From Colonialism to Code. Decolonializing (media) education within digital capitalist structures

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Abstract

There is currently a growing debate on the hegemonic power and ubiquity of IT monopolies and the implications of digital technologies in the context of education, especially media education. The debate is being conducted under the banner of digital capitalism and is mainly framed from the perspective of the Global North regarding the consequences of global developments for the 'West'. In the rare cases where a global, post- or decolonial perspective is adopted, social challenges such as inequalities are at the centre of the debate. These are framed in terms of the Global North exploiting the Global South through postcolonial dependencies, for example in the extraction of resources for technologies. This article goes beyond such perspectives. It outlines phenomena of digital capitalist power and domination in the context of education from a global, decolonizing perspective. The article primarily establishes a theoretical approach to the topic.

Introduction [1]

The world's population is currently being challenged by multiple crises. These polycrises are triggering debates on the question of how we (want to) live, in order to maintain inter- and intra-generationally fair, reasonably livable and healthy living conditions and to contribute to the preservation of biodiversity. These questions are at the centre of the discourse on sustainable development (United Nations, 1987). The ethical foundations of the development of digital technologies are also currently being discussed, as it is clear that the decisions *we* - or rather the decision-makers – take today will have far-reaching consequences for future generations and that this decision-making power must be critically questioned and challenged through subversive practices. The consequence is a conundrum: The German Advisory Council on Global Change (WBGU 2019, emphasis added) - like other organizations - calls for a discourse on "*our* common digital future", i.e. a debate on "sustainable digitalization". Who is being addressed here? And who has the power to decide e.g. on technological development? Because (1) digital infrastructures are controlled by a few IT companies and their executives, especially those with headquarters in the USA and increasingly in China (Srinivasan & Bloom, 2021; Staab & Nachtwey, 2016). The question of *how* to achieve an equitable, just and fair development of digital technology must be considered in the light of current possibilities and limitations, and with regard to the characteristics of the certain target groups. (2) The invocation of a so-called *We*[2], as a kind of homogeneous, clearly defined community that should participate becomes visible. But where is this *We* that can speak about inter- and intra-generational justice in the development of digital infrastructures? Where and how can *we* make critical references to our own position from which *We* speak? To what extent is it possible to reflect on *our* origins, e.g. in a cultural or academic sense, in the way *We* speak? How can such a reflection be methodically guided (see Alcoff, 1996)? And who is not able to participate in this discourse (see Spivak, 1988)? (In what form) Is *our* discourse already permeated by images of salvific technological progress and the missionary optimization of educational opportunities - in short, by colonizing tendencies in a broad sense? How can this characteristic style be reduced or eliminated?

The foundations of the current capitalist economy are the result of the epistemic power of the Global North (Herzog, 2018). Digital capitalist structures are now characterized as new. This does not change the fact that they also emerge from existing capitalist orientations, with global impact and that knowledge and thus power over them is unequally distributed. The tendencies of colonialization and capitalism are highly interrelated (Couldry & Mejias, 2019). In the context of sustainable development, there is a growing debate on whether the world's population must contribute *equally* to counteracting human-induced climate change when not everyone has caused it equally, the impacts are felt differently, and there are unequal opportunities to act (e.g. Muttitt & Kartha, 2020). Vergès (2017) therefore speaks of the "Capitalocene" instead of the Anthropocene and blames capitalist ideologies. A postcolonial critique on the *We,* the *Other*, as well as the *Othering* as the process of defining someone as *Other,* in the context of technological

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[2] To emphasize critical reflection on *We/Our/Other*, as will be lined out later, these words are highlighted in the following.

development and the implications for the world must be conducted. When talking about the *We* that wants to develop digital infrastructures in a more equity way, *We* – here understood as an epistemological community according to Herzog (2018), need to ask *who* has a problem, has created the problems, and *who* is excluded from the discourses. This can be linked to Spivak's (1988/2015) question of "Can the subaltern speak?" and Alcoff's (1996) question of how to speak for and about 'Others'. If one wants to adopt a decolonializing perspective on the development of digital technologies and their thematization in educational contexts, it is important to bring together the diverse aspects such as "climate justice, labor rights, racial justice, data protection, and the overreach of police and military power", because only this can generate potential for change (Crawford, 2021, p. 227).

Within the dispute about theories, concepts and terms from postcolonial theory and approaches of decolonisation, this paper is located in a conciliatory in-between, despite knowledge of the incompatibilities that exist in detail, the different genealogies and the disputes among the scholars. Spivak (2022, p. 4) emphasises that she "do[es] not follow the decolonial portrayals of the intellectual" and refers this in particular to Mignolo's idea of 'delinking' of modern epistemologies, what is, according to Spivak (ibid., p. 2), "recommended (though not practised) by the Europeanized elite". Nevertheless, there are approaches that attempt to link the supposedly irreconcilable discourses in terms of their subject matter and concerns, "either by bringing decolonial and postcolonial thought into explicit dialogue with one another or by interrogating postcolonial and neocolonial politics based on the combined contributions of postcolonial and decolonial thinkers". In the core of both discourses is a common goal in „highlighting that the notion of the 'West' is sustained by violent colonial and imperial history" (De Jong, 2022, p. 3). The significance of geneaology in contrast to the British Empire as an example of postcolonial critique and the discussion of the Spanish and Portuguese conquest of the Americas for the decolonial scholars plays less of a role here. Both historical events - as will be shown - play a central role in the context of media history that continues to have an impact today. A media history that is still often conducted by scholars from the Global North and with reference to modern theorems such as industrialisation, digitisation and progress.

