13 After digital literacy
Media pedagogies for platform ecologies

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Introduction

The spread of digitalisation in education, work and public life has carried with it an imperative that young people be trained to productively participate in the forms of digitalised sociality that result. This training travels under different names – '21st century skills' or 'digital citizenship', for instance (Dede, 2010) – but perhaps the most familiar of these is *digital literacy*. Around the world, diverse stakeholders have called for the integration of digital literacy into curriculum, instruction and education policy: from transnational organisations (UNESCO, 2018) and national governments (U.S. Office of Education, 2022) to local legislative bodies (Deye, 2017) and professional teaching communities (International Society for Technology in Education, n.d.). Researchers, too, highlight digital literacy's potential to encourage personal expression and civic engagement among individuals and broader publics (Garcia et al., 2015). This widespread interest in digital literacy, across educational settings and stakeholders, reflects its significance as a pressing political and pedagogical project.

The contours and aims of this project, however, are not always self-evident. Despite the term's common usage, 'digital literacy' does not hold a singular or stable meaning for the communities that invoke it (Sefton-Green, Nixon, & Erstad, 2009). For some, it indexes the skills needed to navigate the evolving workplace demands of a globalised economy (Eshet-Alkalai, 2012). For others, it refers to competencies associated with responsible technology use (e.g., protecting personal privacy or detecting misinformation; Lee, 2018) or digitalised cultural production (e.g., creating, analysing or sharing information in online networks; Hobbs, 2017). Such ambiguities are not dissociated from the growing interest in digital literacy among education policymakers, researchers and practitioners. The term's pliability has allowed various interest groups to enrol it into a range of competing reform agendas that collectively have solidified 'digital literacy' as a pervasive, if ill-defined, educational discourse (Nichols & Stornaiuolo, 2019).

In this chapter, we consider the relationship between this discourse and the spread of digitalisation in, and beyond, education. While digital literacy is

often positioned as a resource for confronting the challenges of digitalisation – for instance, by training young people to use digital technologies productively, judiciously or creatively – we suggest that the two share a more ambivalent connection. Specifically, we argue that the component parts of the phrase 'digital literacy' inherit significant categorical conflations that, when combined, not only diminish the concept's potential to critically respond to digitalisation but may even reinforce it. The term's focus on 'literacy', we contend, tethers instruction to a register of textual practices, which can strain to engage the technical and political-economic facets of digitalisation that are less amenable to analysis as 'text'. Likewise, its emphasis on 'the digital' can reinscribe a dubious dichotomy between analogue and digital activity and, in doing so, elide their hybridity in the sociomaterial processes that drive digitalisation.

Rather than obviating the project of media education, we suggest that the shortcomings of digital literacy help clarify the need for pedagogical alternatives that are keyed to the platform ecosystems that underwrite the spread of digitalisation today. In particular, we suggest that digital platforms demonstrate the limitations of the de facto 'literacy' focus of digital literacy frameworks, which elide the performative relations inherent in platform technologies. These limitations suggest an urgent need for more expansive conceptualisations of platforms' actors and processes: material hardware, aesthetic interfaces, algorithmic architectures, platform business models as well as the human labour and natural resources required to create and sustain them. Shifting idioms from 'digital literacy' to 'media ecology', we argue, offers one path for reorienting inquiry from virtual spaces and textual practices towards the social, technical and political-economic relations that animate these environments. We conclude by synthesising emerging research that might contribute to developing such a programme in educational settings.

Digital 'literacy'

The multiple meanings associated with 'digital literacy' can be attributed, in part, to the phrase's guiding idiom: *literacy*. Scholars in the field of literacy studies have long documented the term's varied connotations: as a set of skills for encoding or decoding texts, or the social practices people use to make meaning with texts in situated domains (Lankshear, 1998). They have also demonstrated the ideological character of projects that aim to cultivate these literacy skills and practices in people (Street, 1984). The acquisition of literacy has, in different times and places, been presumed to confer not only functional skills leading to individual social mobility and national economic development but also critical dispositions that fortify practitioners against manipulation and empower them to engage in civic action (Collins & Blot, 2003; Graff, 1979). Given the range of outcomes that have been projected onto literacy, broadly, it is not surprising that the concept of 'digital literacy' has inherited the same competing connotations in its most common theorisations.

