***Digital Funds of Identity: Funds of Knowledge 2.0 for the Digital Generation?***

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**Abstract**
This paper is a theoretically orientated analysis that synthesises the literature on Funds of Identity with the literature on digital identities. It makes the case for considering Funds of Identity as more than just an enrichment of the Funds of Knowledge approach by suggesting that it is in fact a development. This article also extends the concept and methodology of Funds of Identity by situating identity within a digitised interpretation of social interaction. It does this by exploring the role that avatars and virtual learning environments could play in the development of online identities and their potential application within the classroom. The literature on funds of identity is then synthesised with the literature on new technology, identity and digital literacies This article also explains how digital funds of identity could be used in relation to domain specific knowledge which is illustrated by focusing on English literature and secondary education.

Keywords: funds of identity, funds of knowledge, new technology, digital literacies

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## Introduction

In this paper, I extend the concept and methodology of Funds of Identity by dialoguing with the discourse on digital identities and literacies. I focus on the role that avatars, virtual learning environments, and hypertext could play in the development of online identities and their pedagogical application within the classroom, synthesising the literature on Funds of Identity (Joves et al., 2015; Subero, et al., 2016) with the literature on new technology, identity and digital literacies (Alvermann et al., 2012; Nakamura, 2013; Peachey & Withnail, 2013; Thomas, 2007; Yee, 2007; Yee & Bailesnon, 2007). My thesis is encapsulated in the following phrase: Digital Funds of Identity: Funds of knowledge 2.0. This phrase highlights the connection with Funds of Knowledge, which I consider to be foundational in its social-historical accounts of culture and the combating of deficit thinking. But it also emphasises that Funds of Identity is a significant development of the former concept. Therefore, I number it 2.0: firstly, to show that the Funds of Identity concept should be seen as an evolution of the Funds of Knowledge approach and secondly to locate the former approach within the growing academic discourse on digital identities and virtual learning environments. The numbering, 2.0, also references Web 2.0 which has enabled hybrid-learning spaces, such as Wikis, blogs, vlogs, multimedia sharing, that have transformed the way identity is conceptualised and articulated through sociocultural discourses.

## Funds of Knowledge

*Funds of knowledge*[1] have been described as "historically accumulated and culturally developed bod[ies] of knowledge and skills essential for household or individual functioning and well being" (Moll et al. 1992, p. 133). Within the work of the Tucson scholars (Moll & Greenberg, 1990; Moll et al., 1992; Gonzalez, et al., 1993; Gonzalez et al., 2001; Gonzalez et al., 2005) *funds of knowledge* are an integral part of the survival of the household and the local community. The household is understood as socioculturally dynamic, functioning as part of a wider community in which households are all connected through social networks that ensure survival for the whole community (Moll, 1992). Within this conception of Funds of Knowledge, the household is seen as the main unit of analysis, and the skills and knowledge therein are taken to be representative of the whole family, although socio-historical perspectives emphasise that these bodies of knowledge and skills are spatially and temporally dynamic (Guiterrez & Rogoff, 2003). Teachers are trained as ethnographers and visit students' households in order to identify and document cultural knowledge that exists in students' homes (Gonzalez et al., 1993). These investigations seek to understand household practices, skills and bodies of knowledge from a historical perspective. The collected data is then used to construct units of work that not only help to bridge the gap between home and school, but valorise marginalised students' out-of-school identities and lives. So influential is the household visit that Joves et al. (2015) refer to it as a highlight of the Funds of Knowledge approach.

[1] When I discuss the brand or the concept of Funds of Knowledge I will capitalise the phrase. However, when discussing the bodies of knowledge and skills that individuals possess (their *funds of knowledge*) I will italicise and write the phrase in lower case in order to remove ambiguity. The same principal is applied to the Funds of Identity concept.

However, the emphasis on a single methodology has been critiqued for creating dependence on adult household practices as the main unit of analysis (Esteban-Guitart & Moll 2014; Hogg, 2011;). Moll (2005) himself, a founding member of the Funds of Knowledge approach, came to recognise that "children create their own social worlds, with accompanying *funds of knowledge*, which may be independent from adults' social life and their shared home environments" (p. 279)[2]. In response to the critique of overreliance on a single methodology (Esteban-Guitart & Moll, 2014), the concept of Funds of Identity has been developed and has started to gain traction in the literature (Joves et al., 2015; Nogueira, 2014; Subero, et al., 2016).

