Language and identity in the digital age

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Introduction

Technology in the twenty-first century has transformed the world in multiple, exciting and unanticipated ways. Facilitating the rapid flow of information, capital and services across the globe, it has dramatically revolutionised the way we work, communicate and interact with one another. More affordable travel, mobile communication devices, social media and online connectivity have enabled new patterns of movement and forms of social participation. In this digitally connected world, people move fluidly across online and offline spaces, blurring the boundaries of time and space and transforming notions of public and private domains (Gee and Hayes 2011). The concept of space has become more embedded in people’s imaginations, leading to new identifications, allegiances and relations (Warriner 2007). As technology continues to permeate all aspects of human life and transform the social order, it has impacted on language and identity in significant ways.

The digital revolution has transformed language by triggering an explosion of new vocabularies, genres and styles and by reshaping literacy practices. By developing a mode of communication where writing approximates speaking, instant messaging (IM) and texting have facilitated the production of new words and styles that bridge the interactive nature of speech and the documentary capacity of writing (Warschauer and Matuchniak 2010). The constant evolution of new media has also spurred the growth of multimodal affordances, enabling people to assemble texts that integrate language with visual, aural, gestural and spatial modes. Constructing new spaces of language acquisition and socialisation (Ito et al. 2010; Lam 2013), social media capabilities have facilitated cross-language interaction (Luke 2003; Warschauer 2009) and fertilised transcultural and translingual practices (Canagarajah 2013). Online users are not only able to produce and share texts with greater ease, but also get immediate feedback to remediate these texts, making people active creators in a society of reflexive co-construction (Cope and Kalantzis 2010).

By transforming language, the digital also transforms identity. Weedon (1987: 21) asserts that language is ‘the place where our sense of ourselves, our subjectivity is constructed’. Identity is constituted in and through language (Norton 2013), and we use language to articulate ideas and to represent ourselves and our social relations. Drawing on Weedon, Norton (ibid.: 4) defines
identity as ‘the way a person understands his or her relationship to the world, how that relation is constructed across time and space and how the person understands possibilities for the future’. Because a person’s sense of self and relation to the world continuously shifts, identity is dynamic, multiple and even contradictory. As the digital provides multiple spaces where language is used in different ways, learners are able to move across online and offline realities with greater fluidity and perform multiple identities.

As the digital reshapes language and identity, language learning also continues to evolve. Learners participate in the new spaces of socialisation afforded by the digital and continue to discover and engage in new ways of representing themselves through language and other modalities. For Norton (2013: 4), when learners speak, they not only exchange information, but also reorganise ‘a sense of who they are and how they relate to the world’. As they navigate multiple contexts of power, they perform different identities and continually negotiate a legitimate space where they can claim the right to speak. At the turn of the century, Castells (2001: 3) forewarned however that the inability to participate fully in technological networks can lead to ‘one of the most damaging forms of exclusion’. How learners are able to gain digital access and the literacies necessary to assert their place in an increasingly technologised world is thus an important concern for language teachers, researchers and scholars. As a social practice, learning is implicated in relations of power (Norton 2013), and the classroom, together with other learning contexts, can reproduce the inequalities of larger, institutional structures. How learners position themselves and are positioned by others shapes their investment in the language and literacy practices of these diverse contexts.

Recognising how technology has dramatically transformed language, identity and learning in the twenty-first century, this chapter aims to outline the seminal ideas and issues in language and identity research that have emerged from a perpetually shifting digital landscape. This chapter seeks to address the following questions:

• How have new linguistic structures evolved from digitally mediated communication?
• What new mindsets, literacies and strategies do learners need to develop as they navigate these spaces?
• What new means of representing and performing identities have become possible because of the digital?
• How does technology develop new modes of inclusion and exclusion for learners of different social positions?

By answering these questions, this chapter identifies the important issues and possible future directions in language and identity research for applied linguistics in the digital age.

Current issues

To understand how the digital has shaped language and identity, one has to recognise that there are different lens through which the social effects of technology have been examined. Jones and Hafner (2012) speak of a spectrum where technology is seen as beneficial to society at one end and harmful at the other. Dystopian perspectives suggest that technology destroys our ability to communicate and interact with others meaningfully and is responsible for shorter attention spans, language deterioration and erosion of privacy. On the other hand, utopian views of technology attribute progress and change to technology and regard it as something that will transform the world ultimately for the better. The limitations of these positions are that they
focus solely on technology itself without examining the social contexts in which technology is used and the intentions of its users. Technological determinism views technology as ultimately controlling thought and behaviour, where language and literacy practices are determined largely because of the affordances and constraints of the digital. On the other hand, ignoring the role of technology in societal transformation and regarding it as ideologically neutral would be a grave oversight; what we need is an approach that strikes a balance between these two views.

Recognising that social contexts and ideologies shape the way languages and identities evolve across space and time, this section begins by describing how technology has contributed to the transformation of the social order and necessitated the development of new mindsets and literacies. This section then examines how language practices and the performance of identities have shifted in response to the transformations in the social order brought about by technology.