One significant strand of digital literacy research has focused on the *functional skills* that are deemed necessary for people to access, evaluate and produce information using digital technologies. Paul Gilster's book, *Digital Literacy* (1997), which introduced the term into popular usage, adopted this orientation, arguing that the social transformations ushered in by personal computing demanded that individuals now be equipped with 'the ability to understand and use information in multiple formats from a wide range of sources' (p. 1). Gilster's delineation of requisite digital literacy skills – internet search, hypertext navigation, knowledge assembly, content evaluation – was the first of many efforts to taxonomise the competencies needed for work and life in an evolving digital media landscape. While there are subtle variations in these taxonomies, most echo Gilster in framing 'digital literacy' as a combination of skills for operating digital technologies and navigating digital information environments (Warschauer, 2009). This understanding of the term persists into the present, as national governments and transnational organisations continue to voice concern about young people's workplace readiness in a globalised knowledge economy underwritten by digital technologies (e.g., UNESCO, 2020; U.S. Office of Education, 2022). In this way, digital literacy, like 'literacy' more generally, is positioned as a precursor to personal social mobility and national economic development, rendering the functional skills associated with it desirable not only to individuals but also businesses and policymakers.

However, also like 'literacy', a parallel strand of digital literacy research approaches the concept less as a set of instrumental skills than as a *critical disposition* towards digital media. One form that this disposition takes involves teaching students not just how to use technologies but how to do so responsibly. The International Society for Technology in Education (ISTE, n.d.), for instance, offers standards to support young people's digital literacy development. These include directives for students to 'manage their personal data' and 'maintain digital privacy and security', as well as to 'engage in positive, safe, legal, and ethical behavior when using technology'. This framing of digital literacy in terms of personal responsibility also extends to the ways that young people seek out and evaluate information. Rather than stressing the functional skills associated with online searching, this orientation views digitally literate students as those who demonstrate 'civic online reasoning' by effectively vetting online information using fact-checking strategies (Wineburg & McGrew, 2019) or by marshalling evidence-based claims in discussions about the credibility of media content (Hodgin & Kohne, 2018). Together, such approaches ground digital literacy as a practice of critical consumption – both of digital technologies and of the information that circulates through them.

Another form that this disposition takes moves beyond consumption alone to focus on the critical production practices that might empower students to express themselves and to participate in civic action. Buckingham (2006) argues that the emphasis of digital literacy on functional skills and responsible technology use can paper over the significant ways that people also leverage

digital media as a personal and political outlet – and that these, too, ought to be given space in the digital literacy curriculum. In the years since Buckingham offered this critique, a rich scholarly literature has continued adding texture to this conversation, exploring how developments in digital media are not only changing how young people are making meaning with texts (Coiro & Dobler, 2007; Rowsell & Burke, 2009) but also expanding the genres and audiences for youth media production and activism (Morrell, 2013; Price-Dennis & Sealey-Ruiz, 2021; Stornaiuolo & Thomas, 2017). Such contributions further illustrate how digital literacy – like 'literacy' itself – is not limited to a set of functional skills but also includes a range of critical practices and orientations both for consuming and for producing texts in digital media environments.

