1.0 Introduction

In language learning research, different terms have been used to refer to identity: ‘self’, ‘position’, ‘role’, ‘subjectivity’, ‘subject’, and ‘agent’. Scholars in the 1970s and 1980s interested in this research area tended to draw distinctions between social identity and cultural identity. Social identity referred to the relationship between the learner and the larger social world, mediated through institutions like families, schools, workplaces, social services, and law courts (e.g., Gumperz 1982). On the other hand, cultural identity referred to the relationship between an individual and members of a particular ethnic group (such as Thai and Italian) who share a common history and language, and similar ways of understanding the world. Past theories of cultural identity tended to essentialize and reify identities in problematic ways (Atkinson, 1999). In more recent years, the difference between social and cultural identity is seen to be theoretically more fluid, and the intersections between social and cultural identities are considered more significant than their differences. Contemporary identity research has been consistently marked by a social constructionist paradigm that pays attention to the micro-level of interaction and meaning making. Recognizing that identity is socioculturally constructed, educators draw on both institutional and community practices to understand the conditions under which language learners speak, read, and write the target language. This research marks a shift in the field from a predominantly psycholinguistic approach to language learning to include a greater focus on sociological and anthropological dimensions of language learning, particularly with reference to sociocultural, poststructural, and critical theory (Douglas Fir Group 2016).

When Norton published her article, “Social identity, investment, and language learning” (Norton Peirce, 1995), it became integral to the sociocultural turn in language education (Block, 2007). Second language acquisition (SLA) research was at that time beginning to emerge from its predominantly cognitive orientation to examine how social factors facilitated or inhibited language learning (Firth and Wagner, 1997). These changes were raising new questions of identity, and Norton saw the need to develop social theories complementary to cognitive theories, which would capture the complexity of language learning as both a social and cognitive process. Her study of five immigrant women in Canada captured how globalization was transforming the world, and large-scale migrations were transforming post-industrialist societies into more multicultural spaces. As migrants occupied a variety of spaces in their country of settlement,
being able to acquire the country’s official language was key to social integration and meaningful employment. It enabled them to negotiate relations of power at work, school, and other community settings to assert their rightful place in a new country and to imagine better futures. Drawing on the poststructuralist work of Weedon (1987), Norton (2000) asserted that learning a language is a powerful political act, in which language constructs both social organization and a sense of self. She defines identity as “how a person understands his or her relationship to the world, how that relationship is structured across time and space, and how the person understands possibilities for the future” (Norton 2013, p. 45). Recognizing the centrality of agency in language learning, she argued that a language learner has the capacity to claim more powerful identities in order to speak, read, and write the target language.

Other leading researchers such as Toohey (2000), Pavlenko and Blackledge (2004), Block (2007), and Kramsch (2009) followed Norton’s research, providing evidence that language learners are not unidimensional, but have identities that are multiple, changing, and often sites of struggle. Recognizing that language is a social practice in which speakers negotiate meaning, this conception of identity also recognizes that language is never a neutral medium of communication. Relations of power in the social world impact access to communities and social networks, and also the ways in which language learners interact with target language speakers. In this poststructuralist view, when language learners speak, they not only exchange information with others, but also reconfigure their relationship to the social world. Learners perform different identities and speak from multiple positions, and can be positioned in ways that may provide or limit opportunities to speak and be heard. Inscriptions of identity such as race, gender, class, ethnicity and sexual orientation can shape interaction in different learning contexts, and the opportunities available for language learning. These contingent positions are shaped not only by learners’ material conditions and lived experiences, but also by learners’ imagined futures (Kanno & Norton, 2003).

In order to capture the historical and material relationship of learners to the target language, Norton also developed the sociological construct of investment to serve as a complement to the psychological construct of motivation (Dornyei and Ushioda, 2009). Earlier motivation research often assumed a unitary, fixed and ahistorical “personality” and relied on the dichotomies associated with traditional conceptions of the learner (good/bad, motivated/unmotivated, anxious/confident, introvert/extrovert). Norton (2013) recognized however that learners can be highly motivated to learn a language, but may not necessarily be invested in the language practices of a given classroom or community if they are positioned as inadequate or powerless. Recognizing that language learning is a social practice, the construct of investment signals how conditions of power impinge on the desire of learners to learn and practice a target language. In this sense, commitment to learning is understood not just as a product of motivation, but can
explain how a learner may resist opportunities to speak in contexts where he or she is positioned in unequal ways. Investment can be defined as the commitment to the goals, practices, and identities that constitute the learning process and that are continually negotiated in different relations of power. In addition to asking, “Are students motivated to learn a language”, researchers and teachers are encouraged to pose the question, “To what extent are students and teachers invested in the language and literacy practices of a given classroom and community?” (Norton, 2013). Because identity always shifts, for both students and teachers, investment is complex, contradictory, and often in a state of flux. As a theoretical tool, investment helps examine the conditions under which social interaction takes place, and the extent to which social relations of power enable or constrain opportunities for language learners to speak.