## Funds of Identity

### *Definition of funds of identity*

Whereas *funds of knowledge* are taken to be the resources, skills and bodies of knowledge of adults, *funds of identity* are constructed and appropriated by individuals in the construction of their identity (Esteban-Guitart, 2012). Therefore, individuals accumulate not just household *funds of knowledge* but also life experiences that help them to define themselves (Joves et al., 2015). These life experiences, it is argued, may or may not be in continuity with the *funds of knowledge* available in the family home (Subero et al., 2016) as children also create their own *funds of knowledge* (Esteban-Guitart & Moll, 2014; Nogueira, 2014). Although there can be discontinuity between household knowledge and an individual's experiences, the two approaches are seen as complementary, with Funds of Identity enriching or refining the Funds of Knowledge concept (Joves et al., 2015). As Esteban-Guitart & Moll explain "funds of knowledge are funds of identity when people use them to define themselves" (2014, p. 37). However, *funds of knowledge* are still considered to be dominant as they are the impetus behind identity formation (Saubich & Esteban-Guitart, 2011).

### *Strategies for uncovering funds of identity*

In order to detect *funds of identity*, researchers make use of visual methods, such as *self-portraits* (Saubich & Esteban-Guitart, 2011) and a *significant circle* which is defined as a graphical representation based on relation mapping which involves participants writing down the people and activities or things that are most meaningful to them in a big circle (Joves at al., 2015). Subero et al. (2016) also suggest the use of symbolic artefacts as a way for students to bring aspects of their out-of-school lives into school. Because artefacts are endowed with "identity resonances" (Zipin, 2009), they can be used by teachers as a springboard for the identification and analysis of local lifeworld issues and *funds of identity*. Researchers have also made use of identity texts for detecting and creating new *funds of identity* (Subero et al. 2016). An identity text can be any artefact produced by students who have invested some of their identity in them. These texts can be multimodal – that is in written, spoken, visual, and musical form, allowing for the combining of different modalities. Identity texts are also well suited for bilingual learners. As Subero et al. (2016) explain "connecting to English what students know in their first language is a strategy that helps to affirm

[2] See Moje et al. (2004); Hattem et al. (2009); Johnson & Johnson (2016); Zipin (2009) for alternative conceptualisations of out-of-school contexts and funds of knowledge.

and recognise their identities and to foster biliteracy development in an effort to expand pupils' thinking" (p. 9).

### *Pedagogical application of Funds of Identity*

Identity is fundamental to education and has many pedagogical applications, particularly in relation to the Funds of Identity approach. For students, identity can be used as a lens through which to absorb new information and identities (Esteban-Guitart & Moll, 2014). For researchers, focusing on the individual student rather than a household analysis can help to uncover variation in students' *funds of identity* (Esteban-Guitart & Moll, 2014). By locating individuals' *funds of identity* within sociocultural accounts of learning and identity formation, which stress a historical and contextual account of culture, teachers can work through their own deficit thinking about their students (see Sugarman, 2010 for an account of a teacher using a students' funds of knowledge to address deficit thinking). For schools in general and teachers specifically, uncovering and drawing on students' *funds of identity* can transform educational practices, which typically marginalise out-of-school knowledge, so educators become more sensitive to the lived experience learners (Joves et al., 2015). Teachers also need to be aware that identity formation is never a private, internal activity that is outside of their concern; rather, the process requires external validation; an accompanying transformation in teachers' and peers' own behaviour towards the individual student in order for a new identity or role to move beyond an inchoate state to become integrated within the personality. However, the emphasis on the formal curriculum can quash the development of learners' emerging identities and roles, particularly because even now policy is still biased towards fixed, trait-like accounts of culture (Guitterez and Rogoff, 2003). This can lead to blind spots in which teachers overlook their students' *funds of identities*.