**The new social order and the development of digital literacies**

According to Harnard (1991: 39), technology has set off a ‘fourth revolution in the means of production of knowledge’ that has accelerated the processes of globalisation. Increased connectivity and the speed of communication have facilitated a shift from manufacturing to ‘knowledge work’ focused on information processing and knowledge creation. In this knowledge economy, the production, distribution and exchange of information are vital, and the valuing of such capital results in new jobs and modes of productivity and raises the demand for certain skills. This shift changes institutions and transforms the economic structure (Lankshear and Knobel 2011). Organisations disseminate information rapidly in order to respond to global competition and new market challenges. Service workers are expected to be able to evaluate and find patterns in large amounts of data and to create social networks where this information can be circulated. Through the efficiencies of email, video-conferencing and instant messaging, work can be distributed over large geographical distances and a greater number of people can work from multiple locations, allowing increased flexibility and productivity, but also diminishing personal interaction and visibility within organisations (Jones and Hafner 2012).

Not only has the digital facilitated the growth of the knowledge economy, by providing new opportunities for representation, it has also enabled the construction and performance of multiple identities. Cope and Kalantzis (2010) assert that digital media create affordances and constraints in four areas, namely ‘agency’, ‘divergence’, ‘multimodality’ and ‘conceptualisation’. With regard to agency, consumers are viewed as active creators who produce their own media and differentiate themselves further through ways of speaking, seeing, thinking or acting. Audiences have become users who are able to engage more actively with media by providing real-time comments and feedback. Because of the greater capacity for creation and self-representation, users are able to take up more powerful positions as they participate in a range of diverse online communities. As these communities construct their own language practices, divergence becomes an issue as their discourses become less mutually intelligible. Multimodality – that is, the capacity to construct meaning through a variety of modes, such as images, video, sound and music – has become much easier and cheaper, allowing diverse representations of the self. Finally, the constant development and transformation of new media requires knowledge of constantly evolving social and technical architectures. Producing new media texts requires new skills of thinking not just in terms of conceptualisation, but also in how to navigate a media environment of seemingly infinite choices.
Apart from providing greater opportunities for individual agency in representing the self, digital media also enable a mobility that has become ‘the ideology and utopia of the twenty-first century’ (Elliott and Urry 2010: 8). As people and ideas are able to travel virtually, fluidity of movement has become the natural order to aspire to. Identities become unbounded and deterritorialised, no longer tied to fixed localities, patterns or cultural traditions. It transforms the way people work, enjoy leisure or develop intimate relationships, exerting new demands on the self, particularly as they negotiate private and public lives. This mobility also fuels a ‘networked individualism’, where people are connected while paradoxically controlled by scheduling, monitoring, surveillance and regulation. Blommaert (2013) characterises this state of mobility, complexity and unpredictability as ‘superdiversity’, where identities are differently organised and distributed over online and offline sites. Within this superdiversity, communities of interest that transcend national boundaries are able to connect and interact, shaping new global publics and forms of segmentation. While social media allows people to network, communicate and work in cyberspace with those who share interests with them, it may also encourage less social interaction in the physical space of local communities (Gee and Hayes 2011).

By facilitating new modes of productivity, representation and socialisation, technology has helped transform the stage on which language and identity is performed. The capacity of learners to participate on this stage, however, requires the development of new mindsets and literacies. Recognising how cyberspace operates on assumptions and values that are different from those of the physical world, Knobel and Lankshear (2006) speak of the need to develop a post-physical and post-industrial mindset, which views space as open, continuous and fluid, rather than enclosed in physical boundaries. For learners that are oriented to a digital mindset, learning no longer means operating in one place and doing one task at a time. Instead, it requires learners to operate in different locations online and to multitask. A digital mindset also views expertise and authority as no longer vested solely in specific experts and institutions, but distributed across social networks in which each possesses varying forms and degrees of knowledge. A greater focus on the co-construction of knowledge is demonstrated, for instance, by the collaboration of scholars in building repositories of information such as Wikipedia. With the continuous influx of available information online, there is also a greater emphasis on how to gain and structure attention, how to innovate successfully in contexts and how to break conventions and invent new rules. Because of the shared capacity to construct, redesign and disseminate information through the Internet, what is regarded as factual becomes more open to interpretation and reinvention. As Luke (2003) points out, knowledge acquisition has become even more contextual and situational, and hence learners need to develop critical literacy that will allow them to contest, deconstruct and critique the abundance of information that exists online.

