education sciences

MDPI

Article

Digital Education Colonized by Design: Curriculum Reimagined

Cristina Costa [1,*], Priyanka Bhatia [1], Mark Murphy [2] and Ana Lúcia Pereira [3]

[1] School of Education, Durham University, Durham DH1 3LE, UK; priyanka.bhatia@durham.ac.uk
[2] School of Education, University of Glasgow, Glasgow G12 8QQ, UK; mark.murphy.2@glasgow.ac.uk
[3] Department of Mathematics and Statistics, State University of Ponta Grossa, Ponta Grossa 84030-900, Brazil; anabaccon@uepg.br
* Correspondence: cristina.costa@durham.ac.uk

Abstract: This paper enlists Paulo Freire's work to explore the interplay between technology and pedagogy from a decolonial approach, thus stressing the importance of adopting a critical stance to the facilitation of digital education experiences. It starts by denouncing digital education as entrapped in digital capitalism, contending how curricular practices are likely to be subjugated to technological function. Through such a conceptual lens, digital curriculum design is explored from a perspective of learning solidarity, aiming to disrupt the instrumentalization of education and creating educational experiences that cater for a humanizing process of education. The paper aims to contribute with ideas towards a framework of critical digital education, deeming the interactive and creative side of technologies as well as the socio-affective dimension of education crucial to the decolonization of different ways of (curricular) knowing.

Keywords: digital education; educational technologies; decolonization; curriculum imagination; Paulo Freire

check for updates

Citation: Costa, C.; Bhatia, P.; Murphy, M.; Pereira, A.L. Digital Education Colonized by Design: Curriculum Reimagined. *Educ. Sci.* **2023**, *13*, 895. https://doi.org/10.3390/educsci13090895

Academic Editors: Marguerite Koole, Matt Smith, John Traxler, Taskeen Adam and Shri Footring

Received: 14 June 2023
Revised: 21 August 2023
Accepted: 29 August 2023
Published: 4 September 2023

1. Introduction

The 2019 pandemic highlighted that education globally was ill-prepared to move its provision online. Hiding behind the excuse of 'emergency education' [1], digital educational experiences concentrated largely on access of 'expert' knowledge as the pedagogical solution and curriculum design of choice. This shows a lack of digital cultural knowledge [2], of how the digital world works. Additionally, it evidences an increased absence of curricular imagination when it comes to the diversification of digital practices for educational purposes. In this conceptual paper, we argue that this should not come as a surprise as formal education systems supported by digital technologies have become increasingly colonized by digital capitalism [3], something the pandemic has come to exacerbate on a global scale. This seems to encourage a far more functionalist approach of education to suit commercial interests than promoting a diversity of educational experiences as reflective of a critical understanding of digital technologies and digital cultures.

The purpose of this paper is to tackle these issues by placing critical theory at the service of curriculum (re)imagination. In doing so, we aim to relate the longstanding curriculum crisis debate (see [4]) to digital education, especially regarding how splitting the relational inquiry of 'what is taught' from 'how it is taught' [5] (p. 245) may influence how technology is understood in the context of education and curricular design.

We start by asserting that digital forms of education would benefit from further exploration—empirically and theoretically—to bridge the gap between curricular and technological designs, focusing less on technology-centric tendencies [6] and more on the complexities they unveil. We contend that to evade a functionalist trap [7] implies a curriculum re-imagination that privileges understandings of education as a dimension of (digital) social practices [8], with its own logic [9] while able to question the structures

that support or condition it. Curriculum imagination is therefore herein meant to conceive of curriculum design as transcending taken-for-granted ways of connecting technology with teaching and learning processes by privileging alternative ways of knowing that are conducive of contemporary digital practices. In this paper, curriculum imagination is explored with regard to how digital technologies have the potential to mediate experiences of learning as solidarity and anchored in practices of knowledge creation and participation as tangible acts of knowing. This points towards the experience of education as a relational enterprise with collective meaning and purpose [8] (p. 94).

In this vein, it is proposed that digital curriculum considerations center their concerns beyond the organization of content and the individualization of learning to explicitly recognize where, how, and with whom knowledge is experienced as key to a dialectics of teaching and learning. This implies a conception of curriculum as enabling the social creation of knowledge and enacting different forms of agentic capacity [10] as co-existing, co-interacting, and co-producing meaning. Such a perspective anticipates an intersubjective dynamic and a sense of social cohesion that is not always highlighted in the standard features of commercial educational technology. Crucial to this may be the fomenting of the idea of learning in solidarity. This has the potential to connect understandings of collective identity with interpersonal recognition [11]. Through such a conceptual lens, digital curriculum design is explored from socio-affective perspectives, aiming to disrupt the instrumentalization of education and fostering educational experiences that cater for a humanizing process of education [8] rather than its automation. This becomes an ever more pressing need in light of recent artificial intelligence developments that seem to be threatening conventional modes of education as well as learners' autonomy to foster their own understandings of the issues they are exploring.

The proposal of the decolonization of education technology featured in this paper thus relates to considerations of a digital pedagogy that is not only critical of the structures that bind it but also strives to be inclusive of different ways of (curricular) knowing.

2. A Contextual Overview of Digital Technology and Education

Understandings of the colonizing effects of digital education are linked to recent developments in digital technologies, drawing out entanglements between education, societal changes, and economic developments.

Digital technologies have seen rapid changes since the early 2000s with the developments of online tools and applications for personal and collective use, unveiling, in theory, a range of possibilities for education via user-centric designs [12]. These developments seemed akin to critical pedagogical ideas alongside social-constructivist approaches [13] in that the focus is on the development of individuals' inquisitive minds through deliberative practices assisted by dialogue and explicit acts of knowledge creation, thus emphasizing education as a socio-cultural practice [14]. These ideas are still prominent when rethinking pedagogy for a digital context [15] but seem to find less resonance in the features technologies adopted by educational institutions as evidenced, for example, in the default settings of Virtual Learning Environments (VLEs), a key technology used in education. This observation is not new, but points towards a contradiction that somehow has largely managed to go uncontested. It brings to the fore a disjuncture between technological development (what functions the technology offers), curricular design (how teaching and learning can be organized), and pedagogy (the philosophical approaches to teaching and learning), as if these were separate entities within digital forms of education. In this article, these separations are regarded as part of the colonizing effect the technology industry is having on the education sector, with the former imposing on the latter. This imposition is largely possible because educational technologies are increasingly commodified as a symbol of sophistication, wrapped into an ideology of 21st century skills and connoted as competitive advantage [16].