Over the past two decades, Norton has advanced these ideas, and identity and investment are now considered foundational in language education (Cummins, 2006; Douglas Fir Group, 2016; Kramsch, 2013; Miller & Kubota, 2013; Ortega, 2009; Swain & Deters, 2007). Kramsch (2013, p. 195) points out how Norton’s notion of investment… accentuates the role of human agency and identity in engaging with the task at hand, in accumulating economic and symbolic capital, in having stakes in the endeavor and in persevering in that endeavor.

2.0 Earlier research

Earlier research that drew on Norton’s constructs of identity and investment focused on language learning research in the North American context. For example, McKay and Wong (1996) drew on investment to explain the English language development of four Mandarin-speaking secondary students in a California school; Skilton-Sylvester (2002) examined the investment of four Cambodian women in adult English as a second language (ESL) classes in the United States; Potowski (2004) and Bearse and de Jong (2008) focused on investment in the context of two-way Spanish-English immersion programs; and Haneda (2005) drew on the construct of investment to understand the engagement of two university students in an advanced Japanese literacy course. Pittaway (2004) provided a helpful literature review on investment research at that time, and by 2006, Cummins argued that investment had emerged as a “significant explanatory construct” (2006, p. 59) in the second language learning literature. In more recent years, scholars in the global North remain committed to identity research, with numerous monographs on the topic (e.g., Block, 2014; Clark, 2009; Higgins, 2011; Kamada, 2010; Kramsch, 2009; Menard-Warwick, 2009; Mercer & Williams, 2014; Norton, 2013) as well as a comprehensive encyclopedia of language and identity (Preece, 2016).
At the same time, interest in identity and investment has increased steadily in different parts of the world. Arkoudis and Davison (2008) devoted a special issue of the Journal of Asian Pacific Communication to the construct of investment, examining Chinese students’ investment in English medium interaction. Articles addressed a wide range of issues that include the investments of college students from nonurban areas in China (Gu, 2008), the relationship between content and English language interaction in the undergraduate classroom (Trent, 2008), and the use of an “English Club” to practice English by mainland Chinese students in Hong Kong (Gao, Cheng, & Kelly, 2008). In this special issue, Norton and Gao (2008) provided a comprehensive analysis of the research studies, noting that identity and investment require particular attention in understanding Chinese learners of English, whether they are in China or other regions of the world. De Costa (2010), in a study of Jenny, a Chinese language learner in Singapore, found the construct of investment highly productive, drawing on investment to better understand how and why Jenny embraced standard English to inhabit an identity associated with being an academically able student. Two central questions, which are increasingly debated in the wider applied linguistics community, are “Who owns English?” and “What are learner and teacher investments in the English language?” With reference to Chinese learners in particular, Norton and Gao noted:

As Chinese learners of English continue to take greater ownership of the English language, redefine the target language community, and develop unique forms of intercultural competence, scholars interested in English language learning and teaching need to reframe their research questions and reconsider their assumptions. (Norton & Gao, 2008, p. 119)

In the African context, Norton and her colleagues (Andema 2014; Early and Norton 2014; Norton et al. 2011; Norton 2014; Norton and Williams 2012; Stranger-Johannessen & Norton, 2017) have worked in different countries, particularly Uganda, to better understand the investment of learners and teachers in the English language, digital literacies, and language policy. The researchers observed that as learners and teachers developed valued digital literacy, they gained greater cultural and social capital. One teacher named Betty indicated that when she used a digital camera, she “felt like a man”

I feel very powerful like a man because I had never held a camera in my life. I have always seen only men carrying cameras and taking photos in big public functions like may be independence celebration, political rallies and wedding ceremonies. But now as I move in the community taking pictures with my camera, I feel I am also very powerful, like a man. (Andema 2014, p. 91)
Because the use of digital technology extends the range of identities available to students and teachers in African contexts, expanding what is socially imaginable in the future, they are able to invest in new literacy practices. Advanced education, professional opportunities, study abroad, and other opportunities have become a component of their imagined futures and imagined identities.