The (digital) literacy myth

The diverse meanings attached to the term 'digital literacy' are evidence of the tremendous potential that people ascribe to the concept. Like 'literacy', it is simultaneously positioned as a resource for social mobility and social justice, for personal expression and national workforce development. However, also like 'literacy', its competing connotations can create obstacles for these promised outcomes to be realised. Historian Harvey Graff (1979) coined the term 'the literacy myth' to refer to the pervasive, yet unfounded, belief that the cultivation of literacy in a person, community or society will invariably lead to desirable forms of cognitive, economic or social progress. According to Graff, one reason this myth continually fails to deliver on its promises is that it treats literacy as a fixed competency yielding autonomous effects, rather than an unstable and contested social achievement. The latter view recognises that the multiple meanings associated with literacy create contradictions that move the goalposts for what it means to be 'literate' in a given social setting, leaving those holding the former view perpetually grasping after a receding ideal. In the United States, for example, there has been a dramatic rise in literacy rates since the 20th century, and yet, shifting social circumstances – from new communication technologies to globalised working conditions – have continually escalated the expectations for literacy such that the policymakers remain perennially panicked about an impending literacy crisis (Myers, 1996; Tierney & Pearson, 2021). The competing connotations of literacy, then, are simultaneously self-undermining and self-reinforcing: they recurrently produce 'illiterate' subjects by destabilising the threshold for what counts as literacy and, in doing so, create an imperative for those subjects to chase after these new norms – a cycle that renews the cultural capital of 'literacy' by centring it, discursively, as a desirable yet recalcitrant educational outcome.

From this perspective, we can begin to see how a similar mythology associated with digital literacy might work to reinforce digitalisation rather than confronting its challenges. As with literacy, the multiple meanings attached to digital literacy are often positioned as leading to autonomous outcomes: functional skills are said to promote upward mobility for individuals and economic

development for nation-states; critical dispositions, likewise, are said to nurture modes of responsible and empowered citizenship. And yet, also as with literacy, the contradictions among these meanings can be destabilising. Changes in technology, for example, unsettle the functional skills deemed necessary for modern life and work, moving the goalposts of digital literacy to include deeper and wider engagement with digitalisation. In turn, the critical dispositions that are meant to equip individuals to navigate digital environments must, likewise, evolve to accommodate such changes. In this way, the project of digital literacy requires both the production of digitally illiterate subjects through the expansion of competencies required for 'literacy' and the enrolment of those subjects into a pedagogical programme that fosters attachments to the emergent understandings of the term. The recursiveness of this process means that, even when such attachments are critical (e.g., when individuals are instructed to adopt a defensive or oppositional posture toward digital media), the larger discourse of digitalisation is still reinforced through the drive for people to become digitally literate. Put simply, digital literacy is as much an expression of digitalisation's cultural power as it is a response to it.

Significantly, the skills and practices on offer in most approaches to digital literacy provide few resources for identifying, much less addressing, the tensions that follow from the digital literacy myth. Because the pedagogical project of digital literacy is keyed to the idiom of 'literacy', it tends to foreground representational relationships between users and media texts (Luke, 2013; Nichols & LeBlanc, 2021). Functional skills, for instance, allow individuals to access and organise information, and critical dispositions can help them become thoughtful consumers and producers of media content. Such capacities, however, leave unexamined important facets of digitalisation that are less amenable to analysis as 'text'. To be sure, teaching young people to be responsible consumers of information is a laudable goal, but it also elides the ways that connective technologies obfuscate the technical and political-economic mediations that underwrite and overdetermine digital consumption practices long before they rise to a level where they can be evaluated for evidence of personal responsibility or negligence. Digitalisation, as we explore in the next sections, is a complex sociomaterial process that involves – but is not reducible to – textual practices. Consequently, digital literacy does not just reinforce digitalisation discursively, through the promises of the digital literacy myth; it also does so methodologically, by centring its pedagogical programme on the textual exchanges between users and technologies rather than sociomaterial relations that condition these encounters.