On the surface, the introduction of digital technologies in education may have been interpreted as a clear departure from traditional forms of distance education that were

often seen as relying on access to specialized knowledge, and therefore more individualistic and instrumentalist in nature. Despite this over-simplification of distance learning, the idea that digital technologies could renovate teaching and learning practices was linked to ideas of humanizing the education process via digital cultures, with a clear emphasis placed on the participative nature of digital technologies [17]. This approach has, for example, been demonstrated via the work of Albuquerque Costa who highlighted a key difference between learning *through* technology and learning *with* technology [18]. Learning with technology means to harness technology for the transformation of educational experiences, i.e., to create something new and/or additional to what is already available, while learning through technology casts technology as a mere conduit of enhancing what is already there, for example replacing a book with a pdf document or a classroom lecture with an online talk. This perspective on technology, supported by Costa's former website (Alburque Costa's website was founded in 2002 https://blogue.rbe.mec.pt/aprender-com-tecnologias-1467247 which ran until 2012 (please see archive here: https://arquivo.pt/wayback/20080312062257/http://www.fpce.ul.pt/pessoal/ulfpcost/c/) (accessed 28 August 2023). The website featured practical ways of linking "free-to-use" technology to educational practices, connecting it to curriculum thinking, i.e., how content and learning relationships are organized and 'animated', respectively, to support the creative process of knowledge construction) finds resonance with communities that seem to be more pedagogically inclined than technologically oriented [19]. The issue then appears to be less of a north–south divide and more of an education-technology dilemma and how it is mediated by curriculum thinking, i.e., how information and learning relationships are organized and 'animated' to support the creative process of knowledge construction. This concern of technology domination over curriculum think has also been expressed, for instance, via the techno-philosophical developments conducted by Dias Figueiredo, who explored platform designs that catered for learning contexts [20]. Such an approach considered how epistemological and ontological questions influenced technological design. At the core of this inquiry was a question regarding the balance between content and context [21], i.e., established knowledge and knowing practices, respectively. These discussions aimed to conceive of digital technology use as an everyday practice with educational value, understanding knowledge production and meaning making as an organic, learner-led endeavor of reality building. These ideas have somehow assumed an 'indie' character, reflecting the domination of the platformization of education and the instrumental discourses that accompany it regarding learning personalization and innovation (see [22]). Testimony to this is that almost 20 years since these ideas were proposed, technologies developed for and endorsed by formal education remain generally restrictive of user action, largely limiting their spaces of creation while fulfilling institutions' administrative purposes. This presents a disjuncture between the use of digital technology within and outside formal education, thus creating a gap between education and the (digital) society it aims to serve. Most importantly, it can restrain the role of students as key actors in their own and others' learning processes, including encouragement towards their participatory responsibilities as crucial to active manifestations of intellectual engagements beyond performative acts.

The years following the inception of social media may have given educators who were keen to experiment with digital technology a certain sense of freedom and creative empowerment. Examples of this emerged through communities such as the Webheads in Action [23], who fostered curricular ideas as a community practice via a culture of experimentation [24]. This was possible given that concerns over datafication, privacy, and commercialization were not yet regarded as major issues [25]. Notwithstanding, such approaches have remained at the margins of educational developments, in part because of its do-it-yourself (DIY) approaches that lacked a sleek look or institutional support [26], and in part because of the technological and/or infrastructural limitations of approved technologies. This is in spite of counter-movements such as the Open Education Resources (OER) community or the Hybrid Pedagogy group that contribute to a wider curriculum reimagination, but which often find resistance in official educational settings. Fundamentally,

such initiatives are conducted at an individual not institutional level, thus lacking structural support to ensure their legitimation and sustainability [27].

Digital technologies have always been entangled in such contradictions, caught between practices they may make obsolete and those they may enhance or transform [28]. In education, this is often likened to a lag between educational policy, curriculum renewal, and digital experience [29]. Most importantly, it is also seen as a reflection of economic, socio-political, and cultural conditions that tend to give technology a particular function. This phenomenon has grown more prominent the more technology has become an established presence in education and where its creative use can at times be 'enmeshed with the techno-imperialist discourses' [30] (p. 2103) of efficiency and productivity. What happened during the pandemic is a good example of this, given that technological availability [31] was at times placed above concerns of pedagogical agility [32], thus downplaying the role of curriculum design in transforming and/or diversifying educational experiences [33]. Technology companies' interest in the education sector seems—especially since COVID-19—to be more geared towards profit expansion [34] than pedagogical innovation. This increased influence of the technology market on education is worth questioning, particularly in relation to the risks it may present to the stifling of curricular imaginaries. From an intellectual perspective, this can also be regarded as a form of technological colonialism.

3. The (Re)colonization of Digital Education by the Educational Technology Market

The monopoly of the Educational Technology (Edtech) market has been referenced in the literature as intensifying a banking education model [35], both in the contexts of higher [36] as well as compulsory education [37]. In such cases, educational proposals that imagine the explicit application of values such as solidarity, learning responsibility, and creativity, i.e., acts of (knowledge) creation [38] key to a critical education approach as proposed by Paulo Freire, are likely to side-line education proposals of learning *with* technology [18] and elevate practices of teaching and learning *through* technology, as discussed above. This phenomenon can be understood as subjugating learners to becoming 'mere recipients of packaged knowledge' [38] (p. 33). Such perspective grants digital technology a key role in knowledge distribution, but in turn gives marginal importance to inter-communicative and participative forms of teaching and learning. This opposes a critical educational approach that aims to use content as a starting point for dialogue and opinion formation, opposing technological interpretations of education productivity and efficiency.