This paper therefore suggests linking the two supposedly incompatible approaches. The use of the concept of decolonisation here does not mean the absolute 'delinking' from modernity (how could that be possible), but nevertheless the adoption of the idea and the approaches from it in order to steer the discourse from rash modern arguments for progress to critique of the remnants of post-/colonialism deep into the present. Decolonization can be understood as an intellectual intervention to deal with the different forms of modern dominance, namely capitalism, colonialism and patriarchy, all of which are inextricably intertwined (e.g. Clemens & Biswas, 2019). This is emphasised in this paper with the use of the term decolonialization as opposed to formal decolonization. In conjunction with "decolonization and a feminist-democratic future, the focus is rather on the remeasurement of subject formation through an 'epistemic change' that includes both the feminist activist-theorist and the gendered subaltern" (Dhawan, 2009, p. 60, o.t.). Dominant, hierarchical, and colonizing models of thought and structures are evident in common scientific approaches, and thus in educational research and practice (Knobloch 2020). In order to counteract this, it is essential that disciplines and their concepts are continuously subjected to fundamental, critical reflection and, if necessary, revision of the epistemological assumptions are consequently reformulated. As educational scholars, we need to "swim out of our skin: to aim to

imagine realities that are beyond our imagination" (Avraham & Kaplan, 1996). - This is the aim of this paper.

In a searching mode, the discourse on digital capitalist structures is examined to determine where a post- and decolonial view is necessary and where this has consequences for (media) education. The aim is not to place educational research, media education, or even representatives of these disciplines under colonial suspicion, but rather to expose the deep structures of omnipresent colonial inequalities and the development of a way of thinking and talking about it from a decolonized perspective, i.e. not mainly modern, Eurocentric perspective in the sense of decolonialization. First, the close intertwining of media history with the history of colonial dependencies is described. This leads to an outline of what is described as *digital capitalism*. Secondly, the challenges of decolonializing education and educational research are determined. In a third step, empirical findings, from the Global Education Monitoring Report (UNESCO, 2023) are taken up and discussed against the background of the previously established approaches. The question of how a current discourse of media education, but also how a cultural theoretical discourse on digital capitalist structures can be continued in a *decolonizing* way is central in the conclusion.

The Interrelation of Media and Colonial History

Some postcolonial approaches address the close connection between media and colonial history (Bergermann, 2012). For example, the in-/exclusion of a nation-state was supported by the technology-based surveying and mapping of topography and the introduction of "ancestry registers, conversion lists, passenger certificates, departure applications and control registers" (Bergermann, 2012, p. 268, o.t./own translation). European power and domination were manifested through historiography in the sense of a written record. For example: The main medium for this was the travelogues of European "conquerors" from the 17th century onwards. Writing can be understood here as a performance of power, in the sense that not being able to write creates a distinction from "others". The idea of seafarers and ethnographers[3] who ‚record' the "others" in writing emerges (Werkmeister, 2016, p. 241). Bergermann (2012, p. 268, o.t.) calls this the "exaggeration of writing". With the mission of bringing ‚enlightenment' and Europe's humanistic moral to the "uncivilized world", missionary work was carried out through the "triumph of science and rationality over superstition and ignorance" (ibid.). This can be seen as one basis of the paradigm of European technologies and knowledge as symbols of desirable progress. Beyond the idea that Europeans brought educational concepts, paradigms and technology to the "uncivilized" the fundamental intertwining of media and colonial history should be focused. Gramlich (2018) documents the connection between the development of telephone communication from the first phone to today's digital infrastructure and colonially exploited regions: the fiber optic cables in the sea largely follow the routes of the copper cables of the first telephone communication. Throughout colonial history, and today, the primary concerns have been the exploitation of raw materials and labor (cf. for technological developments Crawford, 2021) and the disposal of, for instance, electronic waste (Baldé et al., 2024; WHO, 2021).

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[3]The group of people was predominantly male.

It is therefore logical that Werkmeister (2016), among others (e.g. Merten & Krämer 2016), calls for a research discipline of *Postcolonial Media History*, which refers to the close interweaving of media and post-/colonial practices and asks in what way "media history and (post)colonial history are mutually dependent" (Werkmeister, 2016, p. 235). Not only are media themselves cultural artifacts, but they also structure the conditions of cultural phenomena. A look at the relationship between media structures and structures of domination would be "fruitful for both sides" (ibid.). Such perspectives move away from an understanding of media as instruments and is comparable to the current understanding of a digital era (Stalder, 2018). Media are conditions of culture and, conversely, culture is the framework in which media are created. Media can only be defined relationally, in terms of cultural relations, content, and participants. Media and cultural history must be discussed in relation to each other. Media formats (e.g. photography, cinema, AI) enable media representations and disable others. *We* are currently experiencing a dominance of digital representations and ubiquitous digital logics, which is referred to as post-/digitality (Cramer, 2015; Murray, 2020). *Our* culture is shaped by digital media. (And again we can ask how comes in mind when we talk about this *We* and who not.) The emphasis on the *We* is intended to make clear that in-/exclusion takes place through a certain *We* and that a hierarchization of group of people in the approaches in line with the "digital condition" (Stalder, 2018) is implicit.

