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## INFORMATION & COMMUNICATIONS TECHNOLOGY IN EDUCATION | RESEARCH ARTICLE

# “I want to be a furious leopard with magical wings and super power”: Developing an ethico-interpretive framework for detecting Chinese students’ funds of identity

Adam Poole<sup>1\*</sup>

**Abstract:** The Avatar Project was a two-week English project in which Chinese high school students in an internationalised school in Shanghai China explored the topic of cultural and individual identity. The project synthesised prospective education with the Funds of Identity approach, both of which have particular relevance within an internationalised teaching context. During the project, students created three identity texts: a written reflection, a word cloud and an avatar which were later used as data for this article. This article presents findings from the project and critically evaluates the effectiveness of avatars and word clouds as strategies for detecting students’ funds of identity. A multimodal approach to data collection and analysis was adopted in order to ensure that the interpretation of students’ work remained situated within their lived experience. The project revealed the existence of social, practical, institutional and cultural funds of identity. However, it also detected more problematic forms of funds of identity related to political and philosophical beliefs which I label ideological and existential funds of identity. While avatars and word

### ABOUT THE AUTHOR

Adam Poole is a doctoral student in the Department of Education at the University of Nottingham, Ningbo. His doctoral research focuses on international education, specifically the way expatriate teachers in an internationalised school in Shanghai, China make sense of and put into practice the International Baccalaureate Learner Profile. Adam is also developing approaches to Funds of Knowledge and Funds of Identity for the Chinese context. His current research builds on a number of theoretical approaches by providing evidence to support the use of avatars as a strategy for uncovering students’ funds of identity.

### PUBLIC INTEREST STATEMENT

Despite having worked as a teacher in China for over eight years and identifying closely with constructivist teaching approaches, engaging with the literature on Funds of Identity and Funds of Knowledge has made me conscious of my own deficit thinking. Rather than viewing my students as complex individuals with interesting and dynamic out-of-schools lives, I have found that I often reduce them to a set of traits that take on the form of uncontested axiomatic truths: Chinese students are passive, uncritical and over-reliant on the instructor (Grimshaw, 2007). This project made use of my students’ funds of identity as a way to bring their out-of-school identities into the classroom and also to expose and transform my deficit thinking. Given that globalisation has resulted in increased global mobility and cultural heterogeneity, it is imperative that both national and international educators actively research into their students’ cultures and lived experience in order to construct a more inclusive and socially just form of education.

clouds were effective in drawing out students' out-of-school identities, the written reflections were ultimately more useful in revealing students' funds of identity and also ensuring that any interpretations remained within the participants' horizon of intended meaning. The project also brought about significant transformation in the way I viewed my students.

**Subjects:** Multicultural Education; Bilingualism/ESL; School Psychology; English; Counselling

**Keywords:** funds of identity; funds of knowledge; avatars; Chinese students; prospective education; internationalised education

### 1. Introduction

There is a growing consensus that education in the twenty-first century requires a new set of competencies and modes of learning that are better suited to a mobile-centric society in the digital age (Patiño & Guitart, 2014; Subero, Vujasinović, & Esteban-Guitart, 2016). However, despite rapid technological advances, educational practices still continue to take the form of what Kozulin (1998) calls *retrospective* education. Retrospective education is defined as the transmission of a solid and unquestionable cultural tradition from generation to generation (Subero et al., 2016). In contrast, Kozulin also proposes *prospective* education which is located within a networked society and calls for the collaborative development of new competencies, knowledge and understanding that are product orientated which can be seen as a process of authoring and not just reproduction (Kozulin, 1998). The potential that new technology and students' digital literacies could play in this project is potentially quite revolutionary despite still being largely excluded from many classrooms (Honan, 2008). One approach that resonates with the notion of prospective education is the Funds of Identity approach which is based on the simple premise that people have and accumulate not only their household's funds of knowledge, but also life experiences that ultimately help to them to define themselves (Subero et al., 2016). Funds of Identity is particularly suited to the prospective classroom as identity can be used as a lens through which to absorb and create new information and identities (Esteban-Guitart & Moll, 2014) and to bring about transformative educational practices in order to make teachers more sensitive to the lived reality of their learners (Jovés, Siqués, & Esteban-Guitart, 2015). In continuation of the Funds of Knowledge project, ethnographic research into and subsequent use of students' funds of identity is designed to enable teachers to design social justice programmes for immigrant students, something that is becoming increasingly imperative in a globalised world in which non-dominant cultures, identities and epistemologies are marginalised within the main stream classroom (Subero et al., 2016).