'Digital' literacy

In addition to 'literacy', the other component term, 'digital', also presents challenges for confronting digitalisation in and beyond education. Before addressing these difficulties, however, it is important to highlight the valuable work that a focus on 'the digital' has introduced into literacy research. While we

have spotlighted the shortcomings that follow from attending to digital literacy as a skill or practice, scholarship in this lineage has also been influential in challenging the common depiction of literacy as something that exists apart, and under threat, from digital mediation. Rather than demonising computer-mediated reading and writing as an inferior or corrupted approximation of print-based literacy, the 'digital turn' (Mills, 2010) in literacy studies – which includes many of those whose work we have outlined above – demonstrated that people engage with each differently and for different purposes – often in ways that resist easy classification as good or bad. Moreover, this work has also opened generative lines of inquiry into how teachers might intentionally integrate students' already-existing digital literacy practices into classrooms (Lankshear & Knobel, 2008) and encourage critical reflection about the process of creating and consuming texts in and outside of schools (Àvila & Pandya, 2012). In this way, research on digitally mediated literacy has been an important counterweight to the op-eds and public panics about how literacy is eroding in the face of technological change (Baron, 2015; Wolf, 2018).

In challenging normative claims about the value of print over digital literacy, however, one pattern in this work is that it can retain an overly tidy separation between 'the digital' and 'the non-digital'. In this view, digital literacy practices are commonly depicted as those we enter into intentionally – for instance, by picking up a mobile phone to send a digital message, or logging into a social media network to engage in digital interactions. Implicit in this framing is a sense that there is a non-digital world where literacy practices occur and a distinct, digital world where we engage in digital literacy activities. Commonplace as this understanding of 'the digital' may be, it has been challenged by growing scholarly literature inside and out of education. Sociologist Nathan Jurgenson (2012) uses the term 'digital dualism' to refer to the belief in a hygienic divide between on- and offline experience. Such a view, he argues, overlooks the dynamic ways that digital and non-digital forms of sociality inform one another, even if subtly or unconsciously. A person walking through their neighbourhood, for instance, may not be intentionally engaged in 'online' activity, but the phone in their pocket that tracks their steps and geolocation data and the passive surveillance of their neighbours' Ring cameras means that even their most mundane 'non-digital' practices are now intermediated by 'digital' relations. Recently, scholars across disciplines, including education, have begun using the term 'postdigital' to give language to the porous boundaries between the digital and non-digital (Cramer, 2015). In an editorial that anticipated the first issue of a new journal focused on the subject, *Postdigital Science and Education*, Jandrić et al. (2018) state this idea plainly: 'We are increasingly no longer in a world where digital technology and media is separate, virtual, or 'other' to a 'natural' human and social life' (p. 893).

A postdigital perspective complicates the conventional framing of digital literacy as referring to the skills and practices that people use to navigate digital environments. Indeed, researchers in the field of literary studies now argue that even the idea of 'print literacy', as a sphere distinct from 'the digital',

makes little sense. In *Postprint* (2020), literary theorist Katherine Hayles argues that even literacy activities that appear decidedly analogue – like reading a hard copy of a book – are increasingly shot through with digital intercessions: from the code that underwrites the manuscript text files, to the platforms that facilitate the acquisition, review, typesetting and proofreading processes, to the formatting standards that allow the same text to be read on cellphones, tablets, computers and dedicated e-readers. Even more, examples like these don't even begin to address the other, intimate ways that the form, content and accessibility of books is increasingly modulated by word processing platforms (Kirschenbaum, 2016), book retail algorithms (McGurl, 2021) and global shipping logistics (Alimahomed-Wilson & Reese, 2020). In other words, for as valuable as digital literacy research has been in challenging the superiority of print media in the popular imagination, it also has considerable limitations in a moment when the boundaries of where 'the digital' ends and 'the analogue' begins are virtually non-existent.