At the center of these issues is the commercialization of the digital sphere that sees in education a profitable market to be exploited via a neo-liberalized version of education. While questions of an ethical nature are raised by the growing influence of commercial technology in education—especially pertaining to concerns over data protection and privacy—these questions ironically play further into the hand of digital capitalism by presenting itself also as the remedy, or the digital pharmakon [39]. Such concerns further cast a shadow on DIY digital approaches and justify the re-situating and re-shaping of educational practices to fit with technical and safety features. The capitalization of educational technology thus presents considerable downfalls for digital education [40,41] in that it commodifies educational technologies as symbols of sophisticated solutions with minimum regard to pedagogical and curricular principles. Such perspective delivers on the imperatives of the platformization of education, which, prized for its surveillant, automated, and risk-controlled virtues [42], conveys a logic of consumer faced services as EdTech companies' trademark [43].

Given the globalizing effect of technology and the techno-scapes it creates [44], there is no denying that tech companies are a growing influence in the digital solutions procured by educational institutions. The issue is that these solutions can often be misinterpreted as state-of-the-art curriculum designs [2] without apparent input from pedagogical expertise. This trend has only increased during the pandemic, with, for example, web-conferencing tools adopted for lecturing purposes [1], focused on the functionality of synchronicity

and neglecting key aspects of unstructured communication and sociability before, during, and after official class time. Institutions such as UNICEF [45] have also reported about such phenomenon, denouncing misalignments between the quality of (taught) content and the quality of (learning) experience Such techno-curricular disconnection overlooks the key attribute that Freire [46] endows to technology: that of human creativity and expression as essential to the education process. In practice, this is a missed opportunity to bring technology and curriculum design practices together in a coherent way, evidencing a power imbalance between the EdTech market and the education community. It also reflects an archaic conception of curriculum as a contained activity (planned content) within a temporal container (timed period of study) [47]. This is especially so in the context of a so-called digital society. The creative reach of curriculum design runs the risk of limiting itself when over-influenced by technical questions [48]. From a critical perspective, however, this highlights the importance of reconceptualizing how technologies can support a wider range of intellectual inquiries [49], especially those that aim to promote a critical pedagogical approach.

This is not to say that digital technologies are the sole sources of educational problems, but rather that it is worth evaluating and resisting its capitalist effects [50] when exploring the pedagogical side of technologies and how they fit with the design of curricular proposals. Such an approach may find inspiration in addressing curriculum imagination in relation to digital cultures [51] and critical pedagogies, while also catering for the dearth of critical digital literacy as an embedded practice in education [52]. Additionally, beyond delivering the skill needs of a digital knowledge society, a critical reading of digital education may also empower those involved in such educational processes to question the digital conditions under which they teach and learn. This becomes ever more important when the capitalization of digital education finds legitimation in the rationalization of digital technologies as tools for educational efficiency and productivity. This is exemplified by developments in learning analytics, artificial intelligence, and algorithmic approaches that encode education experiences as data.

It is in this context that the EdTech market presents itself as a colonizing force within education, in that it creates the illusion that technology can be reified as both a means and an end to education, leaving little space for alternative educational experiences that highlight the human side of education. This is a question of curriculum design, i.e., how education activities can be organized to promote learning as an empowering and transformational experience. In this respect, this can be seen as a classic example of the (educational) lifeworld submitting itself to the system [53]; a form of technological imperialism that affects educators, but also influences learners' learning habitus [54], i.e., how each party interprets their role in the educational process and adjusts their practices to thrive in it. A byproduct of such reading (of digital education) is a dislocation of digital practices from their contexts of origin by, for example, isolating the education experience, not only as a 'safe' and individualistic digital activity but also as a more hierarchical one. This may lead to the interpretation that digital forms of education are meant to be isolated experiences, rendering practices of intersubjective learning and communicative action [55] unimportant.

Focusing on what the key educational principles of digital education are is what is at stake here. This is different from idealizing everyday digital practices as inherently inclusive, interactive, and sociable. As Han [56] argues, digital technologies can help the corrosion of civil society through the disappearance of the 'other', the absence of listening, and the emergence of individualized selves in digital crowds. Yet, the same technologies can be(come) incredibly empowering, creating instances of learning and voice for different communities [57]. The use of technology is associated with the interpretations and meanings we attribute to it, and education can have a role—and perhaps an obligation too—in shaping such meanings. Fulfilling such an objective is to resist the instrumentalization of education and the technological stance that supports it.

More concretely, education is well placed to (re)imagine—rather than repress—digital technologies for education, tapping into the potential they represent: experiences of col-

lective thinking, dialogue, and creation of knowledge manifested via a dialectical digital experience of being and learning with others. It is through such processes that the socio-affective element of education can emerge and grow. Han recognizes that digital technology is a 'medium of affect' [58] (p. 3), in that it can bring people together. The issue is that online affect can easily turn into affectation, evidencing the disaffected state of digital communication. This is a global phenomenon that alienates the 'we' [59] (p. 10) and elevates the 'I'. It is also a question of how digital users can feel empowered or disempowered through the digital literacies they have attained or not. Both these issues can be addressed through a decolonial lens, questioning the oppressive side of technological function and exploring the potential of curriculum in promoting ethical digital learning and citizenship.

The (re)colonization of digital education has become a global phenomenon, which by and large seems to be led by a for-profit market. Its focus on technological functionality tends to overlook the importance of 'curriculum relevance' [7] (p. 36) to a critical digital education project. It is therefore argued that in devising processes for the decolonization of educational technology, a bridge between a logic of digital education practices and curriculum imagination is needed. We propose the work of Paulo Freire as an important theoretical bridge to such a process. This focus goes beyond the types of knowledge that are imparted or valued—a classic concern of the decolonization of curriculum movements—to also discuss the ways in which educational technologies may homogenize ways of knowing. This is a form of hidden curriculum worth exploring from a critical perspective.

