# *Digital literacies and language learning*

# Digital Literacies and Language Learning

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## Introduction

When we talk of digital literacies and language learning, we are not primarily talking about using digital technologies to learn languages. Nor are we talking about helping students become more skilful in using computers (usually referred to as 'digital literacy'). Rather, what we are interested in is how people's practices of using digital technologies affect and intersect with the ways they use and learn language, and how people's practices of using and learning language affect their use of digital technologies. Scholars interested in these intersections are concerned with how digital technologies have changed what language learners need to learn and their opportunities for learning it, and also how they have changed the wider social, political and economic contexts in which language learning takes place, and even what it means to 'learn' or 'use' a 'language' to begin with.

It is important to note that a preoccupation with digital literacies almost inevitably presupposes a certain understanding of language learning based on the kind of ideological pedigree the use of the (plural) 'literacies' implies. People who talk about literacies in the plural are signalling their alignment with The New London Group's (1996) pronouncement that traditional text-based, cognitive views of literacy are insufficient to prepare students for the increasingly complex, mediated, multimodal and multi-layered life worlds that characterise late modernity, and that what is needed is a 'multiliteracies' approach which focuses on preparing students to continuously adapt to new textual forms and new patterns of social interaction 'in work, citizenship and personal life' (Cope & Kalantzis, 2009: 166). This approach has its roots in a paradigm shift in literacy studies that began in the mid-1980's called the 'New Literacy Studies' (see e.g., Barton et al., 1999; Heath, 1983; Street, 1984), which advocated seeing literacy not as an individual skill but as a *social practice* in which people draw upon various resources in their social environments to enact certain kinds of social identities and advance certain values, ideologies and cultural understandings. This more sociocultural and pluralistic view of literacies aligns naturally with more sociocultural, pluralistic views of language learning (e.g. Lantolf, 2000) which envision language as inseparable from the situated, goal-oriented social practices in which it is used, and learning as a process of being socialised into these practices within communities.

Over the past two decades, researchers interested in digital literacies and language learning have focused on a range of everyday digital practices, mostly of young people (e.g. Ito et al. 2010), in which learners' 'desire to build expressive capacity [is] driven by its use value as a resource for creating and maintaining social relationships' (Thorne & Black, 2007: 148). These practices have included instant messaging (Jones, 2001), video-gaming (Gee, 2003, Steinkuehler, 2010; Thorne, 2008), mobile phone use (Warner, 2017), writing and sharing fan-fiction online (Black, 2008, 2009) and other practices of 'fandom' (Ito, 2011; Marsh, 2015), participation in online forums (Lam, 2000), chatrooms (Lam, 2004), social media sites (Alm, 2015; Pengrum, 2011), and online virtual worlds (Hafner, 2015; Steinkuler & Black, 2011), and the use of video and image sharing platforms such as YouTube, Instagram and

Snapchat (Albawardi & Jones, 2020, Benson, 2015; Valdivia, 2021). The focus of such studies has typically been on how the affordances of digital media make possible forms of meaning making and social interaction that facilitate socialisation into the communicative practices of various online communities and affinity groups (Gee, 2004). At the same time, these scholars have also pointed out how the ways in which people draw upon and use semiotic resources and interact with others in digital environments challenges many assumptions about language learning and language use that dominate language and literacy classrooms, where the focus is often restricted to spoken and written modes, mono-lingual production and adherence to abstract rules. Online, they have observed, language use tends to be more messy: more multimodal, heteroglossic, plurilingual, and flexible.

More recent approaches, however, have moved beyond this focus on technological affordances and forms of participation to consider the wider social, economic and political environments (Nichols & Stornaiuolo 2019) and the broader ecologies of communication (Tusting, 2017) in which these technologies and forms of participation are imbedded. This shift has largely come in response both to new technological developments (such as the rise of mobile technologies, augmented and virtual reality, big data analytics, artificial intelligence and the Internet of Things) and to growing concerns about the economic and political forces that govern digital media — including the increasing power big platforms (such as Google and Facebook) have over our everyday communication and their dependence on data extraction and surveillance (2019) as business models — as well as the social consequences of these economic and political conditions, such as the proliferation of 'fake news', the rise of online hate speech and cyberbullying, and the role the internet plays in political polarisation and the marginalisation of particular groups. This recent critical turn in digital literacies (Darvin, 2017) is based on the realisation that a socially informed approach to literacy must also be a socially engaged approach, one which sees language learning and digital literacies as part of a larger process of learning how to be a literate citizen in a digital society.