As learners develop a digital mindset, they also need to develop specific literacies that can allow them to navigate this new social landscape. Jones and Hafner (2012: 13) define digital literacies as ‘the practices of communicating, relating, thinking and “being” associated with digital media’. As such, they involve: the ability to operate digital media tools and to adapt their affordances and constraints in particular circumstances; the process of encoding and decoding meaning through multimodal digitally mediated texts; and the capacity to construct and maintain relationships and identities through digital practices (Snyder et al. 2002; Warschauer 2009; Jones and Hafner 2012). Because of the abundance of technologies and information, learners have to develop the ability not only to adapt and decide which technologies would support their purposes, but to synthesise online information effectively and appropriately. Interaction, dialogue, negotiation and contestation become intrinsic to digital media, where meaning-making is marked by simultaneous decoding, production and
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interaction. As learners navigate through a multiplicity of texts, they need to employ greater lateral thinking so that they may move across disciplines, genres, modalities and cultural zones and negotiate the intertextuality, transculturality and intermediality that characterise this new order (Luke 2003).

**The transformation of language**

By reshaping the social order and the ways we interact with one another, the digital inevitably transforms language. At the same time, language, as a way of making meaning, shapes our lived experiences. New media enables new forms of communication, which have been researched in several ways, such as by examining the linguistic features of digital communication and the identities of the users of media and their relationships with their interlocutors (Lankshear and Knobel 2011; Jones and Hafner 2012). By enabling the use of written language in ways that are similar to face-to-face oral language, digital media allow the interpretation of the written in flexible, dialogic and interactive ways. Control is less top-down than traditional modes of communication and there is a notable increase in diverse semiotic modes such as images, music, sound and visual effects. Online participation also enables cross-language interaction, where users for instance can shift between English and romanised Cantonese and assemble mixed idiomatic expressions (Warschauer 2009). Multiple studies have analysed how participants in different online spaces, such as blogs, online games or social networking sites, use language in ways that are specific to these contexts, resulting in social variations of digitally mediated discourse (Thurlow and Mroczek 2011; Barton and Lee 2013).

**Shifting linguistic patterns**

Because of its interactivity, text-based digital communication can be synchronous or real time, such as chat and instant messaging, or asynchronous or delayed, such as email and blogs. Some digital media also limit the number of characters allowed in one turn, resulting in a proliferation of acronyms and abbreviations. In a study of storytelling styles on Facebook, Page (2012) notes the prominence of an affective discourse style, marked by a high degree of intensification – capitalisation, repeated exclamation marks, repetition, exaggerated quantifiers, such as ‘all’ and ‘everyone’, and frequent use of boosters, such as ‘very’, ‘really’ and ‘so’. The subject matter of self-reporting updates typically focuses on the minutiae of everyday events: the weather, the user’s mood, travel, leisure or domestic activities. As users write about opinions, reactions and emotional responses to life experiences, this linguistic pattern of intensification suggests that users believe some form of exaggeration is needed to make their mundane stories of ordinary everyday events ‘tellable’ on social media.

In terms of structure, the language used in interactive media has been observed to have specific linguistic features, as can be seen in Box 33.1.

While in face-to-face communication we use facial expressions, gestures and tone to provide enough contextualisation clues in communicating meaning, digitally mediated text uses the linguistic features in Box 33.1 to convey meaning. However, this does not mean that there is a one-to-one correspondence between emoticons and facial expressions, or between non-standard spelling and actual speech (Jones and Hafner 2012).

**Diverse semiotic modes**

The evolution of digital media with its shift from page to screen (Snyder 1998) intensifies the use of a multiplicity of modes, including the visual, aural, gestural and spatial, for conveying
meaning. Language loses its privileged position in the digital world as the meaning of a message is increasingly constituted by a range of modes. For Kress (2003), this requires a shift from linguistics to a theory of semiotics that accounts for gestures, speech, image, writing, 3D objects and music (see Domingo, this volume). One specific example through which learners have been able to express themselves using multiple modes is digital storytelling. Through brief personal narratives told through images, sounds and words and assembled using new media (Darvin and Norton 2014a), learners are able to identify and reflect on pivotal moments of their life and find new opportunities for creation and collaboration. By borrowing and repurposing different multimodal elements, they are able not only to claim greater authorial agency, but also employ means of expression that are not limited to language. Elsewhere, in a study of the creative process of ninth-grade students as they produce their own digital stories about an odyssey of self, Rowsell (2012) demonstrates how multimodality can be a means to represent their lived histories and how students’ individual creative expression was able to effect subtle shifts in ways of thinking. Because digital stories have few constraints, they provide learners with opportunities to improvise their ideas, values and histories and reposition their identities.

By assembling different modalities to construct meaning, digital storytelling provides new opportunities for language use. In a study of second language learners producing videos for children in other countries, Toohey et al. (2012) demonstrate how digital storytelling can allow learners to draw on their rich linguistic and cultural repertoires. Because bilingual practices were legitimised, learners were able to use English to show their L2 competence and use their first language to share their linguistic and cultural knowledge. As a multimodal performance, digital storytelling, like drama, has the capacity to become a heteroglossic combination of languages, voices and accents (see Creese and Blackledge, this volume). It allows an audience to hear different languages in a heteroglossic mix and without words being made ‘other’ through the use of italics or parentheses in written text (Darvin 2015).