3.0 Identity And Investment In The New World Order

Two decades after Norton’s (1995) original conceptualization of investment, Darvin and Norton (2015) developed a model of investment that responds to the new world order characterized by advances in technology and greater mobility of learners. In this new order, the acceleration of globalization through technology has enabled new modes of productivity and socialization, with the compression of time and space shaping identities, allegiances, and notions of citizenship in new ways. As learners traverse online and offline, local and global spaces with greater fluidity, new constraints and affordances in learning impact their investment. At the same time, the operation of power in these shifting contexts and networks constructs new forms of inequality.

While globalization has been an ongoing project for decades, the rapid development of technology in recent years has resulted in globalization processes that are new in scope and scale (Blommaert, 2010). The paradox of globalization is that while we increasingly develop a sense of the interconnectedness of the world, the world has become increasingly fragmented. Not only are there social, cultural and political differences across the horizontal spaces of neighbourhoods, regions, and countries, but also in the vertical spaces of class, gender, and ethnicity. The virtual world also provides an axis where people of shared interests and tastes are able to construct new communities (Gee & Hayes, 2010) and gatekeeping mechanisms. It is the intersection of these axes that shape identities and language in profound ways (Darvin, 2016; Darvin & Norton, 2014).

Online platforms have become an arena where identities are perpetually performed, curated, and transformed, and learners are able to access information and narratives from different parts of the world. These identities are now lived and enacted through real-time representations, and language learners become increasingly capable of differentiating themselves through ways of speaking, seeing, thinking or acting, and participating in more diverse discourse communities. As a tool that mediates interaction, the digital becomes an extension of the self, and transforms what learners can do and mean, how they think and relate to others, and who they can be (Jones & Hafner 2012; Hafner, 2014). As these texts are created, shared and consumed, their reach and impact are shaped by how learners both position themselves and are positioned by
others in the context of classrooms, communities, and nations, within a global network.

Technology has not only constructed multiple spaces that socialize and distribute learners in new ways, it has also transformed language by enabling new vocabularies, genres, and styles, and by reshaping both the meaning and practice of literacy. Instant messaging (IM) and texting have facilitated the production of new words and styles, facilitating the convergence of speech and writing (Warschauer & Matuchniak 2010). Through the digital, literacy has become even more critical in claiming the right to speak (Janks, 2010; Moje & Luke, 2009). Digital affordances have made it increasingly possible for people to assemble texts that integrate language with visual, aural, gestural and spatial modes. Constructing new spaces of language acquisition and socialization (Lam, 2013; Ito et al, 2010), social media capabilities have also facilitated cross language interaction (Warschauer 2009, Luke 2003) and transcultural and translingual practices (Canagarajah, 2013). Learners are not only able to produce and share texts with greater ease, but they are also able to get immediate feedback and reshape and remediate these texts (Cope & Kalantzis, 2010).

The dynamic nature of these spaces, the diversity of those who occupy them, and the transformation of language have enabled new possibilities for the performance of identities and language learning. The distribution of power in learning and using language no longer rests on the simple dichotomy of native speaker and language learner. Learners are able to participate in a greater variety of multilingual communities and assert themselves to varying degrees as legitimate speakers (Norton, 2015). As they move across these spaces governed by different value systems, not only do they have to perform multiple identities and to draw on more complex linguistic and semiotic repertoires, they are also positioned in new, often invisible ways. How language teachers, researchers and policy makers are able to map out these spaces, as they produce new pedagogies, theories and policies, while simultaneously negotiating competing ideologies, is perhaps one of the greatest challenges of language education in the new world order (De Costa & Norton, 2017; Norton, in press).

3.1 A Model of Investment

As new spaces of socialization and knowledge construction continue to emerge in the new world order, two distinct questions confront educators interested in identity and investment in language learning. First, how do language learners negotiate their identities in these spaces so that they can claim the right to speak? Second, how does power operate within these spaces and impact their investment in language learning? To provide a critical framework that addresses these questions, Darvin and Norton (2015) have constructed a model that locates
investment at the intersection of identity, capital, and ideology. Designed to examine how specific communicative events are indexical of the macrostructures of power, this model draws attention to the institutional processes and systemic patterns of control that construct communicative practices in the 21st century.