One context in which retrospective and prospective education are in tension is my own teaching and research context, the People's Republic of China (henceforth, China). Even within internationalised teaching contexts in China, which are defined as national schools that recruit Chinese nationals who are taught international programmes such as the International Baccalaureate Diploma Programme (IBDP) by expatriate and local faculty (Hayden, 2016), it is possible to see the same tension between prospective and retrospective education. It is within this specific teaching context that I, a western faculty member, locate my own attempt to implement prospective education within an examination-orientated school. Taking Funds of Identity as my theoretical foundation, I constructed a unit of work that focused on the theme of identity entitled The Avatar Project. The two-week English project explored the concept of identity and involved students producing multimodal identity texts in the form of word clouds (an image composed of words used in a particular text or subject), avatars (a graphical representation of a user or a user's alter ego or character) and a written or spoken reflection. Despite having worked as a teacher in China for over eight years and identifying closely with constructivist teaching approaches, engaging with the literature on Funds of Identity and Funds of Knowledge has made me conscious of my own deficit thinking. Rather than viewing my students as complex individuals with interesting and dynamic out-of-schools lives, I have found that

I often reduce them to a set of traits that take on the form of uncontested axiomatic truths: Chinese students are passive, uncritical and over-reliant on the instructor (Grimshaw, 2007). Consequently, approaches like Funds of Knowledge and Funds of Identity, which emphasise “situated, collaborative forms of design” (Zavala, 2016) can be appropriated and adapted to destabilise colonising western epistemologies within the context of internationalised education. Currently, however, within a nexus of retrospective asymmetrical power relations, Chinese students’ ways of knowing are still routinely excluded and are discursively reconstructed as an “indigenous perspective” (Gutiérrez, Engeström, & Sannino, 2016). This project thus situates digital literacy within the context of prospective education and develops a Funds of Identity approach as a way to bring students’ out-of-school identities into the ESL (English as a Second Language) classroom. In addition, this paper builds on my previous studies in the Chinese context (Poole, 2016b, 2016c, 2017) by offering empirical evidence to support the construction of a Funds of Identity approach that is commensurate with the cultural and political norms<sup>1</sup> that underpin the Chinese context. In writing this paper, I aim to describe and critically evaluate the Avatar Project as a form of prospective education and a vehicle for social justice as well as exploring the extent to which my own thinking about my students was transformed as a result of participating in the project.

I first begin by outlining the literature on Funds of Identity which informs my theoretical approach. I also underscore the methods used for identifying funds of identity in order to justify my choice of word clouds and avatars as the main instrument for data collection. I then present examples of students’ work and highlight the funds of identity which were identified. Finally, I evaluate the extent to which word clouds and avatars were successful in achieving the aims of the project and end by highlighting limitations of the study and implications for practice and future research.

## 2. Literature review

This section offers a brief review of Funds of Identity in order to show how the concept is operationalised in this paper. As the purpose of this article is to develop an ethically situated methodology for identifying students’ funds of identity, my main focus is necessarily orientated towards aspects related to methodology and, most significantly, methods, while paying less attention to the conceptual and theoretical aspects of the Funds of Identity approach. The reader can find a more developed interpretation of identity by consulting Esteban-Guitart (2016), Esteban-Guitart and Moll (2014) and Nogueira (2014). They can also find two systematic reviews of Funds of Knowledge by consulting Hogg (2011) and Llopart and Esteban-Guitart (2016). Llopart and Esteban-Guitart (2016) is a particularly useful text as it continues the work of Hogg by reviewing the literature between 2011 and 2015.