Reassembling 'the digital'

The concept of 'digital literacy' inherits, from its component terms, categorical conflations, which can diminish its efficacy as a pedagogical response to digitalisation. Its framing in the language of 'the digital' reinforces a dubious dichotomy between online and offline worlds, positioning digital literacy skills and practices as something people bring into digital environments, rather than something always already bound up with digital relations. Much like scholars have argued that concepts like 'the social' are not fixed domains but abstract assemblages that cannot be understood apart from consideration of the component actors and activities that constitute them (Latour, 2006), there is similar need, then, to contend with 'the digital' not as a distinct sphere but one imbricated with hybrid links to 'the analogue'. This argument has been the purview of a growing scholarly literature on *platforms* (Bogost & Montfort, 2009) – or software services and infrastructures that facilitate social, technical and economic exchanges (Gillespie, 2010). While the most familiar platforms are multipurpose giants like Google, Amazon, Apple and Microsoft, or social media services like Facebook/Meta, Twitter or TikTok, the term also applies to the constellation of networked technologies that increasingly underpin the ways we work, learn, shop, travel, diet, exercise and communicate. Platforms, in other words, are a boundary object between the digital and the analogue, the interface where online activities intermediate the offline, and vice versa Consequently, research in the growing interdisciplinary field of 'platform studies' (Burgess, 2021; Decuypere, Grimaldi, & Landri, 2021; Nichols & Garcia, 2022) works to take this hybridity as a starting point for inquiry rather than attempting to sever it into distinct categories.

One reason platforms lend themselves to this sort of hybrid analysis is their architecture. Unlike software of the past, platforms don't simply deliver a product or service to consumers; they simultaneously extract data from their

users and usage. Platform owners then use this data either to derive insights that can be folded back into the platform itself or into future product developments, or to sell to interested third parties. In this way, platforms are what economists refer to as 'multi-sided markets' (Sanchez-Cartas & León, 2021). Their everyday social users (i.e., their consumer-facing side) actively shape, and are shaped by, the economic interests of their owners (i.e., their business-facing side), and the technical features of their design (i.e., their development-facing side). The dynamic inseparability of these dimensions distinguishes a platform, such as Instagram, from a more fixed, single-function technology, like an overhead projector, or even from older, non-networked computer systems. The multi-sided structure of platforms has contributed to their rapid expansion across spheres of life – including many once spared from digitalisation. Platform owners have found enticing opportunities for growth by staking out some sector – healthcare, hospitality, transportation, education – and offering technical solutions to optimise its organisation and operation. Users, likewise, have been served by the convenience of these offerings and the promise that network connections and data processes can streamline, support or enhance their practices. The distinct aims of platform owners and users, in other words, reinforce one another. This has created hospitable conditions for platforms to extend their reach wider and deeper, into personal activities and relations (including teaching and learning), as well as institutional structures (including educational systems) – a process that scholars have termed *platformisation* (Helmond, 2015).

Platformisation, as a sociomaterial process, helps to clarify the limits of 'digital literacy' as a practice and concept for addressing the challenges of digitalisation. As we have argued above, the mythologies that digital literacy inherits from its framing as 'literacy' can, in practice, reinforce digitalisation by extending the goalposts for digital competence, driving people to perpetually pursue a receding ideal of 'literacy'. Similarly, the term's tidy separation of 'the digital' inhibits pedagogical transactions and practices that might interrogate, or intervene in, the ways digitalisation is already acting in and on various social settings. Digital literacy treats symptoms of digitalisation, in other words, leaving the underlying processes that produce them intact and unexamined. This is evident in the contradictory ways that digital literacy is commonly taught in schools today. It is not unusual, for instance, for students to participate in a digital citizenship curriculum that encourages them to adopt a critical disposition towards technologies by managing their privacy settings or being cautious about their personal data. And yet, these same students may also be required, as a precondition for accessing this curriculum, to create a Google account – subjecting themselves to third-party data extraction – so their teacher can share relevant assignments or provide feedback. Moreover, with advances in single sign-on technologies, educators may enrol their class rosters into such platforms even before students are given an opportunity to put their critical consumption skills into effect. Such ironies are commonplace in schools, in part, because of the binary implicit in the concept of 'digital literacy'.

When 'the digital' is something we consciously engage with (e.g., monitoring privacy settings) rather than an infrastructure for social existence (e.g., an architecture through which classroom assignments are distributed), this leaves little opportunity to hone understandings and practices tuned to digitalisation's hybrid relations, which converge in the platforms that increasingly permeate our activities and worlds.