4. Decolonizing Digital Technology and Curriculum Imagination: An Interconnected Issue

Decolonization can be broadly understood as a call and an action to unveiling power dynamics that are likely to obstruct the course of social justice. In the context of education, decolonization works to diversify educational experiences, opening the webs of valued knowledge beyond Euro-centric perspectives. The point is to acknowledge a wider range of sources of knowledge creation as well as its processes. Decolonization as a form of knowledge justice is also related to acts of social and interpersonal recognition [59], invested in disturbing the monopoly of legitimate knowledge [60] as well as of its knowers. It is also an epistemological redistribution which Fraser [61] would contend to be key for 'participatory equality' in liberal societies.

This aspect of participation is important to consider both in terms of curriculum and technological designs as engendering learning relationships and creating spaces for the construction of knowledge and acknowledgment of different forms of knowing. This is key to a dialectical process of learning that renders visible an individual's and others' social experiences. Participation is equally a key trait of philosophies that deal with power issues. This is, for example, a key message that runs across Freire's pedagogical work. It is also one that other authors in the field of decolonization studies have addressed when tackling issues of knowledge production, including questions of subjectivity and heterogeneity of subaltern voices [62]; the struggles of anti-imperial, non-geographical south(s) [63] against epistemic injustices; or debates about the position of the knower not only as a receiver but also as a producer of knowledge, understood as a 'central human capability' [64], amongst others (see [65] for a comprehensive discussion). Whereas for decolonization, there is an underlining understanding that participation can act as a conduit for intellectual freedom, when planning for digital education, participation is often guided by perceptions of digital risks [66]. Such approach can be circumvented by regarding digital curriculum design through critical pedagogical principles that aim to dismantle the role of learning actors as mere knowledge receivers—what Freire calls 'docile listeners' [67]—to highlight their role as knowledge creators 'in dialogue' (p. 81). From a technological design, this means to democratize the power of participation and digital production via symmetrical user rights. From a curriculum design perspective, it means to contextualize and enable educational formats that inspire action-reflection, valuable instances of creative and discursive inputs as clear guides of critical education. Such approach would align educational practices

with contemporary forms of digital use as well as with critical education premises of decolonizing not only knowledge but also ways of knowing (for Freire, education is not only an act of knowledge (conhecimento) but also acknowledgement (reconhecimento) that reality is subjective and contingent to understanding the experiences of others. Knowledge is never static and as such, any content provided is regarded as key to reformulation) [67]. This places an emphasis on the actions of everyone involved in the educational process as 'working for knowledge' [68] (p. 10), casting education as a shared social responsibility that aims to develop out of solidarity and as an antidote to 'competition engendered by individualism' [37] (p. 35). This proposes a model of human socialization that is built on intersubjective relationships among active learners who, while bound by the goal of education, bring diverse views and experiences to it via their digital engagements. Highlighted here is the importance of participating in learning to 'experience the power and value of unity within diversity' [8] (p. 90). The role of technology is then one of humanizing education through a perspective of learning relationships, instead of aiming to instrumentalize it in the name of effectiveness, which is what proposals that focus on access to knowledge/content mainly produce, intentionally or not.

To do so would be to address curriculum as interlinking 'what is taught' and 'how it is taught' [5], with 'where it is taught' without falling into determinist tendencies of positioning technology at the service of, or against, the educational project [69]. It is this stance and not just the technology itself that requires examination. Digital technologies as enabling spaces for and of education would thus benefit from being understood as a cultural locus, with a distinctive logic of practice. The separation between what, how, and where knowledge is created leads to certain types of educational practices becoming pivotal irrespective of where they are situated. Decolonizing this approach (re)focuses the debate on the contexts of application and invites reflections on the relational nature of learning, with a particular emphasis on the role of the learner and the place they can occupy both in curriculum and technology designs.

5. The Logic of Digital Education: A Critical Perspective

From a critical perspective, education is a dimension of social practice [37] (p. 71) that aims to endow learners with intellectual freedom by focusing on processes of knowing that find significance in dialogic and dialectical relations. In this regard, education is perceived as a cultural action that seeks to develop the conscious mind, in opposition to its standardization. Such a goal of transformation finds in Freire's work an association with technology which he deems natural to both the creative process and the contemporary world, but which should not obstruct the development of learners' conscientização, whose main purpose is to encourage individuals to appraise both the conditions on which their education is based as well as its contents through a lens of social justice that encourages the humanization of the social world [70], not its instrumentalization.

The dialectical relationship of education with the world also finds resonance in the original purpose of participative technologies which aim to instill a culture of collective creativity [17] as a form of knowledge liberation. Although the democratic goal of digital participation may find challenges in infocratic approaches [71], creativity as an act of knowing and be(com)ing is an essential literacy in a mediated world. In this vein, we propose that digital education—especially of a critical kind and aimed at decolonizing the role attributed to and by technology—is best conceived of through concepts of dialogue, creativity, curiosity, and problematization as actions fostering learning and critical consciousness [70]. As mentioned above, this logic can at times be distorted by the marketization of digital technologies both within and outside the education field, placing more emphasis on individualization than on practices of (learning) intersubjectivity [72]. This is something that would be worth rescuing as a form of establishing a logic for digital education that is focused on cultivating learners' inner lives collectively. Such logic also aims to express an interest in the affective side of educational practices [73], i.e., how individuals are affected by not only what but also how they learn as a form of critical

consciousness. This may imply that students are prompted to develop an awareness of what role educational technology can play in their experiences of learning and also what purpose they attribute to it. Establishing the meaning students give to technology as part of their education will help identify what type of learning experience they aim to foster, one that is critical or more instrumental. Whereas neither is wrong, each approach helps deliver a different interpretation of what education is/can be with the support of technology.