Multilingual encounters and translingual practices

Within the online world, new multilingual encounters have emerged as people are able to connect with a global network. Barton and Lee (2013) point out that an increased use of local

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**Box 33.1 Linguistic features of text-based digital communication (Jones and Hafner 2012: 67)**

- frequent use of acronyms (e.g. ‘btw’, ‘lol’)
- shortened forms (e.g. ‘k’ for ‘okay’)
- less attention to standard spelling, capitalisation and punctuation
- letter homophones (e.g. ‘u’ for ‘you’, ‘oic’ for ‘oh, I see’)
- creative use of punctuation (e.g. multiple punctuation such as ‘!!!!’ or ellipsis marks: ‘…..’)
- spelling based on sound, sometimes to mark a regional accent or special style of speech (e.g. ‘kewl’ or ‘coooooool’)
- lexicalisation of vocal sounds (like ‘umm’, ‘uh huh’, ‘haha’)
- emoticons and other keyboard-generated graphics (e.g. ‘=.=’)
- creative use of typographical space and layout
- formulaic openings and closings (e.g. ‘sup’, ‘bb’)

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languages among diasporic communities online has led to a multilingual Internet and enabled local and global participation that assert new identities. According to Barton and Lee, when multilingual speakers communicate online, the language they choose to use is dependent on the situated language ecology of individual users. This takes into account geographical, educational, linguistic, social and cultural backgrounds, but also considers the intended audience and the subject matter of whatever is posted. Code-switching for instance serves as a means for users to perform their ethnic identity and signal their affiliation with a specific community. At the same time, the availability of online translation tools allows people to access more information and to participate in online forums that accommodate different dialects and languages.

Through technologies such as Google Translate, which relies on bilingual text corpora to identify frequently recurring translations, online users are able to participate in a greater number of multilingual exchanges. While languages like English enjoy a high status and are widely used online, the accessibility and reach of digital media also enables the use of minority languages. In a study of language choice in online contexts among young professionals in Cairo, Warschauer et al. (2002) discovered the use of Romanised Egyptian Arabic, which is rarely used in offline contexts and writing, but which was revitalised and documented through online exchanges. Another example of an online bilingual project is the African Storybook Project (SAIDE 2015). Led by Norton and other scholars, this provides online open-access to digital stories, available in English and a number of African languages. By providing a library of stories for young learners in sub-Saharan Africa, the project helps develop literacy in a range of mother tongues and second languages.

While digital media enables multilingual encounters and cross-language relations, it also facilitates translilingual practices. These focus on the communicative processes across different groups in the digital space rather than within a geographic speech community. As Canagarajah (2013) points out, digital communication, together with migration and transnational relations, have encouraged textual co-construction, collaborative meaning-making and different types and degrees of language mixing. While multilingual indicates the combination of separate languages, translilingual signals how languages mutually influence each other and produce new hybrid meanings and grammar. The meshing of diverse languages and modalities in digital texts results in unconventional idioms and word choices. In Canagarajah’s study, a Saudi Arabian student who code-meshed Arabic and English justified her creation of idioms like ‘storms of thoughts stampede’ as a stylistic choice that rejects a native-speaker perspective (2013: 52). Because the translilingual addresses the linguistic synergy that arises during interaction, Canagarajah asserts the need for a model of negotiated rather than situated literacy. In other words, an orientation to literacy that recognises texts as co-constructed and performed in time and space rather than pre-constructed and embedded in local cultural systems.

The evolution of identities

As the digital has shaped language practices and provided dynamic ways of making meaning, it has also provided new opportunities to construct and represent online identities. Through digital affordances, learners are able to perform multiple identities, such as blogger, photographer, gamer or designer, and to document and display their lives through various modalities. This presentational culture, where multiple aspects of one’s life are shared with different kinds of audiences, alters notions of private and public spaces and affects the way we perceive ourselves (Barton and Lee 2013). Because of mobile devices that are perpetually online, constant accessibility and availability leads to constant surveillance and there is little time for being idle.
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Taking a picture and uploading it or posting a status update in real time has become a naturalised activity for many social media users. Through location services, geographical representations of an individual’s actual position are recorded, and this displacement of the self, geographically represented in real time, blurs the boundaries between online and offline reality (Kress 2009). Because of the agency afforded by digital platforms, online users have the possibility of differentiating themselves in online interactions and postings as well as participating in a range of online discourse communities. As a tool that mediates interaction, the digital becomes an extension of ourselves and transforms what we can do and mean, how we think and relate to others and who we can be (Jones and Hafner 2012). Whether we are emailing a colleague, tweeting to the general public or posting a status update on Facebook, we adapt digital affordances to specific contexts, relations and identities.