![Figure 1. Darvin and Norton's 2015 Model of Investment](image)

As learners move across spaces, ideologies collude and compete, shaping identities and positioning learners in different ways. The value of their economic, cultural, or social capital shifts as learners travel across time and space, and this value of this capital is subject to but not completely constrained by the ideologies of different groups or fields. To what extent teachers recognize the linguistic or cultural capital of learners—their prior knowledge, home literacies, and mother tongues—as symbolic capital (Bourdieu, 1987) can impact the extent to which learners will invest in the language and literacy practices of a given classroom.

### 3.1.1 Performing multiple identities

Norton’s (2013) definition of identity is concerned with the ways in which “people understand their relationship to the world”, and this relationship is linked to what Bourdieu (1987) calls a sense of one’s place.

This sense of one’s place is at the same time a sense of the place of others, and, together with the affinities of habitus experienced in the form of personal attraction or revulsion, is at the root of all processes of cooption, friendship, love, association, etc., and thereby provides the principle of all durable alliances and connections (p. 5)
Learners position themselves and others, accord or refuse them power, because of this sense developed through habitus, “a system of durable, transposable dispositions … principles which generate and organize practices and representations” (Bourdieu, 1990, p. 53). Habitus is durable because it is constructed across time and space, shaped by ideology, and reproduced through different social practices. As disposition, habitus provides a conceptual understanding of what is reasonable and possible and a tendency to think and act in specific ways. It configures in learners an idea of their rightful place in society and predisposes them to do what they believe is expectations of them and to develop relations that are deemed appropriate. At the same time, Norton speaks of identity as an understanding of “possibilities for the future”, and in this sense, the multiple subjectivities that converge in the self are not just constructed by habitus but also imagined and desired.

Guided by one’s sympathies and antipathies, affections and aversions, tastes and distastes, one makes for oneself an environment in which one feels ‘at home’ and in which one can achieve that fulfillment of one’s desire to be which one identifies with happiness” (Bourdieu, 2000, p. 150).

One feels “at home” because of habitus, but one finds happiness through the fulfillment of desire. Although what learners want can also be shaped by habitus, it is desire that opens up new “possibilities for the future” through imagination. Whether they seek integration into a country of settlement or a peer group, romance, or financial security, language learners invest because there is something that they desire for themselves. Motha and Lin (2014) assert that desire is situated, co-constructed and intersubjectively constituted and shaped by multiple contexts. At the center of language learning is desire for a target language, and alongside this desire is the imagination of new identities and communities, and the recognition, security and symbolic ties that are associated with the learning of this language.

For Heller and Duchène (2012), languages are selected, promoted and defended through mechanisms of pride and profit. While learning certain languages can serve an instrumental purpose and provide material benefits or profit, it can also facilitate pride in being part of a specific community. Learning a lingua franca like English, for instance, not only provides learners opportunities for employment and academic achievement, but also allows them to imagine other forms of belonging, such as global citizenship. These desires may align with or contradict more benefit-driven motivations, as emotion itself is linked to the ideological (Lewis and Tierney, 2011; Wohlwend and Lewis, 2011), a connection increasingly obscured in the digital era. As digital media provide affordances that can communicate ideas in powerful, innovative ways, they construct emotions and desires, while concealing the ideological mechanisms that shape these affective responses. To develop a critical understanding of investment thus
requires an examination of how worldviews construct learner desires and imagined identities that can reproduce social inequalities. In this sense, identity remains a site of struggle, as learners wrestle with the contradictions of habitus and desire [let’s discuss], of dominant ideologies and imagined futures, of a limited sense of one’s place and a boundless imagination of new possibilities.

3.1.2 Navigating ideologies

We have defined ideologies as “dominant ways of thinking that organize and stabilize societies while simultaneously determining modes of inclusion and exclusion” (Darvin & Norton, 2015, p. 72). The power of ideology is its ability to render itself invisible, whether because it has become naturalized as common sense, or because its mechanisms are intentionally concealed. Neoliberal ideology, for instance, with its logic of profit and market forces, is able to embed itself not just in systems of governance, but also in ways of thinking about the world and the self. The discourse of the self as entrepreneur (Foucault, 2008) can valorize the pursuit of individual gain while silencing more collective or altruistic aspirations. This has great implications for the way investment is interpreted, and how learning is understood as a means to achieve both personal and societal benefits. In the digital age, ideologies also operate in new ways. Embedded in the algorithms that program search engines and social media platforms, ideologies shape the control and flow of information, and the interaction of people (Darvin, 2017). As language learners are socialized into the practices technologized around specific tools, not only do these media shape the way they behave and communicate with each other, they can also promote particular versions of reality and make possible some kinds of relationships more than others (Jones & Hafner, 2012).