An ecological alternative

As we have suggested, existing research on digital literacy has made valuable contributions in foregrounding digital media as a worthy, and urgent, subject for research and pedagogy. And yet, we also contend that the concept inherits important limitations. In recent years, scholars in the field of literacy studies have gradually come to recognise that the familiar frameworks for studying and teaching digital literacy are straining to address – much less to intervene in – the complexities of digitalisation and platformisation. This incongruity has yielded conflicting responses. For some, the spread of digitalisation ought to include an expanded understanding of literacy – one that includes not only functional skills and practices but also competencies related to code, data, privacy and algorithms (Hobbs, 2020), or *platform literacies* (Dezuanni, 2020; Vee, 2017). In other words, one response has been to retain 'literacy' as a guiding idiom, even as 'the digital' is expanded. There are advantages to such a view – it does not require a shift in language, and the terminology is already widely accepted. Yet, in line with our arguments above, there are also shortcomings: this approach continues the cycle of destabilising the meaning of 'digital literacy', creating new forms of digitally illiterate subjects, and then pushing them towards these expanded literacies. In other words, such orientations can leave intact the larger discourse of, and drive towards, digitalisation. Even more, it also stretches the term 'literacy' so broadly that it risks diluting its analytic and explanatory force even in those aspects of digitalisation that do pertain to texts (Buckingham, 1992; Gourlay et al., 2014).

Expanding the purview of 'literacy' is not the only alternative, however. In literacy studies, there has also been movement to attend to the sociomaterial relations that enjoin literacies and digitalisation in research, pedagogy and practice (Burnett & Merchant, 2020; Gourlay & Oliver, 2016; Leander & Burriss, 2020; Nichols & Stornaiuolo, 2019). Following scholars in the field of platform studies (Burgess, 2021; Plantin et al., 2018) and its upshots in education (Decuypere et al., 2021; Nichols & Garcia, 2022; Sefton-Green, 2021), we see potential in such an approach that considers how a pedagogical project might be keyed to platform ecologies that constitute and sustain digitalisation today. In our work, we have referred to this as an *ecological* orientation (Garcia & Nichols, 2021; Nichols & LeBlanc, 2021) to media pedagogy. Rather than cultivating skills and practices related to media texts, this orientation investigates digitalisation as something mediated through complex, platform environments whose multi-sided architectures embed their everyday usage with

conflicting imperatives. Media theorist José van Dijck (2013) suggests we can understand the imperatives of platform ecologies as falling into three interrelated dimensions: the social, the technical and the political-economic.

The *social dimension* of platforms refers to the uses and outcomes of platform processes. Research in this area focuses on platform users (i.e., consumers, producers and the forms of human labour that connect the two), or the content generated and circulated in platform environments (e.g., audio, visual, textual media; advertisements, products and services). This is the dimension of platforms that most closely overlaps with existing programmes for digital literacy, and it remains a subject of profound importance. Indeed, the proliferation of platforms demands even closer attention to the ways people work with, within and against digital media, and how these engagements are bound up with forms of social reproduction and resistance. Scholars have shown, for instance, how platform architectures both enable and inhibit young people's racial justice activism (Tanksley, 2022), as well as the ways users subvert platforms' default designs to align with their own interests and desires (Lizárraga & Cortéz, 2019). Research also demonstrates that students' uses of digital technologies often collapse our familiar frameworks for studying composing processes (Pandya, 2020) – a finding that suggests the need for new orientations to account for the relations among digitalisation, platformisation and literacy.