### *Limitations of strategies for identifying funds of identity*

However, Subero et al. (2016) identify a number of limitations with the current strategies used for identifying students' *funds of identity*. Firstly, a great deal of time is required to develop activities. Secondly, undertaking Funds of Identity research requires teachers to be skilled in techniques and strategies for uncovering *funds of identity*, and almost certainly would require professional development. Finally, the activities suggest for identifying *funds of identity* do not always generate new knowledge. Subero et al. (2016) locate the concept of Funds of Identity within the notion of prospective education, which requires the development of new competencies that increasingly find their expression in the form of digital literacies and the creation of new knowledge. As some of the strategies suggested are largely linear in nature – such as the self-portrait – it can be seen that there is a tension between the aims to which Funds of Identity is being put and the strategies employed for doing so. Another limitation lies in the way identity is conceptualised. Thus far, the Funds of Identity discourse has failed to engage with recent developments in the conceptualisation of digital identity in relation to new technology and digital literacies[3]. Joves et al. (2015) and Subero et al. (2016), I would argue, over emphasise the strategies used for detecting *funds of identity*, consequently under-theorising the

[3] However, Schwartz (2015) has explored digital literacy and new technology in relation to Funds of Knowledge.

concept of identity as it has been dealt with by Esteban-Guitart & Moll (2014). While Nogueira (2014) does extend the concept of identity, her critique does not suggest how extending the concept of identity impacts on the methodologies employed by teachers and researchers for uncovering *funds of identity*.

In response, I propose appropriating the work of digital identities, multimodalities and digital literacies (Peachey & Withnail, 2013; Thomas, 2011; Warburton, 2009; Warburton & Hatzipanagos. 2013) which could help to overcome the limitations highlighted above.

***Digital identities and literacies***

*Digital literacies*

Digital technologies, such as smart phones and laptop computers, have revolutionarised education, particularly literacy practice, by adding a third dimension of space, which allows for collaboration, and a fourth dimension of time, which allows for interaction. Increasingly for millennials – those born after 1981 - reality includes new literacies embedded within new technologies such as vlogs, smart phones, simulations, interfaces, and hypertext (Miller, 2015). The creation of multimodal texts now involves the juxtaposition of text, sound, and image. However, there still remains a disconnect between home and school as many teachers do not recognise or valorise students' facility and familiarity with new technology or multimodalities as they themselves equate literacy with traditional pen and paper forms of literacy. Teachers also hold deficit views of their students' *digital funds of knowledge* which underestimates their ability to manipulate new technology (Honan, 2008) despite the fact that many young students are more adapt than their teachers at creating multimodal texts.

*Digital Identities*

The transformation of literacy has also had a profound effect on the way identity is conceived and constructed vis-à-vis new technology. While the discourse on digital identities is still ontologically sociocultural in nature (Jäkälä & Berki, 2014; Peachey & Withnail, 2013), the proliferation of new technology has created a nascent form of social identity, the technological identity (Amaral & Monteiro, 2002). In contrast to real world social interaction and identities, digital identities are mediated by digital literacies and multimodalities that allow individuals to (re)present themselves in ways that would be impossible in the real world. This digital or technological identity is represented by five distinct types: eponymity, nonymity, anonymity, pseudonymity, and polynimity (Jäkälä & Berki, 2014). Although nonymity and anonymity are significant, I will only define eponymity, pseudonymity and polynimity as they are most relevant to Funds of Identity and education. Briefly, eponymity involves an individual constructing an online identity that corresponds to their 'actual' offline identity. This might involve the use of the individual's name and a corresponding photograph. Eponymous identities are often utilised in educational settings, such as virtual learning environments. In contrast is pseudonymity, which involves being identified by a name that is not an individual's real name. Pseudonymity can offer individuals safety when entering virtual communities and has been identified with positive outcomes which include challenging the digital divide, increasing social

inclusion, and enhancing self-presentation for online students (Jäkälä & Berki, 2014). For these reasons, pseudonymity is a powerful form of identity that should be appropriated by the Funds of Identity discourse. Connected to pseudonymity, polynimity involves an individual using a number of different names that may be a mix of eponymous and pseudonymous identities. The construction of different identities, real or not, also has potential utility for Funds of Identity, particularly as students often identify differentially to subjects. Pseudonymity and polynimity are often encapsulated in the form of an avatar. Although there are many forms of online identity, I will limit myself to considering how pseudonymous and polyninimous avatars could be effective in identifying and facilitating the construction of funds of identity.