In this chapter I will review the main issues scholars interested in digital literacies and language learning have focused on, including multimodality and heteroglossia, connectivity and interactivity, and games and play. I will then consider more recent concerns that are driving work in this area such as mobility and materiality, translanguaging and transliteracies, and posthumanism and platform capitalism.

**Multimodality and heteroglossia**

A central concern of scholars of digital literacies from the beginning has been the way digital technologies have changed the way people are able to make meanings by drawing upon and combining different multimodal resources. This interest in how language interacts with other modes in all communication, and especially in digital communication, is part of more general widening of the focus in linguistics and language studies to consider a wider range of semiotic resources — visual, auditory, haptic— used in human communication, especially in the technological and superdiverse contexts of late modernity (Blommaert & Rampton, 2011).

From this perspective, composing in digital environments has come to be seen as a matter of *design* (Kalantzis & Cope, 2012; Kress, 2010) which demands of people not just an understanding of the semiotic intricacies of online multimodal texts (Adami, 2009, 2015) but also of the *processes* of *resemiotization* and *recontextualization* through which multimodal

resources get combined and repurposed ( Leppänen, & Kytölä, 2017; Leppänen et al. 2014) as they circulate through digital networks.

An important point to make about understanding meaning-making as a matter of *design* is that it is not just about 'adding' resources to language in order to make meanings more efficiently. Rather, a digital literacies perspective sees design as a set of *transformative* processes through, by creatively combining the resources available in different social situations, people are able both to change the nature of those resources and to change the social situations themselves. Design is, by its nature, a critical and agentive process. As Kress (2005: 20) argues: 'Design focuses forward; it assumes that resources are never entirely apt but will need to be transformed in relation to ... contingencies ... The focus on transformation rather than on acquisition makes the designer agentive.'

Related to ways digital technologies facilitate the mixing of semiotic resources is the way they facilitate the process of textual borrowing, the ability of people to easily appropriate and 'assemble' (Kress, 2003: 6) the 'voices' of different people, a process sometimes referred to as *remix* (Lankshear & Knobel, 2007; Stedman, 2012) or *redesign* (Pengrum et al. 2020). Despite its denigration by some as 'cut and paste' composition, redesign, like design, is at heart a critical, agentive exercise through which people do not just appropriate the meanings of others, but challenge and change them, while at the same time pushing the boundaries of society's legal and political structures around authorship, ownership, and cultural production (Lessig, 2008).

**Connectivity and interactivity**

A second major interest, especially in early work on digital literacies, has been the new forms of participation and social organisation made possible by digital media, and how they can contribute to language and literacy learning by providing people more opportunities to encounter language in use in real situations (Meyers, Erickson & Small, 2013), to interact with users of different languages and or people who use language differently than them (Barton & Lee, 2013; Leppänen, Kytölä, and Westinen, 2017; Thorne, 2008), and, most importantly to use language (and other semiotic modes) in the context of situated social practices within diverse communities (Barton & Potts, 2013). What makes these opportunities possible is the ability of digital media to *connect* people across culturally a geographically diverse spaces, and its ability to engage people in *collaborative* practices (Jones & Hafner, 2021, Chapter 11) in which they share responsibility for various creative products or outcomes (e.g. working together in a 'guild' or team to play a massively multiplayer online game, sharing the responsibility of editing an online encyclopaedia, or creating, circulating and reworking internet memes).

A key concept when it comes to online connectivity and collaboration is Gee's (2004) notion of 'affinity spaces' — loosely organised social settings where people gather to pursue common interests or passions and where practices of teaching and learning tend to be distributed among participants. Examples of such spaces include social network sites, blogs and wikis, online gaming environments and fan communities (Thorne, Black, & Sykes, 2009). What makes such spaces different from institutional learning spaces such as language classrooms is that affinity spaces are voluntary spaces of participation in which people *choose* to learn together and in which relationships tend to be non-hierarchal, with different people bringing to them different kinds of knowledge and expertise. Another thing that makes them different is that learning is less a matter of mastering an abstract body of knowledge or decontextualised set of skills as it is of mastering particular social practices and

forms of social interaction through which one is able to construct an 'identity' as a member of the group.