New spaces of identity construction

Online spaces have become increasingly important arenas for the development of social identities. The networks in these spaces are constructed through technology and the imagined collectives that emerge from interacting in these spaces (boyd 2014). Within these spaces, defined by boyd as ‘networked publics’, learners are able to engage with others and negotiate shared values and norms of collective behaviour (Facer 2011). Online modes of socialisation provide new contexts for using and developing literacy. It may also be that the asynchronous and virtual world makes it a less threatening mode for social interaction for some learners. In a study of youth culture and social network structure in new media, Ito et al. (2010) classify genres of participation according to their purpose. ‘Friendship-driven practices’ are dominant and mainstream practices that involve everyday negotiations with friends and peers; instant messaging, social network sites and mobile phones become ways to negotiate these friendships. As Ito et al. point out, digital practices become a form of socialisation among peers, the equivalent of ‘hanging out’. ‘Interest-driven practices’, on the other hand, are those where learners engage with networks that focus on specialised activities that revolve around particular interests. By focusing on interests, hobbies, career aspirations and so on, interest-driven practices allow participants to collaborate with online users of diverse ages and backgrounds.

An example of the online construction of identities can be found in Thorne and Black’s (2011) study of Nanako, an English language learner, on an online fan fiction site. Thorne and Black demonstrate how composing and posting online fan fiction can provide learners with new opportunities for learning and performing identities. By appropriating and integrating popular cultural and linguistic resources to construct fan fiction texts and by interacting with a diverse group who shared a common interest in anime or Japanese animation, Nanako was able to get feedback on her writing and demonstrate her knowledge of Chinese and Japanese language and culture. This dynamic enabled her to negotiate identities of novice and expert, while affirming her Asian identity and knowledge of Asian culture as capital. To frame their analysis, Thorne and Black focus on the conditions and affordances mobilised in the digitally mediated context. These are set against three dynamics in Internet-mediated interactions: indexical linkages to macro-level categories (ethnic or nation-state affiliations); functionally defined subject positions (e.g. youth, author, expert, novice), and fluid shifts in language choice, stance and style. By analysing these interactions, they assert how language development in these online spaces is interconnected with the construction of identities. As Cope and Kalantzis (2012) point out, as developing digital literacies encourages participation, learners are able to engage with issues that interest them and bring their identities to the learning process.
Performance of multiple identities

Blommaert (2005: 207) defines identity as ‘particular forms of semiotic potential, organised in a repertoire’. By assembling semiotic resources, people are able to construct ‘identity repertoires’ that enable a performative approach to identity (see Baxter, this volume; Jones, this volume). The range of identities available to learners are then linked to the range of available semiotic resources. Recognising how youth growing up in this mediated digital culture have a plethora of ways to represent themselves, Stornaiuolo et al. (2009) argue that such limitless options complexify, extend and change self-identifications. By communicating across multiple symbolic systems in the online world, individuals can imagine new identities and ways of being in the world. They are able to share these self-representations with diverse audiences, who may interpret the meanings of these representations in very different ways. Weber and Mitchell (2008) highlight how the shaping of identity online is characterised by playful and deliberate creative assembly. Because people can present different identities as they select audiences and anticipate comments and reactions, a dialectical relationship arises. People textualise themselves in social media and perform carefully managed practices of identity to project a self of their choosing (Davies and Merchant 2009).

On social media platforms, such as Facebook, requiring authentic identifiers in the form of real names and affiliations, the performance of the self is based on already established social roles. When users update their status to express their thoughts, they offer a representation of the self, based on the online socialisation they have already experienced. Even the profile picture demonstrates an identity and invites other social meanings (Ellis 2010). In social media, status updates become rhetorical performances, not transparent representations of reality, and the performance of sociality is shaped by the way the interaction is enabled and valued (Page 2012). For example, through the process of tagging, Facebook friends are able to post pictures and links and send messages to each other’s Wall, contributing to the construction of an online identity. To maintain a profile that corresponds with a chosen agenda, the Facebook user must thus function as a curator, who selects what to publish and what to delete in order to compose a coherent narrative of the self.

Future directions

Recognising how the digital revolution has shaped new debates in literacy development, language use and identity construction, I outline future directions for applied linguistics research in this section. Three areas that will be increasingly significant in studies of language and identity in the digital age are identified: transforming pedagogies, designing innovative methodologies and examining digital inequalities. Focusing on these areas of teaching and research can help learners of different social positions not only develop new literacies, but also imagine new powerful identities.

Transforming pedagogies

As technology continues to provide a vast and complex digital set of information and communication possibilities, language and literacy will continue to be transformed. This presents important implications for the way language and literacies are taught. The ongoing digital revolution means that learners are likely to become more aware of hybrid linguistic systems and non-standard varieties, blurring the roles and objects of study of applied linguists (Hall et al. 2011). The merging of
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the written and the spoken in the online world requires a shift from viewing the two as dichoto-
mous. Instead, there must be an effort to understand digitally mediated language practices as a
whole, where spoken instructions are carried out on phones and computers and where talking is
not necessarily to or by real people. Core units of sociolinguistics such as variation, contact and
community need to be reassessed (Lankshear and Knobel 2011), and the notion of conversational
turn needs to be rethought when it comes to considering the dynamics of online chat. New pos-
sibilities of linguistic organisation such as framing, animation and the hypertext link have to be
integrated into the development of Internet linguistics (Crystal 2011). To understand further these
shifts in the digital world of language and learning, Norton and De Costa (in press) propose new
research populations and under-researched social categories that need to be explored further.