In combining media and cultural history, Werkmeister chooses a media archaeological approach (cf. Parikka, 2012, based on Kittler, among others). In doing so, he examines the historical change of the "techno-medial basis of discourse and cultural histories" (Werkmeister, 2016, p. 238), the historical conditions of media technologies and their emergence and determination of cultural practices and artifacts. Media historiography has adopted a clearly Western-oriented perspective up to the present and should be expanded through reflection and integration of other theoretical, epistemological traditions (ibid.). The same applies to educational research and will be explored in section 4. This completes the missing part of a postcolonial perspective in a largely Eurocentric media historiography. Media-historical insights that have not been considered so far could enrich postcolonial and decolonial research contexts (ibid., p. 239); and vice versa. It is important to question one's own perspective, from which knowledge context and from which perspective a phenomenon is viewed, without once again adopting the traditional mode of the European who ascribes meaning.

Media and media representations are central in encounters between different cultures in the past, present, and future. The belief in progress in the context of media technologies lies in the fact that technology is sometimes confused with "magic". Those who can produce technologies seem superior to others. Those who produce the "magic" leave the others (this primarily refers to users worldwide with varying degrees of media and critical computer literacies) in the dark. So, the process remains magical, while the 'Others' remain ignored. At the same time, other approaches to the world are "discredited in order to expose them as misinterpretations and errors" (Werkmeister, 2016, p. 243). This is to be understood as a manifestation of a relationship of power since the establishment of forms of perpetuating non-/belonging, which is used as a further argument of the colonization under the guise of the missionary introduction of education and as a justification of Europe's superiority (ibid., p. 244). It is necessary to explore the interweaving of media and colonial history and the resulting non-/dominance of certain media phenomena and practices - primarily of the Global North - as well as the explicitly "non-European" media practices

and media techniques (ibid., p. 253). Post- and neocolonial dependencies and media representations can be sorted into four clusters that are not entirely distinct:

1. Exploitation of nature (e.g. raw materials) and human labor,

2. Othering through the representation of groups of people in media as well as through the design and curation of digital infrastructures, from the code to the user interface, enabling and limiting access and forms of use,

3. maintaining and expanding hegemonic power and epistemic violence within the framework of digital capitalist structures, for example through technological development that persists in structures of inequality (Herzog, 2018),

4. the undermining of democratic structures in the form of biased algorithms up to the dismantling of democratic decision-making processes on social media (Varon & Peña 2021), which can lead to the undermining of decolonization efforts.

The WBGU report (2019), as quoted already, calls for placing "digitalization at the service of global sustainability". Without active shaping, global digital change would carry the risk of further accelerating the threat to the natural foundations of human life and endangering the cohesion of *our* societies. This wake-up call, similar to others from the Global North for a ‚fair' and ‚sustainable' digitalization, cannot be understood and ultimately demanded without the colonial dependencies and sediments that have developed over time. Such an understanding of the sustainable development of a post-digital culture is currently contradicted by the numerous diagnoses of digital capitalist structures and their diverse faces, for example in the form of 52 billion kilograms of e-waste produced annually (Baldé et al., 2024). This refers to the dominance of primarily US American IT companies, which control almost the entire market for everyday digital applications (Staab/Nachtwey, 2016). By influencing political decision-makers, the IT monopolies are part of the equipment of educational institutions in the Global North (Hug & Madritsch, 2021) and have an enormous influence on (media) educational goals. Linked to this is the storage and automated analysis of data that is permanently and unnoticedly generated by the use of digital infrastructures. The goal is to be able to adapt these infrastructures to individual needs and with a view to changing future decisions (Zuboff, 2019).

Decolonialization of Education and Educational Research in the Digital Condition

"[E]very history [is] written in a positioned way" and nothing we do in (media) education is "unconditional", as Engelmann (2022, p. 178) points out as many other scholars[4]. Research and

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[4] Like Bergermann (2012), Engelmann's work focuses heavily on the German-speaking discourse of educational research and problematizes its colonial foundation. Therefore, my argumentation is based on this German-speaking publication (translations are always my own). In the cited paper, Engelmann (2022) examined three historiographies of pedagogy to determine "how the Eurocentric perspective breaks through in selected histories of pedagogy and whether polycentric perspectives, hybridity or traces of alternatives can be found" (ibid., p. 184). He concludes that "the histories of pedagogy published in German-speaking countries reproduce a predominantly Western European narrative, that history is mostly told on the basis of individual, supposedly central positions and that everything that is known today and has been brought to the educational science discussion in an argumentatively comprehensible way through postcolonial criticism has hardly been taken into account until now" (ibid., p. 190).