Attention to the ways people participate in online affinity spaces highlights the degree to which literacy practices are tied up with identity and processes of identity transformation, and the complexity of such processes as people move between and across online spaces, curating different identities and different forms of social presence in different spaces (Ito et al. 2010). For the perspective of language learning, this requires learning how to constantly negotiate different genres, interactional styles and community norms (Chun et al. 2016, Thorne and Black 2007).

Another important aspect of online interaction of interest to scholars of digital literacies has been the way digital media alter the participation frameworks (Goffman, 1981) for interactions, creating complex configurations of different kinds of 'speakers' and different kinds of 'listeners'. Social media platforms provide particularly good examples of how users develop various linguistic and semiotic strategies to manage the 'context collapse' (Marwick & boyd, 2010) that occurs when people find themselves communicating to more than one audience at once, strategies designed to hail certain users, exclude others, and to contextualize messages in particular kinds of ways (Androutsopoulos, 2014; boyd, 2010; Tagg, et al, 2017)

While early attention to patterns of online interaction participation focused mostly on their productive and 'convivial' aspects, more recent work in digital literacies has begun to attend to more troubling aspects such as cyberbullying and sexting (García-Gómez, 2019; Hauge & Roswell, 2020), tribalism (Jones & Hafner, 2021, Chapter 8), and the circulation of fake news (Pangrazio, 2018). There has also been increased attention to the way the platforms (Gillespie, 2010) which host affinity spaces play a role in shaping the kinds of interactions and the kinds of discourse that can take place in them based on the economic considerations of platform owners, and how this sometimes results in certain kinds of users and forms of interaction being promoted and validated and others being suppressed and marginalised (Darvin, 2017; Jones & Hafner, 2021, Chapter 7)

**Games and play**

Not surprisingly, a great deal of attention from digital literacies scholars has been focused on ludic and gamified online practices as sites for learning. The reason for this focus is not just the understanding that play, both online and off, provides rich opportunities for creative and collaborative meaning-making (Potter & Cowen, 2020), but also that practices such as playing computer games, participating in TikTok challenges, and reworking and sharing humorous memes engage people in practices of *problem solving* that often demand complex discursive and interactional skills.

This is particularly true of the communication rich environments of massively multiplayer online games (MMOG) (Steinkuehler, 2010; Thorne, 2008), which engage users in complex forms of 'reading' and 'writing, drawing upon various affordances of digital media such as interactivity, multimodality and multimedialty to tell stories and present arguments (Jones & Hafner, 2021, Chapter 9). Gee (2003) argues that video games constitute uniquely effective environments for learning because they engage players in embodied experiences (usually through avatars, but more recent with their physical bodies), challenge them to master not just new skills and routines but also the broader cultural models of the 'worlds' in which they play, and provide information and knowledge in a 'just in time' fashion that players can apply

right away to solve problems. Researchers more specifically interested in language learning have gathered empirical  vidence about the positive effects of game play on motivation, willingness to communicate, and language socialisation (Peterson et al. 2021; Reinders, 2017). Future work on the intersection between gaming and literacy/learning will focus on the new forms of immersive and embodied play made possible by augmented and virtual reality (Sadler, 2017).

There has also been considerable attention to the playful parodic practices people engage in using a range of applications from chat and messaging programs to social media platforms (Vasquez, 2019), especially those involving the deployment of multilingual and multimodal resources (Duemert, 2014). One growing area of interest has been the creation and circulation of memes in the form of image-macros (Harvey & Palese, 2018), animated-gifs (Gürsimsek, 2016), and short videos on platforms such as TikTok (Jones, 2021a).  More than a decade ago, Knobel and Lankshear (2007) argued that 'meming' constitutes an important 'new literacy' which involves not just inventive forms of meaning making but also inventive forms of engagement with cultural artefacts and participation in networks. More recently, associations have been drawn between the ludic literacies of meming and gaming and practices of political expression/activism and civic engagement more broadly (Neys & Jansz, 2019; Mihailidis, 2020; Seiffert-Brockmann et al 2018)

**Mobility and materiality**

The rise of mobile digital technologies and the increasing digitisation of the physical world have introduced new challenges for scholars interested in digital literacies (Jones & Hafner, 2021, Chapter 6) and new possibilities for the use of technology for language learning (Kukulska-Hulme, 2020). Mobile digital technologies have created a situation where people are 'always on' (Baron, 2010), always connected to digital networks. They have also changed the ways people interact and communicate with each other in and across physical spaces as well as the kinds of modes available to them in digital communication. Space and location have become increasingly important resources for digital communication, and the increasing convenience of video interactions and prevalence of wearable technologies have made meaning making and interaction through digital devices more embodied.