Cope and Kalantzis (2010) believe that pedagogy must adapt to the new communicative order
in four dimensions, namely ‘designers’, ‘learner differences’, ‘synaesthesia’ and ‘metacognition’.
As designers, learners are able to draw on different resources such as community, environ-
ment and family to actively create experiential, conceptual, analytical and applied knowledge.
Schools need to not only recognise learners as knowledge producers, but also acknowledge
their diverse histories and identities and incorporate strategies of inclusion. By enabling learners
to link the particularities of their life experience to the knowledge they produce, school can
provide opportunities to represent the material (class), corporeal (age, race, sex and sexuality)
and symbolic (culture, language, gender, etc.) differences of learners. Classrooms need to engage
mode shifting, or synaesthesia, as a pedagogical device so that learners of different dispositions
can find particular forms that allow them to express their identities. As digital media provides
more opportunities to produce and disseminate knowledge, learners are also able to develop
metacognition. Through active conceptualisation and inductive thinking, they become capable
of building abstract frameworks and schemas that can cross over different disciplines.

In Learning futures, Facer (2011) forecasts how technological developments will continue to
transform critical aspects of education and discusses how the role of schools in communities
and curricula need to be reimagined as digital and physical artefacts merge and as the capacity
to manage and mobilise social networks becomes more significant. Multiliterate learners will
need to be able to draw from the proliferating modalities of the digital to represent and circulate
knowledge from intersecting disciplines. To become critical contributors to the knowledge
economy, there has to be a sharper understanding of how hardware and software structure
our capacity for representation and comprehension. Recognising these new literacy needs of
learners, Darvin and Norton (in press) discuss how critical pedagogies can respond to the new
structures and relations of power that have emerged in digital times.

Innovative methodologies

Technology-enabled research on language and identity

Through the rapid development of new digital technologies, researchers are able to examine
the individual and sociocultural dimensions of language use in new and exciting ways. Corpus
technology, for instance, allows users to access corpora, principled collections of electronic
texts available for qualitative and quantitative analysis (O’Keefe et al. 2007). By enabling the
systematic examination of word frequency or key word collocations in specific corpora, this
technology allows a greater understanding of the linguistic repertoires of learners and the lan-
guage patterns of communities. In a study of computer-mediated communication in an academic
setting, Temples and Nelson (2013) used corpus-based analysis to understand the intercultural
relations among students and the ways they negotiated online discourse to construct identities and develop a sense of community. The researchers examined the 150,000-word corpus of the online forum posts of 11 Canadian, Mexican and American female graduate students on an exchange programme. By detecting patterns in the use of personal pronouns I, we and you, Temples and Nelson were able to draw conclusions about their level of interactivity and how they generated a discourse that crossed and merged cultural and linguistic boundaries.

In a corpus-based investigation of SMS language used by mobile phone users in Switzerland, Dürscheid and Stark (2011) were able to collect 23,988 messages from 2,627 people in Swiss-German, Standard German, French, Italian, Romansh and other mother tongues, and the demographic data of these participants. This corpus is intended for further research to examine language choice and code switching, and to detect for instance if there is a correlation between the age of texters and their choice of Standard German versus Swiss-German. By focusing on text messaging conversations, studies are also able to look into the relationship between interlocutors and to compare the linguistic strategies of the different language groups in maintaining social relationships, for instance the sending of ‘good night’ messages.

New methodologies

Digital literacies are interconnected with other literacy practices and aspects of material culture, and thus Leander (2008: 37) proposes a ‘connective ethnography’, which he defines as ‘a stance or orientation to Internet related research that considers connections and relations as normative social practices and Internet social spaces as complexly connected to other social spaces’. He asserts that novel solutions are required to study this field of relations, which no longer necessarily requires a physical displacement but experiential displacement, as researchers have to move fluidly across multiple sites. For Marsh (2013: 208), ‘auto-cyber-ethnography’, as an ethnography that focuses on describing the experiences of the researcher in specific virtual contexts, is one dynamic way for virtual world users ‘to investigate their own literacy histories in online environments over time’. Stornaiuolo et al. (2013), on the other hand, propose a mix of qualitative and quantitative data in studies of learners’ authoring process across online and offline spaces, multiple languages and semiotic systems. The plurality of sites leads to a multiplicity of data and, because networked spaces are hybrid spaces, Stornaiuolo and Hall (2014) posit that methodological approaches have to be multidimensional, that is, they must take into account this data across contexts and over time, including the meanings digital artefacts take on long after they are created. According to Stornaiuolo and Hall (2014: 28), tracing the movements of people, texts and ideas in cross-contextual meaning is a methodological challenge in digital contexts and this asserts the need to trace ‘resonances’ or the ‘intertextual echoing of ideas across spaces, people and texts’.