theory in education are mainly based on ideas of the relationship of individuals and sociality, which include or exclude certain knowledge contexts. Many still build on the idea of education and educational research, which is largely based on a European historiography, particularly of the Enlightenment and modernity (Dhawan, 2024). Educational research that take a different approach should not go unnoticed here, although it should be criticized that they are often not part of a canon of educational history and rarely of the theoretical foundation of a educational discourse in Europe or in the Global North. The (mainly) uniformity of educational historiography obscures other historiographies and their idea of the relationship of individuals, sociality, and world. The history of education (mainly) establishes itself as a "uniform master narrative", although it does not represent a uniform "empirical phenomenon" (ibid., p. 179f.). Just as an analytical deconstruction of the entanglement of media and cultural history with the aim of decolonialization (Werkmeister, 2016) is called for, the same is required in educational contexts regarding disciplinary history and epistemological references (Engelmann, 2022, p. 180) (which this paper tries to do to some extent, but in which it must of course also fail). In addition, structures should be created in such a way that "other voices, new positions, reference systems" are established in the existing discourse (ibid., p. 183). We „are active players in the arc of which histories are written, speaking through our research processes and publications. As such, we need to reflect on the choices we make around which materials to seek and use – and how" (Lillie et al., 2022, p. 326). Even though there is an enormous need to catch up, there are efforts to decolonize educational discourses (e.g. Clemens & Biswas, 2019; Dhawan, 2014; 2024; Castro Varela, 2020).

The call to decolonize disciplinary genesis also applies to formal education (Clemens & Biswas, 2019). The (further) development of educational institutions is closely linked to the agenda of nation-state progress. This means that education is involved in the advancement of a nation's "idea of civilization" (Engelmann, 2022, p. 185). This poses two challenges: Firstly, the further intensification and contouring of in-/exclusion of certain epistemologies and, secondly, the participation of educational discourse of the Global North in a global mission to improve educational conditions; without a decolonization perspective. In addition to these fundamental colonial entanglements of an educational discipline, further entanglements can be seen at a content-related and conceptual level, for example in the form of predominant or marginalized educational content and concepts (Clemens & Biswas, 2019).

The demands for decolonization are growing. Educational institutions and research need to be questioned as to where dominance and hierarchies are effective or where they are (not) actively sought to be overcome. In terms of educational discourse, this means questioning the reception or ignorance of certain literature, concepts, and their citation, working groups in terms of in-/exclusive alliances, and questions of access to knowledge, positions and databases. The current research still shows the image of the massively dominant ‚West' (e.g. Clemens & Biswas, 2019).

The tendencies towards the economization of education, education systems, and science (Clemens, 2022, p. 68) contribute to the subjugation to the ideas of the Global North. Therefore, the establishment of competence frameworks that apply to everyone, such as DigComp (Redecker, 2017) or GreenComp (Bianchi et al., 2022), can be understood both as an attempt to bring together discursive strands as well as an act of standardization of education/training paths. The problem of focusing on competencies and neglecting a broader critical concept of education has been discussed elsewhere. But *who* developed these competence frameworks, for *whom* are they

valid or do they imply objectives? Are cultural concepts and realities marginalized in the process, and if so, which ones?

Any piece of knowledge and any discourse about it is related to its socio-cultural-economic context and can only be understood historically. Clemens (2022, p. 71) suggests that any piece of knowledge or theory should be understood as "indigenous". This raises the question of the respective epistemological foundations. And although the Global North represents only a fraction of the world's population ("Minority World"), it produces the majority of educational concepts and theories and often offers them to the world's population ("Majority World") in a missionary manner (ibid.). It is important to note that not only educational concepts and theories are disseminated in a culturally *in*sensitive manner, but also digital infrastructures, software and hardware offerings, including accompanying educational programs. The dazzling image of technological progress, including the power of lobbying, is now added to the content of Eurocentric notions of progress and educational developments that are missionarily imposed in the belief that they will contribute to sustainable development in the Global South. The knowledge, educational systems, and digital-technological infrastructures of the Global North are seen as progress and as groundbreaking for "modernization". Once again, an idea of "modernity" emerges that excludes other forms. The adoption of one idea of progress and modernity not only displaces other bodies of knowledge, but can also lead to "recombinations or hybridizations, in the worst case to miscopies [of] knowledge constructions" (ibid., p. 73). Approaches are needed to break the dominance of a Western-influenced scientific mindset, coupled with a belief in necessary progress and an unreflected missionary approach (Raina, 2016). We can therefore repeat a demand that is not new: The idea that knowledge and progress are exclusively generated in the Global North must be abandoned. The focus should be on a global flow or circle of knowledge that can be generated and disseminated everywhere. This flow does not lead to an increasing content of truth. In terms of "cognitive justice", the major aim is to make the various contributions to this "flow of knowledge" visible. Clemens (2022, p. 81) considers the current strengthening of relational approaches as beneficial. This is especially the case where the dominance of humans as the determining force - in an understanding of the Anthropocene - is critically questioned and various groups of actors, media artifacts or the natural environment can be considered together (see Haraway, 2018).