An interest in space and mobility among digital literacies scholars, however, is not new. More than a decade ago, for example, Lemke (2011: 143) urged scholars of digital literacies to attend to the ways 'meanings are made across time, across space, in and through matter', and scholars such as Leander and his colleagues (Leander, 2008; Leander & McKim, 2003, Leander et al., 2010 ), and Estad (2013) quite early on developed methodologies to trace the ways digital literacy practices 'travel' across online and offline spaces. A focus on the materiality  and 'artefactual' nature of literacy practices is also something with a long tradition (see e.g. Phal and Roswell, 2010) seminal work on 'literacies.'

One particularly fruitful line of inquiry which incorporates attention to mobility and materiality has been the study of the 'digital placemaking' practices people engage in using locative media and image sharing platforms such as Snapchat and Instagram (Albawardi & Jones, 2020; Dou, 20201; Wago, 2015). Another emerging area of interest is that of 'digical gaming' and augmented reality (Hockly, 2019). Finally, there is an increasing interest in the material literacies associated with digital devices as physical objects (Carrington, 2012).

Issues of mobility and materiality are particularly important in the context of the transnational mobilities of migrants and refugees, and an increasing number of literacy scholars (e.g. Capstick, 2020; de Hann et al. 2014; Lam and Warriner, 2012), have explored the ways migrants use digital technologies to facilitate movements across various spaces and maintain networks of information sharing and support across distances. Related to this is Mandianou and Miller's (2012) notion of 'polymedia literacies', which focuses less on the affordances of social media and more on how people, especially migrants, combine and contrast technologies in order to manage social networks and social relationships (see also Williams. 2017).

**Translanguaging and transliteracies**

Early work on online multilingualism tended to approach it through traditional monolingual idealizations of independent languages (Blackledge and Creese 2010), and to treat the practices of language hybridity that have always been a feature of digital communication through the lenses of 'code-mixing' and 'code-switching' (Androutsopoulos, 2007; Georgakopoulou, 1997). More recent approaches, however, have embraced more contemporary frameworks of polylingualism (Jørgensen 2008), translanguaging (Garcia & Li Wei, 2013). And heteroglossia (Androutsopoulos, 2011), which focus on how internet users draw upon diverse repertories of communicative resources and creatively 'blend' and 'mesh' them in ways defy traditional boundaries between 'languages' or 'codes'. Lizárraga, Hull and Scott (2015) use the term 'translingual literacies' to describe the configuration of skills necessary to participate in the ''multilingual ecologies' (Thorne et al. 2015) and 'semiotic contact zones' (Canagarajah, 2002) created by digital media. Often studies of translingual literacies have taken the form of case studies, where the unique translingual practices of particular individual are documented to show how they enact identities and forge relationships across particular local and transnational social fields (e.g. Kim, 2018; Schreiber, 2015).

Related to the new interest in mobility and transnationalism mention in the last section, a focus on translingual literacies and identities leads naturally to a wider focus on how digital media facilitate the construction of transcultural identities (Jones, 2020a) and the development of 'transcultural digital literacies', which Kim (2016: 199) defines as and 'using new technological affordances to learn, imagine, and create knowledge that traverses national boundaries and conventional cultural borders.' Stornaiuolo, Smith and Phillips (2017) have coined the term 'transliteracies' to describe their framework in which they try to capture the more dynamic, mobile and material aspects of translingual and transcultural practices online.

**Posthumanism and platform capitalism**

In response to growing concerns around such issues as the spread of misinformation and disinformation online, the prevalence of toxic (misogynistic, racist and xenophobic) discourse, the business practices of internet companies involving the collection of user data for advertising purposes, and the increasing use of algorithms and artificial intelligence to manage online information flows, current work in digital literacies has taken a decidedly more critical turn (Jones and Hafner, 2021, Chapter 7).

Earlier work on digital literacies, of course, also sought to engage critically with the changing landscape of communication brought on by digital technologies, seeking to highlight the 'historical, social, cultural, political, ideological, and value-centred relations of particular systems of knowledge and social practice" (New London Group, 1996:34). Despite this, however, these earlier perspectives tended to focus more on the 'intrinsically democratic potential' of the 'new' literacy practices made possible by the affordances of digital media (Tusting, 2017: 7, see also Pangrazio, 2016). Social and political developments of the past decade have given rise to the realisation that these same affordances also have the potential to exasperate social divisions and enable authoritarian governance.