Digital inequalities

While there has been much research on how digital affordances have led to new language use and identity performance, the social and educational inequalities that emerge from technological innovation have received less attention in language and identity studies. It is important to understand that the development of digital literacies occurs in broader social, political and economic contexts. As advanced capitalist countries transition to post-industrial capitalism, where material production is replaced by information processing, being able to use technology has become ‘the critical factor in generating and accessing wealth, power and knowledge’
(Castells 2010: 93). Prinsloo and Rowsell (2012) point out that, when technologies migrate particularly to the spaces in the globalised periphery, there are specific constraints that determine if and how these resources will be taken up. They are, just as Blommaert (2005: 83) views language, ‘placed resources’, and the specificity of place, and its material conditions and social practices, largely determine the means and ways through which these resources are activated. When digitisation is set against the wider backdrop of society, tensions and imbalances of power begin to surface. How one is able to access technology is not only dependent on one’s possession of economic capital, but also contingent on government, institutions and policies that enable such access. At the same time, being able to cultivate specific digital tastes can be linked to social class (North et al. 2008). Recognising which digital tastes are valued as symbolic capital in school and work contexts is an area that requires greater attention in language and identity studies.

To fill this research gap, Warschauer (2009) calls for an ideological model of digital literacy to examine how power shapes the development and practice of digital literacies. An awareness of the material contexts in which online literacies develop enables a broader, situated examination of language and identity, that confronts rather than erases existing inequalities. The challenge for those who research the evolving nature of digital literacies is to not overlook the dynamics of race, class and gender that impact these shifts. More comparative studies of digital practices of different communities need to be conducted, to understand the new modes of inclusion and exclusion that emerge through the digital. By incorporating issues of power into the study of online contexts, research would be able to examine the privileging and marginalisation of languages, identities and forms of knowledge. With regard to this, Luke (2003) advocates a critical digital literacy that articulates a ‘metaknowledge’, or a self-reflective analysis of the sociocultural and political contexts of these technologies at local and global levels. To capture the dynamic and mobile nature of new media, language and identity research needs to develop concepts and methodologies that allow for a provisional and transformational epistemology.

A new model of investment

Responding to the need for a more critical understanding of how power operates in language and literacy practices in the digital age, I have developed a model of language learning with Norton that locates investment at the intersection of identity, capital and ideology (see Figure 33.1) (Darvin and Norton 2015). This model extends theories of identity and investment developed in Norton’s earlier work (see Norton Peirce 1995; Norton 2013) and is designed to address the realities of a new world order, where labour has become more individualised and where more social processes have migrated to the virtual. As learners retreat into private, isolated spaces, navigating both online and offline worlds, the mechanisms of power become more invisible, making it increasingly difficult to recognise how specific communicative events are indexical of macrostructures of power. This model of investment aims to draw attention to how ideologies collude and compete, shaping learners’ identities and positioning them in different ways, as learners move fluidly across online spaces. The value of a learner’s economic, cultural or social capital shifts as it travels across time and space. It is subject to, but not completely constrained by, the ideologies of different groups that determine how the capital of learners is ‘perceived and recognized as legitimate’ (Bourdieu 1987: 4), and whether it is deemed worthy of being transformed into symbolic capital. How educational institutions recognise the linguistic and cultural capital of learners as symbolic capital is likely
to have an impact on the extent to which learners will invest in off and online language and literacy learning practices.

**Case studies**

In a comparative case study of two adolescent migrant Filipino learners, John and Ayrton, from different social class positions in Canada (Darvin and Norton 2014b), Norton and I examined how differences in economic, cultural and social capital can shape divergent digital literacies and language use. Raised solely by his mother, John struggled with learning English when he first arrived in Canada. His social network was almost entirely Filipino and his family spoke only Tagalog at home. The family shared one desktop computer, which the mother used to do Facebook and to watch Filipino soap operas. Mirroring his mother’s preferences, John saw technology as an entertainment tool and used it primarily to play games. In contrast, Ayrton, who lived in a wealthy neighbourhood and spoke English almost exclusively at home, saw technology as a rich source of useful information, which could realise powerful imagined identities. Taking after his entrepreneurial father, he enrolled in an online course on currency trading, which allowed him to interact with professionals from different parts of the world. In this case, the differences in socioeconomic status and technology role models shaped their perceptions of what technology is for and the digital literacies they developed.

In a similar ethnographic study of the media engagements of two families from contrasting socioeconomic settings in South Africa, Lemphane and Prinsloo (2014) demonstrate how the use of different technologies result in different language and literacy practices. The middle-class children who had digital devices and unlimited broadband connectivity gained access to more English language resources, allowing them to develop topic-specific vocabulary and meta-awareness of language. Adapting avatars that became identity markers, they were able to experiment with different accents and become familiar with global middle-class cultural references, while developing class-specific dispositions. The working-class children, on the other hand, had only mobile phone access, and the games they were able to play on these devices provided few language development opportunities. They spoke mostly a colloquial version of isiXhosa, indexical of their working-class status and unvalued in school. In this context, the contrasting digital practices lead to different resources, tacit knowledge and habits that may or
may not be bridged to school literacies. Such differences have significant implications for the educational and life trajectories of learners and their ability to exercise agency.