*Avatars*

The role of avatars in the construction of identity has received considerable attention from researchers (Bailenson, 2013; Peachey & Withnail, 2013; Thomas, 2007; Yee, 2007; Yee & Bailenson, 2007). Thomas (2007) views identity as embodied and instantiated in the avatar as a performance that is always enacted through the body in the form of gender, age, race, age, and ethnicity. Although cyberspace is often viewed as disembodied, Thomas's emphasis on the physicality of the body is a reminder that offline and online identities are inextricably linked and intimately tied to emotions. This provides a link with Funds of Identity: for if individuals' personalities grow in response to the working through of complex emotional situations then virtual learning environments and identity representations like pseudonymity through avatars can facilitate the move towards catharsis and integration by scaffolding progress through an individual's *zone of proximal identity development*. In Vygotsky's original theory, a student undertakes a task in collaboration with an adult or an expert which they cannot ordinarily undertake independently. The experience pushes the student further along their *zone of proximal development*. This experience is subsequently internalised, gradually leading to understanding and the ability to reproduce the task or skill independently (Vygotsky, 1998). Social interaction is thus understood as cooperatively achieved success (Wood, 2003) which is considered to be a prerequisite for both learning and constructing identity. It is no surprise then to find that many individuals select avatars that allow them to project an idealised version of themselves, thereby sustaining a feeling of confidence when they return to the real world (Peachey & Withnail, 2013). The emphasis on appearance and change is also explored by Yee (2007) who makes a distinction between verdical change (corresponding to reality) and non-verdical change (human desire to change ourselves). While physical change, such as undergoing a haircut or plastic surgery, can be effected in the real world at some expense and potential risk, digital media provides a way to easily enact change in through avatars in collaborative virtual learning environments (2007).

*Virtual Learning world*

A virtual world is a richly graphical three-dimensional online representation of space in which users can move around using an interactive avatar (Peachey & Withnail, 2013). An example of a collaborative virtual environment is *Second Life*, an immersive virtual environment unrestricted by any imposed external narrative (Peachey & Withnail, 2013). Residents – as users of *Second Life* are called – are able

to create anything they need in order to function inworld. Increasingly, virtual worlds are replacing the classroom as the main space in which learning takes place (Peachey & Withnail, 2013; Petrakou, 2010). However, the role of virtual learning environments in primary and secondary education remains underexplored. Potentially, collaborative virtual learning environments could facilitate the deployment and development of digital literacies that also provide students with a more egalitarian context in which the insecurities and socioeconomic inequalities of their real lives can be (temporarily) bracketed. This points to the potential of avatars and virtual learning environments in furthering social justice for disadvantaged students.

Overall, it can be seen that the relationship between identities in real and second life are not separate but reciprocal. Increasingly, individuals do not distinguish between offline and online identities (Thomas, 2007). While they bring with them aspects of their identities and rules for social interaction from the real world which determine the way they behave in virtual environments, they also take back with them identities and social practices that redefine social interaction and an individual's identity in first life. This has led to the notion of hybrid identities that are a mixture of offline and online social interaction. While we cannot (yet) physically embody an avatar in real life, the positive changes that occur in terms of identity, increased confidence, and development of digital literacies can transform the way individuals behave in both an immersive virtual environment (Yee & Bailenson, 2007) and their behavior in the first life (Peachey & Withnail, 2013). The effect that digital environments can have on raising students' self-esteem has many applications in the classroom to which I turn next.

**Funds of knowledge 2.0: towards digital funds of identity**

In this section, I explore some of the pedagogical and methodological implications of using digital contexts for researching and utilising students' *funds of identity*. I focus on the teaching of English literature at GCSE level with bilingual learners in mind in order to provide a specific instantiation of *digital funds of identity*. These two examples also reflect my own teaching and research background. I also focus on a specific subject in order to underscore the hypothesis that students relate to school subjects and teachers differentially which has implications for the way they perceive, and subsequently construct, identities.