Central to this new perspective has been the notion that understanding the communicative practices of internet users cannot take place in the absence of an understanding of the underlying *economic relationships* that govern the architectures of the platforms (Gillespie, 2010) upon which these communicative practices develop and of the economic and political motives of the owners of these platforms (van Dijck, 2013). Srnicek (2016) has coined the term 'platform capitalism' to describe the system of incentives that dominate the development of online tools and services, incentives based chiefly on the extraction of user data and the commodification of everyday interactions. Zuboff (2019) uses the more provocative term 'surveillance capitalism'. Under these conditions, criticality is not just a matter of helping people to better evaluate the quality of the information they encounter online, but also to interrogate the ways in which online platforms are designed to promote certain kinds of behaviour and certain kinds of interaction for the financial benefit of internet companies, and to understand that all interactions online take place within a matrix of power, profit and exploitation (Ekbia and Nardi, 2017; Nichols & LeBlanc, 2020).

In response to this new sensitivity to the wider political and economic dimensions of digital literacies, Pangrazio (2016) has advocated an framework in which the features of meaning making and interaction that have traditionally dominated digital literacy teaching are combined with a focus on how the technological structures of the internet are designed to produce and reproduce systems of power and privilege. Specifically, she suggests approaches which encourage students to explore links between their everyday affective responses to digital texts and broader ideological issues (see also Jones, 2021b). Similarly, Nichols and LeBlanc (2020) call for educators to adopt a 'platform orientation' to digital literacies which sensitise students to the ways their everyday activities online are conditioned by the social, technical and economic underpinnings of platform design.

Related to this new critical perspective is the growing acknowledgement that many of the literate practices people engage in online are increasingly governed by algorithms and protocols which shape the kind of information people are exposed to and delimit the kinds of actions they can take (Jones 2021b,c). Earlier scholars advocated for training students in computer coding and the 'procedural literacy' (Bogost, 2005) necessary to understand computer systems (e.g. Ruskoff, 2010). No amount of knowledge about computer programming, however, will result in complete understanding of the complex AI engines that operate beneath surface of computer interfaces. An alternative suggestion is helping students to develop the kinds of *inferential* skills they need to interact more critically with the 'black boxes' of digital technology, what Jones (2020) refers to as 'algorithmic pragmatics'. Others

have called for literacies grounded in resistance to the workings of algorithms, involving developing tactics of 'improvisations, patches and ingenuity … [to] generate unintended, alternative outputs to respond to the "broken-ness" or biased representational politics of algorithms' (Velkova & Kaun, 2019: see also Jones 2021b).

Finally, some scholars (e.g. Darvin, 2017; Darvin & Norton, 2015) have focused more on the social inequalities inherent in and sometimes exasperated by the use of digital technologies, pointing out that differences in home literacies, social networks and unequally distributed social capital can affect how people from different socio-economic backgrounds develop digital literacies. De Roock (2020) points out that in many ways these inequalities are designed into platforms themselves, which 'enrol us into the social arrangements of racial capitalism.' Scholars such as this argue that approaches to digital literacies must go beyond a focus on individual users and self-expression to embrace a broader social justice agenda.

## Conclusion

Many of the approaches discussed in the last section might broadly be seen as part of what Santo (2013: 2)) labels 'hacker literacies', which he describes as

> empowered participatory practices, grounded in critical mindsets, that aim to resist, reconfigure, and/or reformulate the sociotechnical digital spaces and tools that mediate social, cultural, and political participation.

At the same time, there is a danger in using the metaphor of the 'hacker', with its connotation of the lone dissident working to resist authority, to talk about critical literacies, because it distracts from the more collective and civic orientation that will ultimately be necessary to empower individuals and effect social and political change. Digital literacies in the future must foster in students, including language students, a sense the common good and empower them to take collective action (Mihailidis, 2020).

There is a growing sense that the focus of digital literacies education should not be on particular apps, platforms or individual users, but on *systems* (Bridle, 2018; Brown, 1986). This includes not just to techno-social systems with their protocols, feedback loops, and filter bubbles, but also the political and economic systems that underpin them. This means going beyond efforts to make our students more digitally literate, placing on them the burden of responsibility for protecting themselves, and also making politicians, designers and corporate CEOs more 'literate' in issues of equity, transparency and social justice.

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