When it comes to a proposal of critical digital education, education cannot be achieved by the mere action of obtaining new knowledge. Above all, education is foreseen as developing out of the interplay between reasoning and practice whilst also bringing into question the conditions under which one learns. These are learning actions that impact the self and other as engaged learning relationships [68] (pp. 19–22) with a collective purpose. This is proposed as the essence of a logic of critical digital education; one that relies on learning solidarity. In this regard, technological and curriculum designs would benefit from influencing each other to enable collective action where the *I* and the *we* can be learning partners, not opponents or competitors. From such logic, this would mean to make available technical features and curricular activities that blend dialogical instances with opportunities to foster curiosity and creativity, i.e., digital expressions of learning that evidence the autonomy of the student in constructing knowledge, and not in learning on their own. Whereas dialogical features are often available in educational platforms, these are not necessarily paired with others forms of knowledge creation that evidence contemporary digital practices that can be appropriated for educational purposes. From a decolonization perspective—and also in response to generative artificial intelligence that will further obfuscate the critical role of education—there are opportunities to revive learning experiences that encourage engaged selves. This is the hidden curriculum of emancipatory technology. A technology that empowers is one that allows for tangible knowledge contributions, and in turn, a curriculum that assists it is one that caters for learning processes that support the intellectual liberation of the student. From such a prism, curriculum and technology are entwined, casting education as an intersubjective action and pointing towards a conception of learning as relational [74]. What is being underlined is an understanding of digital technologies as empowering students, as digital actors, with the freedom and also responsibility of authorship, something that captures the essentiality of digital cultures. It also delivers on the imperative of critical education as a form of action-reflection. From this perspective, the alignment of critical curriculum principles with technological features becomes essential for the materialization of education as a student-owned practice.

Freire hoped that digital technologies could serve the purpose of intellectual liberation because of (1) their communicative features, seen as key to the problematization of education; and (2) as a form of teaching and learning that places emphasis on individuals' contributions, as an expression of learning commitment and the development of understandings regarding the self and other [74]. Such proposals for collective inner enrichment, however, may find resistance in online spaces where 'interiority of assembly' is missing [56]. This is not just a problem of a technical nature, of how the technology works. It is mostly an issue of how teaching and learning relationships are perceived, organized, and mediated when situated online. It is thus a question of curriculum design as well as the (digital) literacies it aims to foster.

By highlighting the importance of the theoretical understanding of digital education as centered on inter-relational, inter-subjective, and inter-affective experiences, the aspect of human relations and solidarity is brought to the fore of curricular discussions. To do so is to contest the instrumentalization of education and resist the bureaucratization of the mind [8] (p. 99), which tends to incarcerate the pedagogical self into imagined curricular constraints and/or technological designs. The risk being highlighted here is one of 'ideological separation between text and context' [8] (p. 47), with technology often used to simplify education rather than to problematize it. It is therefore not surprising that Freire expected education to 'announce what technology will be' [8] (p. 93) rather

than letting technology dictate what education ought to be. Thus, in contestation to the technisization of education, a logic of critical digital education is proposed as focused on harnessing technologies for digital engagement and creative action.

Meaningful digital engagement finds incentive in affective links [24]. The focus on affection is however not to be confused with emotive reactions that are typically associated with digital behaviors deprived of reasoned approaches. Affection is used in this paper to connote ideas of care and impact to one's and others' learning. Digital education combining creativity with affection aims to cater for 'the sensation of having a voice (opinion), proximity (presence) and forms of knowledges (learning)' [75] (p. 6), generating not only educational but also collective value for those involved. From this prism, digital education is conceived of through practices of reciprocity. Far less emphasis is placed on 'received' knowledge as a one-directional form of education. Rather, curriculum design following a critical digital education logic aims to cater for a relational approach [72]. Such approach inevitably demands of educational technologies features that are flexible and focused on creative inputs by their users as learners. From a decolonization viewpoint, this means to consider the digital education modus operandi via a curriculum of lived experience where individuals' agency is made an essential condition for the education process to occur. Such proposal centers active participation as a binding and explicit commitment to learning, aiming to bypass experiences of passiveness [68] or individualization [56] that digital technology may inspire, while encouraging learning as an exercise of co-responsibility and collective significance. This shifts the attention of the decolonial project from the explicit curriculum—what knowledge is taught—to a hidden curriculum of knowing, exploring different forms of savoir vivre vital to the socio-affective formation of individuals.

The emphasis would therefore be on forms of interpersonal recognition [59] and not on echo chamber effects [53]. Yet, it is here too where critical digital education meets its greatest technical and curricular challenges, and where its logic highlights a key difference with more standardized ways of 'doing' digital education. On the one hand, fostering a sense of belonging is key to critical digital education. This requires time and effort for collective consciousness to mature, something that contemporary study programs find hard to cater for given their set formats. On the other hand, achieving coherence when a range of perspectives co-exist asks from educators and learners shared intellectual investments as interlocutors working through ideas as part of (informed) opinion formation. Adaptation to such an education culture should not be taken for granted nor confused with agents being technically literate. A critical approach to learning is expected, with individuals benefiting from being inducted into the terms of the type of interactions that underpin such educational experiences. This demands of technological features and curricular practices a close attention to the spaces that are available for learner initiative and collective interactions. Curriculum design is key here in inspiring variation in pedagogical as well as technological developments rather than validating the instrumentalization of both. Essential to the logic of critical digital education is therefore the question of how curriculum and technology are (re)imagined as working inter-dependently.

6. Towards the Decolonization of Digital Education

The decolonization of digital education can be achieved by adopting a critical stance to both curricular and technological designs as inter-liked practices. The purpose of bringing Freirean conceptions of critical education to debates of educational technologies and digital education is to emphasize the importance of education as a humanizing process of learning with others.

In the context of education, the decolonization movement has placed many of its efforts in destabilizing normative understandings of knowledge, focusing on the type and sources of content that is taught and the learning that derives from it. Less emphasis has been placed on another key aspect of (the hidden) curriculum, that of learning interrelationships, processes of meaning making, and the sense of self-realization that can derive from one's educational experience. This is relevant for all forms of study, but of key importance

for digital education experiences that can only be embodied symbolically [76] through manifestations of presence, voice, and content production. This is the risk and benefit of digital education. The benefit of digital education is in making explicit the essentiality of experiences as a communicative act; the risk lies in such approaches being threatened by sedentarism. The risk can be addressed by placing intersubjective, communicative, and creation-based learning approaches at the heart of curriculum activities and technological settings as explicit and intermeshed design features.

Curriculum imagination focusing on engendering participation and creation thus becomes essential in "activating" learning experiences. In this sense, it is important to note that it is not just technology that may convey a more functionalist interpretation of education. Educators and learners are also likely to have their educational practices adjusted to a neo-liberalized education system, in that the transmission, acquisition, and validation of explicit knowledge may be considered more important than learning relationships. This is a challenge—if not the key challenge—for digital education.