*Avatars and virtual learning environments*

The use of an avatar as a cultural artefact is inspired by identity artefacts as suggested by The Home School Exchange Project (Hughes & Pollard, 2006), Schwartz (2015), Subero et al. (2016), and Zipin (2009). However, it adapts the use of artefacts in a significant way. While the physical artefact embodies an existing identity, the creation of an avatar is an open-ended process that can be developed over time. Students are therefore able to modify their avatars' appearance in order to reflect their own emotions and developing understanding of themselves. The use of avatars could also allow for polynimity (multiple online identities). Although currently empirically untested, it is the author's hypothesis that students tend to relate to school subjects and teachers differentially. As a result, they are also likely to develop different identities in relation to specific subjects and teachers. Therefore, teachers should encourage students to develop an avatar for each subject. This will also be of more

utility to teachers hoping to tap existing, and emerging, *funds of identity* as it will provide them with subject specific resonances from which to draw. *Funds of identity*, then, are not just mediated by digital literacies and virtual learning environments, they are also constituted by domain specific knowledge. Moreover, unlike the traditional classroom, which is bounded by time and space, a virtual representation of the classroom in *Second Life* breaks down the boundary between home and school giving students a chance to redefine themselves by creating online personas in the form of avatars. The intersection of avatar and learning environment could also help to bridge the digital divide between school and the home (Honan, 2008) by drawing on digital literacies and immersive online environments with which students may already be familiar. For example, teacher and students could collaborate to create a virtual learning environment that reflects the location or time period of a particular text. Students then develop avatars in response to their burgeoning understanding of (con)text, their existing digital literacies, and existing identities. Some students might choose to create avatars that represent characters from a text while others might choose to develop avatars that reveal something about their attitude towards English literature in general.

*Empathy and identity*

Empathy is also an important skill linked to identity development that could be developed through the use of avatars and virtual leaning environmetns. Empathy is considered to be fundamental in understanding personality dynamics and for effecting changes in personality (identity) and behaviour (Rogers, 1995). It is also related to positive outcomes and is an important factor in constructive learning which is integral for emotional and psychological growth. Avatars offer teachers the opportunity to develop students' empathy which simultaneously develops their understanding of both literary characters and their own (emerging) identities. For example, students could be assigned a character from a text and are given the task of creating an avatar that represents that character. The resulting avatar reveals the students' interpretation of their assigned character while also embodying a range of hybrid identities. Students are then encouraged to embody the identity of their character by taking on their idiolect and behavioral idiosyncrasies. Students then "perform" their character *inworld*, giving an interesting spin on what would normally be a conventional drama-based activity. The development of empathy created through such close identification with characters from fiction could also assist students in developing new identities. Despite its centrality in identity formation, the role of empathy in the classroom is missing from sociocultural accounts of identity. Avatars and digital learning environments offer the chance to extend empathetic relationships that are typically played out in face-to-face interaction, and can be used as conduits through which *funds of identity* are channeled in the construction of new identities which may help to overcome the limitations identified by Subero et al (2016). By changing the strategy for identifying *funds of identity* to one that is inherently performative and prospective – that is, one that is digitised - it is more likely that new knowledge will be produced as students will be drawing upon digital literacies that are multi-modal and therefore offer a wide-range of different combinations for re(constructing) knowledge. In so doing, students' *digital funds of identity* are mobilised and can be used to construct new identities.

*Hypertext and social justice*

Finally, the reading and construction of hypertexts could also be an effective strategy in drawing on and developing *digital funds of identity* for social justice, critical pedagogy, and the generation of new knowledge. Hypertext has been defined as a "medium for representing information as a network of linked informational 'chunks' that exists online and can be accessed in any order" (cited in Ebsworth & McDonell, 2014, p. 64). Unlike the analogue book, which is linear and hierarchical, hypertexts are non-linear, non-hierarchical and decentred. This means that the margin, or the marginal or marginalised, is as significant as the central (Gaggi, 2015). This has radical implications for the subject (Gaggi, 2015) and the role that hypertext and Funds of Identity play in social justice. In contrast to the post Enlightenment view of the subject as stable, unified and complete, the digital self (or the rhizomatic self) is defined by its open-endedness; it is not something that is inherently given but in a process of permanent becoming (Baldwin & Hill, 2012). At its most Utopian, this concept of identity empowers the subject to create his or her own path through the labyrinth of becoming. In relation to the teaching of literature, the actual text being studied could also be read *inworld*, in linear form or in hypertext form. The creation of a hypertext edition of an analogue text could also provide an invaluable chance for the creation of teacher-student collaboration that draws on students' existing *digital funds of identity* while also providing opportunities for the honing and development of digital literacies and identities.