The claim of a post- and decolonial critique on digital capitalist structures in the context of media education (which, even more than parts of the philosophy of education, is based on an uncritically adopted modern theorem) - primarily located in the Global North - is thus preceded by a critical analysis of participation on five interwoven levels:

Involvement in

(1) a particular culture in general,

(2) (digital) media offerings with affordance structures that enable/disable certain cultural practices,

(3) narratives of a German-language educational context oriented towards the Enlightenment and humanism, and the resulting implications and renewed affordances for the history of the discipline, educational practice, and for the colonizing-missionary 'educational' efforts of the Global North (as demanded by many scholars already),

(4) narratives and resulting developments of a positive connotation of technological progress, which is linked to the 'development' of cultures and contributing to the supposed legitimization of 'development aid' in terms of education and technological development,

(5) concrete ideas about the relationship between humans, technology, and the social or natural environment.

When thinking about the decolonization of (media) educational approaches in the digital condition, it must be assumed that the culture we speak and act in is shaped by at least the five aspects mentioned above, and that it will continue to be so if we do not actively criticize this and formulate counter-concepts broadly. Insofar as digital technologies are not only the basic conditions of cultures, but cultures also differ through the analysis of digital infrastructures and practices, such an analysis can contribute to decolonialization. Media and cultures (Werkmeister, 2016, p. 237, following Krämer) are to be understood as "diachronic". This can be supplemented by including the historiography of disciplinary approaches in this historical development, as already done elsewhere but not with focus on the relationship of media and media education in a broad sense.

Digital Technologies and Access from a Global Perspective

For an assessment of the current perpetuation of postcolonial inequalities in a digital culture, it is worth looking at UNESCO's Global Education Monitoring Report 2023, entitled "Technology in education: A tool on whose terms?" (UNESCO, 2023). The GEM report assumes that "good, impartial evidence of the impact of educational technology [...] is scarce" (ibid., p. 9). The discourse around educational technologies resembles a field of diverse interests and a tug-of-war over the sovereignty of meaning. At the same time, digital technologies are the "lifeline" for millions of people, from which parts of the world's population are excluded. Globally, 31 % of all students and 72 % of students in the poorest regions were not reached by the digitalization during the Corona pandemic (ibid.). This fallows for example the demand of SDG 4 (United Nations 2015) as a guarantee of "inclusive, equitable and quality education" and the promotion of "lifelong learning opportunities for all" with the right to access digital infrastructures (UNESCO, 2023, p. 9).

The idea of equal access to digital devices is not new, but access to digital technologies is not equal for everyone: around 2005, Nicholas Negroponte and Seymour Papert launched "One Laptop per Child - The $100 Laptop" (OLPC), which brought numerous laptops to the Global South. Today, the OLPC commitment is a comprehensive program including educational opportunities. However, it does little to change the unequal distribution of digital devices and inequality of opportunity in education and employment. Ultimately, it is about access to internet-enabled devices and a stable internet in order to be able to participate in cultural developments. The fact that access is not equal globally and within certain regions (even within Central Europe), leading to social ex-/inclusion is described by the term digital divide (van Deursen & van Dijk 2019). The first to third level digital divide refers to access to digital infrastructure and the ability to use technology in general and for one's own needs (Lythreatis et al., 2022; UNESCO, 2023, p. 9; van Deursen & van Dijk, 2019). The question of who is affected by the "digital divide" and who defines it can also be posed in a postcolonial critique. Moyo shows that this discourse is primarily led by

people from the "West" who sit "on the privileged side of the divide with access to a panoply of smart gadgets that provide seamless Internet accessibility and availability" (2018, p. 133). In other words, there has to be a rethinking of the discourse. The goal must be, to establish a new vocabulary and new forms of discourse that allow for a "native" perspective (Moyo, 2018, p. 133). While the power of IT monopolies is critically discussed in the EdTech context, Macgilchrist et al. (2023), for example, call for the design of digital offerings to be used to stimulate previously impossible forms of "thinking", "being" and "desiring". Design is limited in that it is based on a previous design. Technological developments never take place on a tabula rasa (ibid.). Digital technologies create real living environments, which then become the experiential world of educational processes.

For a decolonization of media educational approaches, the addition of the zero-level digital divide (Fischer, 2019) to the concept of digital divide is relevant. Zero is to be understood as the technical base upon which all other differences rest (e.g. codes and algorithms). This foundation reveals hidden forms of inequality in access to digital technology. This refers especially to the "infrastructural-technological design": an algorithm can make information in-/accessible or functions im-/possible. Consequently, the internet is not the same for all users (ibid.). This form of inequality and discrimination has been discussed in recent months in the context of developments around artificial intelligence (AI) and so-called social scoring and facial recognition systems. These are automated learning systems with facial recognition that have a high error rate and discriminatory results, especially for women and BIPoC (Chun, 2021). Moyo (2018, p. 141) describes inequalities in the usability of internet-based services using the example of languages represented on the internet (mainly English) and the reproduction of epistemic non-/access and power. This is an example of what the discourse on the digital divide only superficially addresses: "The digital divide is just but a symptom - not the neurosis itself - of other deeper divides that produce, nurture, and sustain it" (ibid.).