The disconnect between education studies, design of technology, and curriculum imagination thus merits critical re-examination. Vital to such stance is an awareness of the nature of digital practices that find its pulse in digital cultures as a global phenomenon [77]. This can help overcome the temptation of a content-driven approach and what Paraskeva calls the 'functionalist trap' [7]. While technology is not neutral, its application can also not be said to be apolitical. The use of digital technologies in education has been a preoccupation of globalized economies invested in digital skilled workforces. While the pandemic has come to accelerate this need worldwide, the monopoly of digital technologies for education—with some exceptions—rapidly infiltrated education. However, it brought to the fore an ideology of learning efficiency, which, driven by a disaster capitalist approach [78], placed far more emphasis on knowledge as a product than on knowing practices as processes. This raises questions of a decolonial nature regarding the roles and actions attributed to the practices of teaching and learning through the mainstream technological features on offer, and which role digital education aims to serve when framed in such a way.

Yet, much like Freire, we reject the fatalistic idea that the effects of globalization and neo-liberalization of digital education cannot be undone [8] (p. 43). Rather, we provide a counter-proposal that realizes the influence of EdTech companies on education as the first step towards informed change. Critical understanding of digital education can offer an opportunity to re-think curricula in relation to inter-communicative features and affective and collective experiences that digital technologies can mediate. To do so is to deconstruct educational technologies and their restrictive designs as a re-colonizing influence on curricular thinking.

Finally, the value of digital education lies in fostering 'meetings of the minds', making education an intersubjective and meaningful experience beyond the acquisition of expert knowledge. In other words, digital education is perhaps best understood as affecting the learning process rather than providing effective education. A form of digital critical education is possible, but the decolonization of technological design in conjunction with curricular thinking may need to precede it. Diverse educational practices will then follow suit, enacting a much needed critical ontological and epistemological stance for digital education.

Author Contributions: Conceptualization, C.C., P.B., M.M. and A.L.P.; writing—original draft preparation, C.C., P.B., M.M. and A.L.P.; writing—review and editing, C.C., P.B., M.M. and A.L.P. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Costa, C.; Li, H. *The Online Response of Higher Education to the Pandemic: A Snapshot of International Students' Experiences in the UK*; School of Education, Durham University: Durham, UK, 2022; Available online: https://dro.dur.ac.uk/36755 (accessed on 28 August 2023).
2. Costa, C.; Li, H. Digital Cultural Knowledge and Curriculum: The Experiences of International Students as They Moved from on-Campus to on-Line Education during the Pandemic. *Learn. Media Technol.* **2023**. [CrossRef]
3. Emejulu, A.; McGregor, C. Towards a Radical Digital Citizenship in Digital Education. *Crit. Stud. Educ.* **2019**, *60*, 131–147. [CrossRef]
4. Wahlström, N. Where is 'the Political' in Curriculum Research? *J. Curric. Stud.* **2018**, *50*, 711–723. [CrossRef]
5. Hlebowitsh, P. The Burdens of the New Curricularist. *Curric. Inq.* **1999**, *29*, 343–354. [CrossRef]
6. Bodily, R.; Leary, H.; West, R.E. Research Trends in Instructional Design and Technology Journals. *Br. J. Educ. Technol.* **2019**, *50*, 64–79. [CrossRef]
7. Paraskeva, J. The Struggle towards a Non-Functionalist Critical River: Towards a Curriculum of Hope without Optimism. In *Towards a Just Curriculum Theory: The Epistemicide*; Routledge: London, UK, 2017; pp. 1–49. ISBN 978-1-315-14690-4.
8. Freire, P. *Pedagogy of the Heart*; Reprint edition; Bloomsbury Academic: London, UK; New York, NY, USA, 1997; ISBN 978-1-4742-9911.
9. Bourdieu, P. *The Logic of Practice*; Polity Press: Cambridge, UK, 1990; ISBN 978-0-8047-2011-3.
10. Dutta, M.J.; Pal, M. Theorizing from the Global South: Dismantling, Resisting, and Transforming Communication Theory. *Commun. Theory* **2020**, *30*, 349–369. [CrossRef]
11. Cerulo, M.; Scribano, A. *The Emotions in the Classics of Sociology: A Study in Social Theory*; Routledge: London, UK, 2021; ISBN 978-1-00-044273-1.
12. Hall, R. Towards a Fusion of Formal and Informal Learning Environments: The Impact of the Read/Write Web. *Electron. J. e-Learn.* **2009**, *7*, 29–40.
13. Hall, A. Vygotsky Goes Online: Learning Design from a Socio-Cultural Perspective. *Learn. Socio-Cult. Theory Explor. Mod. Vygotskian Perspect. Int. Workshop* **2007**, *2007*, 6.
14. Neo, T.-K.K. Using Multimedia in a Constructivist Learning Environment in the Malaysian Classroom. *Australas. J. Educ. Technol.* **2003**, *19*, 293–310. [CrossRef]
15. Beetham, H.; Sharpe, R. (Eds.) *Rethinking Pedagogy for a Digital Age: Principles and Practices of Design*, 3rd ed.; Routledge: New York, NY, USA, 2019; ISBN 978-1-351-25280-5.
16. Rafalow, M.H. Digital Divisions: How Schools Create Inequality in the Tech Era. In *Digital Divisions*; University of Chicago Press: Chicago, IL, USA, 2020. [CrossRef]
17. Jenkins, H.; Purushotma, R.; Weigel, M.; Clinton, K.; Robison, A.J. *Confronting the Challenges of Participatory Culture: Media Education for the 21st Century*; unknown edition; The MIT Press: Cambridge, MA, USA, 2009; ISBN 978-0-262-51362-3.
18. Costa, F.A. Aprender Com Tecnologias: Um Espaço de Informação, Partilha e Comunicação Online. In *Lisboa: Faculdade de Psicologia e de Ciências da Educação*; Universidade de Lisboa: Lisbon, Portugal, 2005.
19. Costa, F. Desenvolvimento Curricular e TIC: Do Déficit Tecnológico, Ao Défict Metodológico. In *Revisitar os Estudos Curriculares—Onde Estamos e Para Onde Vamos?* Ferreira, A.E.E.J., Ed.; Secção Portuguesa da AFIRSE: Lisboa, Portugal, 2012.
20. de Figueiredo, A.D.; Afonso, A. *Context and Learning: A Philosophical Framework*; IGI Global: Hershey, PA, USA, 2006; pp. 13–22.
21. de Figueiredo, A.D. Learning Contexts: A Blueprint for Research. In *Interactive Educational Multimedia*; University of Barcelona: Barcelona, Spain, 2005; pp. 127–139.
22. Cone, L. The platform classroom: Troubling student configurations in a Danish primary school. *Learn. Media Technol.* **2023**, *48*, 52–64. [CrossRef]
23. Stevens, V. Behind the Scenes at the Webheads in Action Online Convergence, November 18–20, 2005. *TESL-EJ* **2005**, *9*, 1–5.
24. Costa, C. O Currículo numa comunidade de prática. *Sisifo* **2007**, 3. Available online: http://sisifo.ie.ulisboa.pt/index.php/sisifo/article/view/64 (accessed on 28 August 2023).
25. van Dijck, J. Datafication, Dataism and Dataveillance: Big Data between Scientific Paradigm and Ideology. *Surveill. Soc.* **2014**, *12*, 197–208. [CrossRef]
26. Knobel, M.; Lankshear, C. *DIY Media: Creating, Sharing and Learning with New Technologies*; Peter Lang: New York, NY, USA, 2010; ISBN 978-1-4331-0635-4.
27. Lee, K. Who Opens Online Distance Education, to Whom, and for What? *Distance Educ.* **2020**, *41*, 186–200. [CrossRef]
28. McLuhan, E.; McLuhan, M. *Laws of Media: The New Science*, 2nd Revised ed.; University of Toronto Press: Toronto, ON, Canada, 1992; ISBN 978-0-8020-7715-8.
29. Ferreira, E.; Ponte, C.; Silva, M.J.; Azevedo, C. Mind the Gap: Digital Practices and School. *Int. J. Digit. Lit. Digit. Competence* **2015**, *6*, 16–32. [CrossRef]
30. Henriksen, D.; Creely, E.; Henderson, M.; Mishra, P. Creativity and technology in teaching and learning: A literature review of the uneasy space of implementation. *Educ. Technol. Res. Dev.* **2021**, *69*, 2091–2108. [CrossRef]
31. Amalia, R.R.; Anggoro, S.; Eka, K.I. Identification of Teachers and Students' Readiness to E-Learning Implementation. *J. Teach. Learn. Elem. Educ.* **2021**, *4*, 170–179. [CrossRef]