Hypertexts could also be used for social justice and developing critical pedagogy. Postcolonial and feminist literary discourses, *inter alia*, have reinscribed marginalised identities by appropriating silenced characters from the so-called "English" canon. For example, Jean Rhys's *Wide Sargasso Sea* (1966) is a prequel and response to Charlotte Bronte's *Jane Eyre* (2001). The work rehabilitates the character of Annette, who in Bronte's novel is presented as the one-dimensional "mad woman in the attic", by presenting a first person narrative that explores Annette's backstory in Jamaica. Similarly, Achebe's postcolonial work, *Things Fall Apart* (1994) is a critique of Condrad's Heart of Darkness (1990). *Heart of Darkness* is narrated from the perspective of Marlow, the coloniser, whose imperialistic gaze silences and marginalises the Nigerian people and their culture by representing them to the reader as "natives" or "savages." In contrast, Things Fall Apart presents Nigerian culture from the point of view of Okonkwo, a warrior and clan leader which enables and empowers Achebe to present Nigerian culture as dynamic, complex and ambivalent, something Condrad's protagonist Marlow is unable to do due as his perception of Nigeria is refracted through the distorting lens of ethnocentrism. In the same way, hypertext empowers students to similarly rewrite texts when they encounter parochialism, racism, sexism or deficit thinking, creating alternative narratives that challenge patriarchal and occidental representations of dominance. The act of rewriting dominant narratives brings marginalised identities into the centre, thereby empowering the reader by encouraging active *writerly* reading and revision (Gaggi, 2015). Works like *Wide Sargasso Sea* and *Things Fall Apart* scaffold and model ways of resisting and revising grand narratives which students can then enact in hypertext form. The advantage of hypertext over tradition print-based media to channel *funds of identity* lies in hypertexts' inherent immediacy and malleability; students can manipulate text, image and sound indefinitely, revising narratives in real time as they forge their own paths through a text. Hypertext also supports multimodalities which

allow students to engage their *digital funds of literacy* while also channeling and cystalising their *funds of identity*. For example, a dual identity text could be augmented by a bilingual spoken performance which would help to recognise and affirm local identities (Subero et al., 2016).

Hypertext, like the use avatars and virtual learning environments, can facilitate and create new knowledge, thereby making it more likely that students are producing texts rather than consuming them. Moreover, hypertext is particularly suited to the fostering of critical pedagogies as it destabalises the literary canon by allowing students to revise and (re)write canonical texts in order to bring the silenced and the marginalised into the centre.

## Conclusion

This paper has suggested how the concept of Funds of Identity could be extended by recognising digital identities, such as avatars, and collaborative learning environments as potential source of *funds of identity*. This paper also suggests how teachers could utilise subject specific avatars as identity artefacts for drawing on funds of identity and also constructing new and evolving identities. In so doing, this article argues that the concept of Funds of Identity is not merely an adjunct of the Funds of Knowledge approach, but a significant evolution of it, one that is commensurate with digital identities and virtual learning environments. This is not to negate the role of household *funds of knowledge*, but to underscore the fact that increasingly young people interface with reality via the Internet and other digital devices that problematise the centrality of the household as the main unit of analysis for researching *funds of knowledge*. Teachers need to be cognisant of this in order to effectively draw on out-of-school digital identities.

However, there needs to be more discussion of how avatars and virtual learning environments could provide space for social justice. It is suggested that virtual learning environments could give researchers greater accessibility to at risk students, particularly in contexts where gaining access to disadvantaged or minority students' out-of-school contexts is culturally, logistically and ethically problematic (Poole, 2016a, Poole 2016b). Virtual learning environments could also enable the fostering of critical pedagogies that could then be used to address real world inequalities. Moreover, a systematic methodological account is needed to show how data relating to students' *funds of identity* could be collected. It is hoped that teachers and researchers working with the concepts of both Funds of Identity and Funds of Knowledge consider the role that digital funds of identity could play in bridging, and problematising, the "digital divide" between home and school and allowing critical pedagogies to leak into the curriculum.

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