The paradox of the discourses of globalization and technology is that while they highlight ‘mobility,’ ‘flows,’ ‘flexibility’ and ‘de-regulation,’ ideological sites continue to exercise greater control and regimentation (Duchêne, Moyer, and Roberts, 2013). These flows of people, ideas and resources, whether across national boundaries or across online and offline contexts, are regulated by mechanisms of power, reproduced by institutional processes and ideological practices. Examining how ideologies operate in these spaces of socialization enables an understanding not only of the dynamics of power within communicative events, but also the structures of power that determine entry into the spaces where these events occur. In the same way that identity is multiple and fluid, diverse ideologies operate in different contexts, and this reality draws attention to the fact that the reproduction of dominant culture is sustained by both coercion and consent, through the conscious or tacit acceptance of hegemonic practices. To resist this hegemonic pull, language learners need to identify and navigate systemic patterns of control and understand how ideologies work. By
developing this critical skill, learners are able to not only access and produce legitimate knowledge, but also assert their place as legitimate speakers.

### 3.1.3 Negotiating forms of capital

By understanding ideology-at-work, we can also examine more closely the nature of capital, its role in investment, and the ways it can serve as a tool of both social reproduction and transformation. For Bourdieu (1986), capital is power in forms that extend from the material/economic to the cultural and social. How these forms of capital are distributed represents the structure of the social world. Learners can be positioned in different social spaces based on the volume, composition, and trajectory of their capital. As specific ideologies dominate different fields, the value of a person’s capital also shifts as it travels across time and space. The form the different types of capital take “once they are perceived and recognized as legitimate” (Bourdieu, 1987, p. 4) is symbolic capital. This conceptualization highlights how learners are already equipped with capital as they enter the classroom. They have their own material resources, knowledge, linguistic skills, and social networks. How educators recognize the capital of learners as legitimate and valuable, and utilized this capital as affordances for learning can shape the investment of learners.

At the same time, learners invest in a language because they perceive it will deliver certain benefits: to gain meaningful employment, to enter into university, or to develop new skills. These benefits however are not limited to the material or economic. Learners may wish to learn a language to make friends or to pursue a romantic relationship. In these diverse cases, learners draw from the resources they possess to fulfill a certain desire: whether it involves using cultural capital to engage in conversation with an acquaintance about current events or special interests, or tapping into the social capital of a network of friends to connect to a prospective partner. When learners move across spaces, the linguistic capital they bring with them is subject to what Blommaert (2010) calls different orders of indexicality. Learners’ styles and registers are measured against a value system that reflects the language ideology of the larger sociocultural context, and language teachers need to reflect on whether they treat the linguistic and cultural capital of learners as affordances rather than constraints. This reflection involves questioning the taken-for-granted value systems used to assess capital. For Rojo (2013), how learners are recognized as legitimate or non-legitimate participants in the educational system is linked to how symbolic capital is operationalized in the classroom. Linguistic demands and requirements establish hierarchies in educational programs, and not valuing learners’ languages and knowledge discourages the formation of new capital.

By examining the interplay of identity, ideology and capital, researchers are able to explore the dynamics of how learners invest in language and literacy practices.
of classrooms and communities. This model of investment attempts to make visible how power operates in different learning contexts, and raises the following questions for language teachers:

(i) To what extent do I recognize and respond to the material, unequal lived realities of learners and their multiple identities? (ii) What dominant ideologies and systemic patterns of control circumscribe these realities? How does my own worldview position these learners in specific ways? (iii) In what ways do I recognize or overlook, value or devalue the linguistic and cultural capital that learners are equipped with? (Darvin, 2015, p. 597-598).

By reflecting on these questions, educators can develop a pedagogy that validates the identities of learners and enables them to invest in learning that does not just reproduce dominant ideologies, but challenges and transforms the spaces they occupy.