32. Jain, S.; Lall, M.; Singh, A. Teachers' Voices on the Impact of COVID-19 on School Education: Are Ed-Tech Companies Really the Panacea? *Contemp. Educ. Dialogue* **2021**, *18*, 58–89. [CrossRef]
33. da Rocha RD, C.M.; Corrêa, R.P.; de Araújo-Jorge, T.C.; Ferreira, R.R. Possibilidades na Educação Durante a Pandemia de Covid-10: As tecnologias da Comunicação e Informação (TDICs). *Humanidades Inovação* **2022**, *9*, 256–267.
34. de Paula, A. The Learning-Market Of Edtech in Brazilian Education: The Impacts of The COVID-19 Pandemic on the Educational Sector. *J. Educ. Policy* **2021**, *19*, 249–270.
35. Farag, A.; Greeley, L.; Swindell, A. Freire 2.0: Pedagogy of the Digitally Oppressed. *Educ. Philos. Theory* **2022**, *54*, 2214–2227. [CrossRef]
36. Bobulescu, R. Wake up, Managers, Times Have Changed! A Plea for Degrowth Pedagogy in Business Schools. *Policy Futures Educ.* **2022**, *20*, 188–200. [CrossRef]
37. Appova, A.; Lee, H.-J.; Bucci, T. Technology in the Classroom: Banking Education or Opportunities to Learn? *Theory Into Pract.* **2022**, *61*, 254–264. [CrossRef]
38. Freire, P. *Pedagogy in Process: The Letters to Guinea-Bissau*; Bloomsbury Academic: New York, NY, USA, 2021; ISBN 978-1-350-19030-6.
39. Stiegler, B. *What Makes Life Worth Living: On Pharmacology*, 1st ed.; Polity: Cambridge, UK, 2013.
40. Grandinetti, J. "From the Classroom to the Cloud": Zoom and the Platformization of Higher Education. *First Monday* **2022**, *7*, 1–17. [CrossRef]
41. Kerssens, N.; van Dijck, J. The Platformization of Primary Education in The Netherlands. *Learn. Media Technol.* **2021**, *46*, 250–263. [CrossRef]
42. Mirrlees, T.; Alvi, S. *EdTech Inc.: Selling, Automating and Globalizing Higher Education in the Digital Age*; Routledge: London, UK, 2020; ISBN 978-1-00-070492-1.
43. Nichols, T.P.; Garcia, A. Platform Studies in Education. *Harv. Educ. Rev.* **2022**, *92*, 209–230. [CrossRef]
44. Appadurai, A. Disjuncture and Difference in the Global Cultural Economy. *Theory Cult. Soc.* **1990**, *7*, 295–310. [CrossRef]
45. UNICEF. *Pulse Check on Digital Learning*; UNICEF: New York, NY, USA, 2022; p. 39.
46. Freire, P. *Cultural Action for Freedom*; Harvard Education Press: Cambridge, MA, USA, 2000; ISBN 978-0-916690-37-3.
47. Egan, K. What is Curriculum? *Curric. Inq.* **1978**, *8*, 65–72. [CrossRef]
48. Grollios, G.; Giroux, H.A.; Gounari, P.; Macedo, D. *Paulo Freire and the Curriculum*; Routledge: London, UK, 2015.
49. Costa, C.; Hammond, M.; Younie, S. Theorising technology in education: An introduction. *Technol. Pedagog. Educ.* **2019**, *28*, 395–399. [CrossRef]
50. Ball, S.J.; Grimaldi, E. Neoliberal Education and the Neoliberal Digital Classroom. *Learn. Media Technol.* **2022**, *47*, 288–302. [CrossRef]
51. Jenkins, H. *Participatory Culture: Interviews*; John Wiley & Sons: Hoboken, NJ, USA, 2019; ISBN 978-1-5095-3847-8.
52. Pötzsch, H. Critical Digital Literacy: Technology in Education Beyond Issues of User Competence and Labour-Market Qualifications. *Triplec Commun. Capital. Critique. Open Access J. Glob. Sustain. Inf. Soc.* **2019**, *17*, 221–240. [CrossRef]
53. Habermas, J. Reflections and Hypotheses on a Further Structural Transformation of the Political Public Sphere. *Theory Cult. Soc.* **2022**, *39*, 145–171. [CrossRef]
54. Costa, C.; Murphy, M.; Pereira, A.L.; Taylor, Y. Higher Education Students' Experiences of Digital Learning and (Dis)Empowerment. *Australas. J. Educ. Technol.* **2018**, *34*. [CrossRef]
55. Habermas, J. *Theory of Communicative Action, Volume 1: Reason and the Rationalization of Society: Reason and the Rationalization of Society Vol 1*; New Ed edition; Polity: Boston, MA, USA, 1986; ISBN 978-0-7456-0386-5.
56. Han, B.-C. *The Expulsion of the Other: Society, Perception and Communication Today*; John Wiley & Sons: Hoboken, NJ, USA, 2018; ISBN 978-1-5095-2309-2.
57. Wang, B.; Driscoll, C. Chinese Feminists on Social Media: Articulating Different Voices, Building Strategic Alliances. *Continuum* **2019**, *33*, 1–15. [CrossRef]
58. Han, B.-C. *In the Swarm: Digital Prospects*; MIT Press: Cambridge, MA, USA, 2017; ISBN 978-0-262-53336-2.
59. Honneth, A. Recognition and Justice: Outline of a Plural Theory of Justice. *Acta Sociologica* **2004**, *47*, 351–364. [CrossRef]
60. de Santos, B.S. *Epistemologies of the South: Justice Against Epistemicide*, 1st ed.; Routledge: Boulder, CO, USA, 2014; ISBN 978-1-61205-544-2.
61. Fraser, N. Reframing Justice in a Globalizing World. In *Global Inequality: Patterns and Explanations*; John Wiley & Sons: Hoboken, NJ, USA, 2005; pp. 69–88.
62. Spivak, G.C. Can the Subaltern Speak? In *Marxism and the Interpretation of Culture*; Nelson, C., Grossberg, L., Eds.; University of Illinois Press: Urbana, IL, USA, 1987; pp. 271–313. ISBN 978-0-252-01401-7.
63. de Santos, B.S. *The End of the Cognitive Empire: The Coming of Age of Epistemologies of the South*; Duke University Press Books: Durham, NC, USA, 2018; ISBN 978-1-4780-0015-0.
64. Fricker, M. Epistemic Contribution as a Central Human Capability. In *The Equal Society: Essays on Equality in Theory and Practice*; Hull, G., Ed.; Lexington Books: Lanham, MD, USA, 2015; ISBN 978-1-4985-1572-6.
65. Murphy, M. *Social Theory: A New Introduction*; Palgrave Macmillan: Cham, Switzerland, 2021; ISBN 978-3-030-78323-5.
66. Vickery, J.R. *Worried about the Wrong Things: Youth, Risk, and Opportunity in the Digital World*; Illustrated edition; The MIT Press: Cambridge, MA, USA, 2017; ISBN 978-0-262-03602-3.