Current developments are putting the education sector under pressure to act (UNESCO, 2023, p. 10), which is often responded to with demands for technology and infrastructure expansion - regardless of the long-term consequences for (a) national budget(s). Similarly, the long-term implications of the digitization of educational institutions (b) with regard to the protection, storage and processing of personal data are not taken into account (ibid.). Couldry and Mejias (2019) identify a new form of colonialism in that personal data - like valuable raw materials - is now being 'extracted' by IT monopolists. Long-term consequences remain unnoticed regarding c) planetary boundaries in the context of the effects of the production, use and disposal of digital devices (UNESCO, 2023, p. 10).

Inequality also exists where digital learning opportunities and platforms have been created without sufficient quality control or attention to diversity. This points to the problem of digital capitalist structures described above: learning content and platforms are developed by a few IT companies that regulate access and availability of certain content and want to retain learners as customers in the long term through subscription systems offered in educational institutions. Last but not least, approximately 90 % of the contents in OER collections were created in the Global North, and just as much (92 %) of it is in English. Thus, by applying a decolonial/postcolonial perspective the idea of open access and learning content can be revealed as primarily benefitting pre-educated, English-speaking, wealthier learners (ibid.).

Conclusion

In media educational debates on digital capitalist structures, there is an enormous need to catch up in terms of postcolonial critique and decolonialization, which should begin with the analytical deconstruction of the "epistemic orders, the mode of action of the colonial matrix and the [...] nonetheless existing points of connection and references to hybridity" (Engelmann, 2022, p. 190, o.t.). The media educational discourse on digital capitalist structures not only has the task of postcolonial critique and decolonialization (for the relationship between these approaches, as understood here, see the introduction), but also, due to its fundamentally global references to progress, modernization, and development, lends itself to the use of "figures such as hybridity or ambiguity" in the narratives in order to begin with deconstruction as proposed for media education related to already existing works(e.g. from the field of educational history and other related work). Critical questioning also applies to the constant prophecies of doom for the digitization of education under the slogan of progress - sometimes missionary - and evokes the following questions: Is the global expansion of digital infrastructures (see SDG 11) worth striving for? Who decides? Are (research) findings and developments from one society on digitality valid globally? Does this text sufficiently reflect our own position in the Global North? Who can decide what is "sufficient"?

In order to conclude this article in a critical-constructive way ,,central ambivalences on the path to decolonization are reproduced: (1) Every criticism of colonialisms is already decolonizing; and I would add: postcolonial. At the same time, adopting a decolonizing perspective does not already mean decolonizing. (2) Anyone who believes that all resistance to power and domination is anti-colonial is mistaken. It may itself be colonial and imperial. (3) Let us celebrate all attempts to break colonial patterns as a contribution to decolonialization and not forget that attempts to change colonial patterns are often based on colonial claims. (4) To believe that you are a victim of systematic oppression does not mean that you are not part of the system. "No one is off the hook, ever." (based on Machado de Oliveira, 2021, p. 245f.).

References

About OLPC – OLPC. (o.J.). https://laptop.org/aboutolpc/ [access: Oct. 3rd. 2023]

Alcoff, L. (1996). The Problem of Speaking For Others. In J. Roof & R. Wiegman (Eds.) *Who Can Speak? Authority and Critical Identity*. University of Illinois Press.

Avraham, S., & Kaplan, D. (2023). We are (of) gradually becoming Decolonize education through utopian practice. In A. M. B. Heinemann & Y. Akbaba (Eds.) *Erziehungswissenschaften dekolonisieren (pp. 192-205)*. Julius Beltz GmbH & CO KG. https://doi.org/10.3262/978-3-7799-6597-8

Baldé, C. P., Kuehr, R., Yamamoto, T., McDonald, R. & et al. (2024). *Global E-waste Monitor 2024*. International Telecommunication Union (ITU) and United Nations Institute for Training and Research (UNITAR). https://www.itu.int/en/ITU-D/Environment/Pages/Publications/The-Global-E-waste-Monitor-2024.aspx [access: Jun. 17th, 2024]

Bergermann, U. (2012). Postkoloniale Medienwissenschaft. Mobilität und Alterität von Abbildung. In J. Reuter & A. Karentzos (Hrsg.) *Schlüsselwerke der Postcolonial Studies (S. 267-281)*. Wiesbaden: VS Verlag für Sozialwissenschaften. https://doi.org/10.1007/978-3-531-93453-2

Bianchi, G., Pisiotis, U., & Cabrera, M. (2022). *GreenComp*. The European sustainability competence framework (Scientific analysis or review KJ-NA-30955-EN-N (online)). Publications Office of the European Union. https://doi.org/10.2760/13286 (online) [access: Jun. 17th, 2024]

Castro Varela, M. do M. (2020). Fundamental Education and Decolonization of the Mind. On Education. Journal for Research and Debate, 3(7). https://doi.org/10.17899/on_ed.2020.7.10

Chun, W. H. K. (2021). *Discriminating Data: Correlation, Neighborhoods, and the New Politics of Recognition*. Cambridge, Massachusetts: The MIT Press.