3.2 Recent research

Since its inception the model of investment has been used as a heuristic to frame different research studies. In a study of two Grade 3 French immersion classrooms in Quebec, Canada, Ballinger (2017) draws on the model to examine the extent to which learners are invested in languages of instruction, French and English. The researcher draws links between the more equitable social status of the two languages and the use of these languages in peer interaction. By analyzing interactional episodes that involved divergence from the language of instruction, the researcher noted how language status operates at societal, classroom and individual levels, shaping learners’ language use in the classrooms.

The model has also served as a theoretical lens to examine teacher identities. Drawing on a longitudinal study that investigates the imagined identities of a preservice English teacher in New Zealand, Barkhuizen (2016) examines how language teacher identities are constructed in and through narrative. Recognizing that “investment indexes issues of identity and imagined futures” (Darvin & Norton, 2015, p. 39), Barkhuizen analyzes the lived stories of one teacher, Sela, as they unfold across personal, institutional and ideological contexts. Through these different scales, the researcher demonstrates how one teacher is able to invest in practices and identities that enable both agency and resistance. Stranger-Johannessen (2017) examines how teachers from Uganda exercise their agency by using one particular resource, the African Storybook Project (ASb), an online platform that provides stories written and illustrated by Africans. By using the model of investment as a means to understand teacher identity, the researcher explores the teachers’ own views of their professional identities, and
the material conditions and ideological influences that structure the work they do. He asserts that teacher agency can take form in the absence of explicit guidelines and pedagogical training to use the ASb as a resource. In a study of EFL instructors in South Korea, Gearing and Roger (2017) used the model to analyze to what extent teachers were invested in learning and using the Korean language. Their study showed how their investment was shaped by their own perceived inequities of power between themselves and local communities of practice, their attempts to negotiate membership into these communities, and the ways they were positioned as native English speakers. The researchers assert that the perceived value of the local language and the barriers of entry into local communities impact how these English teachers are able to invest in learning the local language.

4.0 Methodologies of Identity Research

As the digital becomes more embedded in everyday life, researchers of identity are confronted with a more complex array of potential sites and sources of data. Linking disparate insights from diverse digital practices to understand identity production becomes more complex. Hine (2015) talks about the need for an “ethnography of an embedded, embodied, everyday Internet” (p. 56) where researchers are able to move between face-to-face to mediated forms of interaction, challenging the notion of conventionally bounded field sites and enabling a multi-sited field to emerge. This connective, itinerant or networked ethnography requires an openness to explore connections as they present themselves. Because digital literacies are interconnected with other literacy practices and aspects of material culture, Leander (2008) 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” (p. 37). 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 learners move fluidly across multiple sites.

4.1 Emergent opportunities

With the accelerated development of new technologies, researchers are able to examine the individual and sociocultural dimensions of language use in new and exciting ways. Through corpus technology, they are able to access corpora, principled collections of electronic texts available for qualitative and quantitative analysis (O’Keefe, McCarthy & Carter, 2007). The systematic examination of word frequency or key word collocations in specific corpora promotes a greater understanding of the linguistic repertoires of learners and the language 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 corpus of online forum posts of Canadian, Mexican, and American female graduate students on an exchange program. By detecting patterns in the use of personal pronouns I, we, and you, Temples and Nelson drew conclusions about their level of interactivity and how they generated a discourse that crossed and merged cultural and linguistic boundaries.

In digital environments, methodological approaches to identity often involve graphically rendered texts, interactions in communities of interest, and multiple layers of data from participant interviews (Thorne, Sauro, & Smith, 2015). Thorne and Black (2011) outline three interrelated dynamics within digitally-mediated environments that help construct functional selves:

1) indexical linkages to macro-level categories (such as nation state affiliation, cultural/linguistic/ethnic affiliations), 2) functionally defined subject positions (such as student, youth, author, editor, expert, and novice, among others), and 3) fluid shifts in language choice, stance, and style that enable participants to personalize, make relevant, and move forward a variety of social actions. (p. 259)

Recognizing the connectedness of these spaces, Buscher and Urry (2009) have devised mobile methods that allow researchers to examine online and offline practices through the frame of movement. In this case, data collection takes into account the bodily travel of people and virtual travel across networks of mediated communications, as people are connected in interactions face-to-face and via mediated communications. Stornaiuolo, Higgs and Hull (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 and hybridity of these sites lead to a wide variety of data to understand learner identity and investment.