The *technical dimension* refers to the constellation of technical features that shape how platforms function and interoperate with one another – and how these dynamics enable, constrain and condition literacy teaching and practice. Research in this area can take many forms. Some have spotlighted the level of 'code' and the kinds of literacy practices involved in reading, writing and manipulating computer languages (Lynch, 2017; Vee, 2017). Others have investigated platform interfaces – the visible layout of objects on screens and the ways these design decisions encourage certain kinds of composing over others (Monea, 2020; Nichols & Johnston, 2020). And still others have examined how the multi-sided logic of platforms gets mapped onto the literacy classrooms where they are introduced – shaping both how teaching and learning unfold (Aguilera & de Roock, 2022) and how students are positioned and surveilled in schools (Robinson, 2020).

The *political-economic dimension* refers to the commercial and regulatory interests that drive the design, procurement, implementation and spread of platforms. Research in this area highlights the governance structures and business models that animate platform technologies and how these are braided into the literacy practices associated with their usage. Central to such research is the idea that platform technologies are always already embedded with power relations, and therefore, there is no neutral position from which they can be used (Vakil & Higgs, 2019). Scholars have traced how the allure of data-driven education, for instance, has led to the widespread adoption of platform technologies that generate tremendous value for their owners (Pangrazio et al., 2022). This research has led to efforts to develop frameworks

for understanding where and how students and teachers might carve out space for critiquing and resisting these extractive logics (Pangrazio & Sefton-Green, 2020; Stornaiuolo, 2020).

What an ecological media pedagogy offers, that programmes for 'digital literacy' struggle to, is an understanding that digitalisation is not reducible to any one of these dimensions – the social, technical or political-economic. Instead, it emerges from the agonistic and performative relations among all three (Nichols & LeBlanc, 2020). In previous work (Garcia & Nichols, 2021; Nichols & Garcia, 2022), we have illustrated this by drawing on van Dijck's (2020) suggestion that we think of platforms like a tree. Just as a tree's visible leaves, fruits and flowers depend on invisible circulations in its trunk and root system, the social uses and impacts of platforms are always conditioned by the technical and political-economic substrates. Even seemingly mundane activities – using a search engine, writing a social media post, entering grades in a learning management system – are guided by the interrelation of each platform dimension. Where digital literacy's emphasis on 'the digital' imputes a tidy distinction between these relations, and its emphasis on 'literacy' narrows attention to functional skills and critical dispositions at the expense of the larger media environment, an ecological orientation offers a frame for research and pedagogy that takes digitalisation, in all of its complexities, as a starting point.

Conclusion: after 'digital literacy'

Importantly, this ecological orientation also prompts new and pressing questions for researchers and educators. The social, technical and ecological relations that animate digitalisation and the platform environments that embed it in the infrastructures of everyday life do not lend themselves to tidy taxonomies of teachable skills or a step-by-step sequenced curriculum. However, as we have argued, the simplicity which frameworks for digital literacy offer has always been chimeric: they bracket the symptoms of digitalisation for inclusion in a pedagogical programme while eliding its underlying sociomaterial relations. What we forego in concreteness, then, by shifting to an ecological orientation, we make up for in a realistic perspective on the complexity, scale and stakes of digitalisation in and beyond education and the need for a pedagogical project commensurate with these dynamics. Articulating the contours of this project is beyond the scope of this chapter, but we see promise in many collective efforts now emerging in and outside of education. For instance, *Civics of Technology* (www.civicsoftechnology.org), a website run by Dan Krutka and Marie Heath, is providing a hub for lesson plans to support students and educators in civic inquiry about technology. Likewise activist organisations like the Algorithmic Justice League (www.ajl.org) and Tactical Tech (www.tacticaltech.org), and public art projects like Screening Surveillance (www.screeningsurveillance.com), are sharing open educational resources that can be used to enrich media education in, and beyond, schools. It is our hope that such projects are just the beginning, and that more coalitional work – among
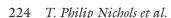
researchers, educators and students – continues to flourish across disciplinary and national boundaries. Such efforts may well require us to revisit, revise and reimagine our familiar frameworks for media pedagogy and to be willing to abandon those that have outlived their usefulness in our evolving media landscape. But it is only by doing so that we can cultivate a media education capable of confronting the complexities and impacts of digitalisation.

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