Clemens, I. (2022). Die Herausforderungen postkolonialer Erziehungswissenschaft. In P. D. Th. Knobloch & J. Drerup (Hrsg.) *Bildung in postkolonialen Konstellationen: Erziehungswissenschaftliche Analysen und pädagogische Perspektiven (S. 67–92)*. transcript Verlag. https://doi.org/10.1515/9783839456699

Clemens, I., & Biswas, T. (2019). Rethinking education in times of globalization – but where to start the rethinking? In M. Rieckmann, I. Clemens, & S. Hornberg (Eds.) *Bildung und Erziehung im Kontext globaler Transformationen (pp. 237-250)*. https://doi.org/10.2307/j.ctvm201r8.17

Cramer, F. (2015). What Is 'Post-digital'? In D. M. Berry & M. Dieter (Eds.) *Postdigital Aesthetics: Art, Computation and Design (pp. 12-26)*. Palgrave Macmillan UK. https://doi.org/10.1057/9781137437204_2 [access: Jun. 17th, 2024]

Couldry, N. & Mejias, U. A. (2019). *The costs of connection: How data is colonizing human life and appropriating it for capitalism*. Stanford, California: Stanford University Press.

Crawford, K. (2021). *Atlas of AI: Power, politics, and the planetary costs of artificial intelligence.* New Haven: Yale University Press.

De Jong, S. (2022). Writing rights: Suturing Spivak's postcolonial and de Sousa Santos' decolonial thought. Postcolonial Studies, 25(1), 89–107. https://doi.org/10.1080/13688790.2022.2030596

Dhawan, N. (2009). Zwischen Empire und Empower: Dekolonisierung und Demokratisierung. 2, Femina Politica.

Dhawan, N. (2014). Decolonizing enlightenment: Transnational justice, human rights and democracy in a postcolonial world (Vol. 24). Barbara Budrich Publishers. https://doi.org/10.2307/j.ctvddzsf3

Dhawan, N. (2024). Die Aufklärung vor Europa retten. Kritische Theorien der Dekolonialisierung. Campus Verlag.

Engelmann, S. (2022). Geschichte der Pädagogik dekolonial? Empirische Gestalt und Perspektiven eines Genres. In P. D. Th. Knobloch & J. Drerup (Hrsg.) *Bildung in postkolonialen Konstellationen: Erziehungswissenschaftliche Analysen und pädagogische Perspektiven (S. 177–194)*. Bielefeld: transcript Verlag. https://doi.org/10.1515/9783839456699

Fischer, F. (2019). Imagination by Design: Imagineered agency and the question of self-determination within digitally designed environments. *MedienPädagogik: Zeitschrift Für Theorie Und Praxis Der Medienbildung*, 36/2019, 1–17. https://doi.org/10.21240/mpaed/36/2019.11.09.X [access: Jun. 17th, 2024]

Gramlich, N. (2018). Sticky Media. Encoutners with Oil through Imaginary Media Archaeology. *Communication + 1*, *7*(1). https://doi.org/10.7275/dnns-wa81

Haraway, D. J. (2016). *Staying with the Trouble: Making Kin in the Chthulucene*. Duke University Press. https://doi.org/10.1215/9780822373780

Herzog, L. (2018). *Reclaiming the system: Moral responsibility, divided labour, and the role of organizations in society* (First edition). Oxford University Press. https://search.ebscohost.com/login.aspx?direct=true&scope=site&db=nlebk&AN=1918191, [access: Jun. 17th, 2024]

Hug, T., & Madritsch, R. (2021). Global Education Industry—Exploring the state of affairs in Austria. *Seminar.net*, *17*(2). https://doi.org/10.7577/seminar.4254

Knobloch, P. D. Th. (2020). On the Epistemic Decolonization of 'Western' Education: Reflections on the History of Pedagogy. *On Education. Journal for Research and Debate*, *3*(7). https://doi.org/10.17899/on_ed.2020.7.5

Lillie, K., Matzer, L., & Riettiens, L. (2022). Power relations, preservation and voice. Introducing the special issue on writing histories of education with autobiographical materials. Paedagogica Historica, 58(3), 321–328. https://doi.org/10.1080/00309230.2022.2065643

Lythreatis, S., Singh, S. K., & El-Kassar, A.-N. (2022). The digital divide: A review and future research agenda. *Technological Forecasting and Social Change*, 175/2022, 121359. https://doi.org/10.1016/j.techfore.2021.121359

Macgilchrist, F. (2019, Juni 28). *Digitale Bildungsmedien im Diskurs*. bpb.de. https://www.bpb.de/shop/zeitschriften/apuz/293124/digitale-bildungsmedien-im-diskurs/ [Zugriff: 17.06.2024]

Macgilchrist, F., Allert, H., Cerratto Pargman, T., & Jarke, J. (2023). Designing Postdigital Futures: Which Designs? Whose Futures? *Postdigital Science and Education* 6/2024. https://doi.org/10.1007/s42438-022-00389-y

Machado de Oliveira, V. (2021). *Hospicing modernity: Facing humanity's wrongs and the implications for social activism*. Berkeley: North Atlantic Books.