### 4.2 Issues and challenges

One fundamental challenge in identity research is that it will always be partial, no matter how meticulously it is executed and articulated across spatio-temporal scales (Block, 2010). Researchers need to continually grapple with how many interviews, stories, and artifacts can sufficiently represent an individual’s identity. At the same time, identity is not only language mediated, but semiotically mediated. This point is underscored in Blommaert’s (2005) definition of identity as “particular forms of semiotic potential, organised in a repertoire” (p. 207). Because of the complexity of one’s repertoire, any analysis limited to the linguistic will be partial and will miss other semiotic resources that comprise
communication: gaze, posture, gestures, dress, etc. (Block, 2010). Self-identifications shift as people represent themselves differently across time and space, projecting a self of their choosing (Davies & Merchant, 2009; Stornaiuolo Higgs, & Hull, 2013; Weber & Mitchell, 2008). How researchers are able to integrate the semiotic affordances of the visual, aural, spatial and gestural, in their analysis of identities thus becomes increasingly significant in the digital age.

One other issue Hine (2015) points out is that while ethnographers emphasize immersion in a setting as a means of knowledge generation, an ethnography of the internet raises questions about how to define prolonged immersion and how to determine the boundaries of limitless online space. Issues of privacy and confidentiality also arise when researchers gain access to the social media accounts of participants. Researchers become perpetually present, and participants need to decide which social media activities they want to provide access to (Baker, 2013; Eynon, Fry and Schroeder, 2008). This requires continual negotiation through informed consent, and involves participants actively managing their privacy settings. When ethnographers access and observe social media activities of participants in sites like Twitter or Facebook, they need to make themselves present by adding or friending them. Because of this connection, researchers become more visible, requiring them to make informed decisions about how to manage their own online identities.

As participants chat with other online users, Leander (2008) also raises questions regarding the nature of these interactions. In Lam’s (2004) study of Chinese immigrant youth and their online literacies, for instance, the researcher regularly browsed web pages that participants were constructing, used screen-capture to document their online activities, and recorded dialogues in the forums of chat rooms. Because she did not have consent from all the interlocutors of these chat rooms, the key ethical issue that arises concerns the extent to which these interactions could be regarded as data. Another issue is when research projects involve the production of identity texts that become permanent and perpetually present artifacts. When they are made available online, multimedia self-presentations of participants can fix representations of identity, and influence their lives in complex, consequential ways (Nelson, Hull, & Roche-Smith, 2008). Stornaiuolo and Hall (2014) assert 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 artifacts take on long after they are created. Tracing the movements of people, texts and ideas in cross-contextual meaning is a methodological challenge in digital contexts, underlining the need to trace “resonances” or the “intertextual echoing of ideas across spaces, people and texts” (p. 28).

5.0 Conclusion
In this chapter, we have explained how identity and investment are useful constructs to understand language learning as a social practice. We discussed how conditions of diversity, including increased mobility and digital innovation in the 21st century, make issues of identity and investment more complex. The construction of networked relationships and the transcultural flows of knowledge have enabled new means of collaboration and a greater sense of global citizenship. At the same time, the multiplicity of spaces and the fluidity of this communicative landscape have also facilitated greater autonomy and fragmentation. Technology has provided learners with highly customized options that enable the pursuit of more individual goals while reducing the need for collective negotiation. Because of the fluidity with which learners can move in and out of diverse spaces, they attain greater agency to not just engage but also disengage from others, to invest in and disinvest from shared practices, and to seek or shun collective endeavours. As learners continue to connect with others, the networked relationships they build and the imagined communities they seek can either align with or resist dominant ideologies, challenging or reproducing inequities on a global scale. To address these issues, a critical pedagogy needs to help learners develop a critical awareness of the material conditions of the present, and their own imagination of their social futures.

Through a critical dissection of identity, capital, and ideology, the model of investment challenges teachers and researchers to question the logic of the current world order and to address inequitable language, literacy, and learning practices. It encourages an examination of how language learners are positioned, constrained or empowered as they navigate diverse spaces and perform a range of identities. The hope is for learners to overcome the barriers of their agentive possibilities, so that they may cultivate a disposition where they not only seek to benefit personally but also contribute to the greater good. By examining how language learning operates in the social world, identity research envisions language education that not only empowers, but also transforms.

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**Authors’ bio**

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