As applied linguists look to the future of language and identity research in the digital age, the need for an ideological model of digital literacy becomes even more crucial. How people navigate and participate as legitimate members in digital spaces requires being able to employ appropriate language registers, styles and modalities. The digital world shapes its users’ identities and enables them to imagine other powerful identities, which may or may not be realisable in the physical world. Through situated and local analyses of how power operates in online spaces, research can shed light on how online identities are negotiated and how more equitable literacy development can be achieved (Warschauer 2009). Only by examining these issues through a critical lens can we ensure that the pursuit of technology redresses rather than exacerbates social divides.

Summary

This chapter examined language and identity in the digital age. It began with an overview of how technology has transformed the arenas in which communication and social participation take place. While trying to avoid the pitfalls of technological determinism, it has to be recognised that technology has been incorporated into practically every aspect of human life, domesticated and made natural, if not invisible. As discussed, not only have technological innovations led to new forms of labour and modes of productivity, they have also enabled a mobility that allows people to traverse transnational spaces and to oscillate between online and offline worlds. Through new media and connectivity, the boundaries of ‘here’ and ‘there’ are blurred, and it is this fluidity and unboundedness that mark this new social order. To participate fully in societies in which technology has become the critical factor in acquiring economic, cultural and social capital, individuals need to adopt a digital mindset that operates with different assumptions and values. As knowledge becomes broader, and more contextual and contestable, greater lateral thinking is needed to navigate through disciplines, genres, modalities and cultural specificities. The ability to assert identity becomes inextricably linked to being able to gain the attention of specific audiences and to use innovative communicative strategies. Online users consume and actively create texts by using multiple modalities and engaging with various audiences in a state of reflexive co-construction. Hence, the adoption of new literacies becomes necessary to exercise agency and to participate in the digital world.

The chapter went on to consider that when people occupy online spaces they reconstruct language in ways that match the affordances and constraints of various digital platforms. Whether communication is synchronous or asynchronous, the limitations of space and the speed in which texts can be delivered have led to the evolution of linguistic structures that merge the written and the spoken. Digital media have enabled easy access to and use of multiple modalities. Social network structures that connect people from all over the globe have provided more opportunities for multilingual encounters and translingual practices, revitalising languages and asserting new identities. Because of these new areas of socialisation that provide multiple opportunities for self-representation, identity itself has become more complex and fluid. In the digital world, online users are able to perform different identities through creative assembly, aligning themselves with different communities and imagining other identities. Participation in ‘networked publics’ (boyd 2014) that transcend geographical boundaries appear likely to shape affiliations, allegiances and notions of citizenship. As was argued, through this reconfiguration of relations, new modes of inclusion and exclusion develop that pose new challenges in the imagination of a just and equitable society.
Finally, the chapter considered the range of opportunities and challenges in applied linguistics research, particularly in studies of language and identity in the digital age. Technology has enabled new possibilities to understand how language is learned and used. New methodologies that reflect the fluidity of space and the imbrication of online and offline realities are beginning to emerge. These developments call for a linguistics that more adequately captures the particularities of text-based digital communication and that integrates a theory of semiotics, especially as digital texts draw significantly from multiple modalities. While early research on digital literacies may have been to a certain extent more celebratory, prescriptive or cautious, future work needs to delve deeper into the social differences of access to and use of technology and the operation of ideologies in digital spaces. By exposing the structures and relations of power that are fortified and concealed by technology, language and identity research can generate a more critical awareness of the construction of truth and the reproduction of inequality in the digital age.

Related topics
Positioning language and identity: poststructuralist perspectives; Critical discourse analysis and identity; Linguistic practices and transnational identities; Identity in post-colonial contexts; Class in language and identity research; Ethics in language and identity research; Language, gender and identities in political life: a case study from Malaysia; Straight-acting: discursive negotiations of a homomasculine identity; Language and identity research in online environments: a multimodal ethnographic perspective; Identity in language learning and teaching: research agendas for the future.

Further reading
Barton, D. and Lee, C. (2013). *Language online: investigating digital texts and practices*. Abingdon: Routledge. (This book examines how online spaces and interactions have transformed the way language is used and researched and discusses concomitant issues of identity and learning.)

Gee, J.P. and Hayes, E.R. (2011). *Language and learning in the digital age*. Abingdon: Routledge. (This book examines how technology has not only transformed modes of communication but also constructed new affinity spaces and ideas on social formation and education.)


References


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South African Institute for Distance Education (SAIDE) (2015). *Stories for multilingual literacy development [Online].* Available at www.africanstorybook.org


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