Merten, K., & Krämer, L. (Hrsg.). (2016). *Postcolonial Studies Meets Media Studies: A Critical Encounter*. transcript Verlag. https://doi.org/10.1515/9783839432945

Moyo, L. (2018). Rethinking the information society. A decolonial and border gnosis of the digital divide in Africa and the Global South. In M. Ragnedda & G. W. Muschert (Eds.) *Theorizing digital divides* (1. Edition) *(pp. 133–144)*. London: Routledge, Taylor & Francis Group. https://doi.org/10.4324/9781315455334-11

Murray, S. (2020). Postdigital cultural studies. *International Journal of Cultural Studies*, *23*(4)/2020, 441–450. https://doi.org/10.1177/1367877920918599 [Zugriff: 21.01.2021]

Muttitt, G., & Kartha, S. (2020). Equity, climate justice and fossil fuel extraction: Principles for a managed phase out. *Climate policy*, *20*, 1042. https://doi.org/10.1080/14693062.2020.1763900

Parikka, J. (2012). *What is Media Archaeology?.* Cambridge: Polity Press.

Raina, D. (2016). *After Exceptionalism and Heritage: Thinking through the Multiple Histories of Knowledge.* In S. Brentjes, T. Edis, & L. Richter-Bernburg (Hrsg.), *1001 distortions: How (not) to narrate history of science, medicine, and technology in non-western cultures*. Ergon Verlag, Würzburg.

Redecker, C. (2017). European Framework for the Digital Competence of Educators: DigCompEdu. In Y. Punie (Ed.) Publications Office of the European Union. https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/european-framework-digital-competence-educators-digcompedu [access: Jun. 17th, 2024]

Srinivasan, R. & Bloom, P. (2021). Tech Barons Dream of a Better World – Without the Rest of Us. In B. Herlo, D. Irrgang, G. Joost, & A. Unteidig (Eds.) *Practicing Sovereignty (pp. 23–46)*. Bielefeld: transcript Verlag. https://doi.org/10.1515/9783839457603-002

Spivak, G. C. (1988). Can the Subaltern Speak. In P. Williams & L. Chrisman (Eds.) *Colonial Discourse and Post-Colonial Theoriey. A Reader (pp. 66–111)*. New York: Columbia University Press.

Spivak, G. C., Colpani, G., & Mascat, J. M. H. (2022). Epistemic daring: An interview with Gayatri Chakravorty Spivak. Postcolonial Studies, 25(1), 136–141. https://doi.org/10.1080/13688790.2022.2030600

Staab, P., & Nachtwey, O. (2016). Market and Labour Control in Digital Capitalism. *TripleC, 14*, 457–474. https://doi.org/10.31269/triplec.v14i2.755

Stalder, F. (2018). *The Digital Condition* (V. A. Pakis, Übers.). Polity Press.

UNESCO (2023). *Global Education Monitoring Report Summary 2023: Technology in education. A tool on whose terms?* https://doi.org/10.54676/HABJ1624 [access: Jun. 17th, 2024]

United Nations (1987). *Our Common Future*. Report of the World Commission on Environment and Development. http://www.un-documents.net/wced-ocf.htm [access: Jun. 17th, 2024]

United Nations (2015). *Sustainable Development Goals*. United Nations Sustainable Development. https://www.un.org/sustainabledevelopment/sustainable-development-goals/ [access: Jun. 17th, 2024]

van Deursen, A. J. & van Dijk, J. A. (2019). The first-level digital divide shifts from inequalities in physical access to inequalities in material access. *New Media & Society*, *21*(2)/2019, 354–375. https://doi.org/10.1177/1461444818797082

Varon, J., & Peña, P. (2021). Artificial intelligence and consent: A feminist anti-colonial critique. *Internet Policy Review*, *10*(4). https://doi.org/10.14763/2021.4.1602

Vergès, F. (2017). *Racial Capitalocene—Is the Anthropocene racial?* Verso. https://www.versobooks.com/blogs/3376-racial-capitalocene [access: Jun. 17th, 2024]

WBGU; Fromhold-Eisebith, M., Groth, U., Matthies, E., Messner, D., Pittel, K., Schellnhuber, H.-J., Schieferdecker, I., Schlacke, S., Schneidewind, U. (2019). *Towards our common digital future*. German Advisory Council on Global Change (WBGU).

WHO (2021). *Children and digital dumpsites: E-waste exposure and child health*. World Health Organization. https://www.who.int/publications/i/item/9789240023901 [access: Jun. 17th, 2024]

Werkmeister, S. (2016). Postcolonial Media History: Historical Arguments for a Future Field of Research. In L. Krämer & K. Merten (Hrsg.) *Postcolonial Studies Meets Media Studies* (Bd. 23, S. 235–256). transcript Verlag. https://doi.org/10.14361/9783839432945-013

Zuboff, S. (2019). *The age of surveillance capitalism: The fight for a human future at the new frontier of power* (Paperback edition). Profile Books. https://ubdata.univie.ac.at/AC15286018