67. Freire, P. *Pedagogy of the Oppressed*; Penguin Classics: London, UK, 1970.
68. Hooks, B. *Teaching Critical Thinking Practical Wisdom*, 1st ed.; Routledge: New York, NY, USA, 2010; ISBN 978-0-415-96820-1.
69. Topping, K.J.; Douglas, W.; Robertson, D.; Ferguson, N. Effectiveness of Online and Blended Learning from Schools: A Systematic Review. *Rev. Educ.* **2022**, *10*, e3353. [CrossRef]
70. Freire, P. *Conscientização*, 1st ed.; Cortez Editora: São Paulo, Brazil, 2018.
71. Han, B.-C. *Infocracy: Digitization and the Crisis of Democracy*, 1st ed.; Polity: Medford, NJ, USA, 2022; ISBN 978-1-5095-5297-9.
72. Murphy, M.; Brown, T. Learning as Relational: Intersubjectivity and Pedagogy in Higher Education. *Int. J. Lifelong Educ.* **2012**, *31*, 643–654. [CrossRef]
73. Huttunen, R.; Murphy, M. Discourse and Recognition as Normative Grounds for Radical Pedagogy: Habermasian and Honnethian Ethics in the Context of Education. *Stud. Philos. Educ.* **2012**, *31*, 137–152. [CrossRef]
74. Hatt, B.E. Pedagogical Love in the Transactional Curriculum. *J. Curric. Stud.* **2005**, *37*, 671–688. [CrossRef]
75. Dravet, F.; de Castro, G. Learning, digital media and affection: Proposals for a new paradigm in higher education. *Interface* **2019**, *23*, e180321. [CrossRef]
76. Ward, D. What's Lacking in Online Learning? Dreyfus, Merleau-Ponty and Bodily Affective Understanding. *J. Philos. Educ.* **2018**, *52*, 428–450. [CrossRef]
77. Punathambekar, A.; Mohan, S. *Global Digital Cultures: Perspectives from South Asia*; University of Michigan Press: Ann Arbor, MI, USA, 2019; ISBN 978-0-472-12531-9.
78. Patil, L. Disaster Philanthropy: Exploring the Power and Influence of for-Profit Philanthropy in Education Development during Pandemic Times. *Int. J. Educ. Dev.* **2021**, *81*, 102332. [CrossRef]