who are left offline, as suggested in the 'digital divide' policy discourse and the mantra of 'connecting the last billion' in global fora and multilateral agencies. The author maintains that as we move from basic voice services to broadband services with over-the-top (OTT) applications offering low-cost voice and text substitution, as well as micro-work platforms offering labour mobility and digital platforms enabling financial inclusion, the gap is growing. This gap is not only between the connected and unconnected, but also between those who have the skills and financial resources to use the internet optimally and those who are seldom online (Gillwald, 2020).

Flowing from the above discussion, it becomes clear that for digitalised education to be effective, there is a need for a policy framework that will address, among others, reliable infrastructure, access to low cost-effective data, and the funding model of institutions of learning.

Policy consideration of a human rights approach to digitalised education in South Africa

To make hybrid learning a viable option, educational institutions will need to design and implement enabling strategies to facilitate the integration of digital technology into education and training systems. The first component of an enabling environment for hybrid learning involves efforts to transition toward digital economies and societies (ITU and UNESCO, 2021). Finally, according to ITU and UNESCO, any hybrid learning financing framework should be based on the following principles: equity and inclusion, a learner and educator-centred ethos, a focus on meaningful connectivity, and the integration of hybrid learning objectives with national and international education goals (ITU and UNESCO, 2021).

In its publication entitled 'The Future of Education and Skills Education 2030' the Organisation for Economic Cooperation and Development (OECD) acknowledges that the world is faced with unprecedented challenges, including social, economic, and environmental challenges, as well as globalisation and a faster rate of technological developments. At the same time, these challenges provide a myriad of new opportunities for human advancement (OECD, 2018).

The OECD publication notes that economic challenges require scientific knowledge, which is geared towards creating new opportunities and solutions that can enrich our lives, while at the same time fuelling disruptive waves of change in every sector. According to the OECD, unprecedented innovation in science and technology, especially in biotechnology and artificial intelligence, is raising fundamental questions about what it is to be human.

Consequently, the time is ripe to create new economic, social and institutional models that promote better lives for all. In order to equip and prepare learners for the world of digitalised education, the OECD appreciates that learners need to have the following requisite skills. Firstly, there should be a personalised learning environment that supports and motivates each student to nurture his or her passion, make connections between different learning experiences and opportunities, and design his or her own learning projects and processes in collaboration with others. Secondly, it is important for learners to build a solid foundation based on literacy and numeracy skills. The OECD recognises that "in the era of digital transformation and with the advent of big data, digital literacy and data literacy are becoming increasingly essential, as physical health and mental well-being" (OECD, 2018). In

summation, government and institutions of learning must prioritise and invest in resources that will promote and enhance interest in digital literacy.

Concluding remarks

This paper has shown that the right to have access to digitalised education should be construed within the context of human rights and other fundamental rights entrenched in the Constitution. In other words, within the context of the Fourth Industrial Revolution, the right to education cannot be separated from the right to digital education and the right to equality. Even though access to the internet is not an economic right that can be construed from section 29 of the Constitution (dealing with the right to have access to education), it is critical that policy development considers digitalised education as a means of preparing learners for the world of e-learning, sharpening their abilities for lifelong learning, and coping with future technological developments.

The UN's report of the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression states that 'the internet, as a medium by which the right to freedom of expression can be exercised, can only serve its purpose if states assume their commitment to develop effective policies to attain universal access to the internet'. Moreover, 'given that the internet has become an indispensable tool for realising a range of human rights… ensuring universal access to the internet should be a priority for all states' (United Nations, 2011).

Accordingly, institutions of higher learning are facing considerable changes that require continuous reforms to make them more responsive to the unyielding and unpredictable demands of twenty-first-century economies, societies, polities, and ecologies. The restructuring of institutions of learning is necessitated by pervasive and escalating digital disruptions, rising demands for public service and engagement, changes in the credentialing economy, and escalating imperatives for lifelong and life-wide learning. Given the changing nature and future of jobs, today's youth will not only have multiple jobs but several careers, some of which have not even been invented yet.

Notwithstanding these important considerations and developments associated with digitalised education, in South Africa, the gap between rich and poor often manifests itself as a digital divide. Better-resourced institutions have a distinct advantage over schools in townships and remote rural areas in terms of using technology for teaching. However, these better-resourced institutions can assist in making technology

available to those who cannot afford it. Furthermore, technologies such as virtual reality and augmented reality open up new and exciting opportunities to learners who might not have had access to these before.

Institutions of learning should therefore embrace the Fourth Industrial Revolution. The Fourth Industrial Revolution combines technologies from the digital, physical and biological worlds and uses a fusion of advances in artificial intelligence, robotics, advanced materials, 3D printing, quantum computing, blockchain, 5G and other technologies. Finally, as the education system increasingly embraces digital technology, it is important that priority is given to resolving the electricity crisis and granting access to the internet for indigents, in order to achieve the goal of digitalised education in South Africa.

In conclusion, Torres-Díaz asserts that 'an educational institution's technological environment, if properly established, is an important factor in the development of a culture of technological usage'. According to the author, while this does not guarantee academic success, it does enable learners to develop good practices that can contribute to achieving academic goals' (Torres-Díaz et al., 2016). To this end, there is a need to develop a national strategy on access to digitalised education that will demystify the notion that education is a commodity and promote all-encompassing and reasonable access to internet for everyone. Furthermore, institutions of learning should not return to the old normal. Instead, an integrated approach to strategic planning is needed, as well as rethinking innovative strategies and increasing funding opportunities for these institutions, in order to embrace digitalised education as a human right.

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