### 2.1. Funds of identity

Funds of Identity has evolved from the Funds of Knowledge approach which aimed to draw on marginalised students’ out-of-school skills and knowledge through strategies such as household ethnographic interviews (Andrews & Yee, 2006; Moll, Amanti, Neff, & Gonzalez, 1992), study groups between teachers and researchers (Gonzalez, Moll, & Amanti, 2005), neighbourhood walks (Sugarman, 2010) and informal study groups, such as after-school clubs (Razfar, 2012; Schwartz, 2015). Funds of identity are defined as “the knowledge, skills and support relationships embedded in the child’s own definition of themselves or whatever constitutes the field of meaning: which, for the child, is whatever is meaningful and relevant” (Patiño & Guitart, 2014, p. 76). Although Funds of Identity can be seen as an evolution of the Funds of Knowledge concept, there are points at which these two approaches intersect. For example, funds of knowledge become funds of identity when people use them to define themselves (Esteban-Guitart & Moll, 2014, p. 37). These hybridised forms of out-of-school knowledge could be labelled individualised or internalised funds of knowledge. The Funds of Identity approach received its first significant articulation in 2011 in Saubich and Esteban-Guitart’s paper entitled “Bringing funds of family knowledge to school. The Living Morocco project”. As the title clearly shows, at that time, the Funds of Identity approach was still conceived as a complement to the more developed and well-known Funds of Knowledge approach rather than a fully fledged independent approach. Since that time, the Funds of Identity discourse has steadily gained momentum, resulting in a steady stream of publications that have developed the conceptualisation of identity

(Esteban-Guitart & Moll, 2014; Nogueira, 2014) and refined a methodological approach (Jovés et al., 2015; Subero et al., 2016). This gradual development can be seen to culminate in the recent publication of *Funds of identity: connecting meaningful learning experiences in and out of school* (Esteban-Guitart, 2016) which signifies that Funds of Identity, once an adjunct of Funds of Knowledge, is now a concept and an approach in its own right. Esteban-Guitart's work also sets out a clear pedagogical agenda for utilising students' funds of identity for educational purposes which involves linking the learning experiences, practices and lifestyles of learners both in and out of school to create continuities between learners and school, and family and social contexts that make up their lives (Esteban-Guitart, 2016). As part of the evolution of the Funds of Identity approach, the term *digital funds of identity* has been proposed in recognition of the fact that increasingly twenty-first century society is mobile-centric in nature—that is, a networked learning ecology that has arisen from the massive penetration of digital media in everyday life (Patiño & Guitart, 2014). It is this conceptualisation of funds of identity, in their digital form, that is most applicable to my own project.

Funds of Identity is predicated upon a developmental interpretation of culture in which material and symbolic tools mediate the way individuals relate to their environments (Lightfoot, Cole, & Cole, 2009). In relation to my own study, physical tools include digital devices such as smart phones, laptops and tablets as well as observable forms of behaviour, such as the use of digital devices within an educational and social setting. Meanwhile, symbolic tools in this study refer to students' identities and the way students define themselves individually as well as socially. Identity is thus mediated by material and symbolic tools: it is embedded in tangible, historical cultural factors, such as social institutions, artefacts and cultural beliefs (Esteban-Guitart, 2011; Esteban-Guitart & Moll, 2014). This conceptualisation appears to have stuck as judged by recent studies (Jovés et al., 2015; Nogueira, 2014; Subero et al., 2016) which adopt a Vygotskian perspective. For the purposes of this project, identity was understood in Vygotskian terms although it has been suggested elsewhere that identity could be reconceptualised as digital identity in order to reflect social interaction as increasingly mediated by digital devices, giving rise to new ontologies and epistemologies (Poole, 2017).

## **2.2. Strategies for identifying funds of identity**

Because researchers working with a Funds of Identity approach are primarily concerned with the individual and the way they negotiate identity, it follows that the strategies employed for detecting funds of identity are fundamentally different from those adopted by Funds of Knowledge researchers. Within the original Funds of Knowledge approach, the resources, knowledge and family skills of adults were located within the household which was taken as the main unit of analysis (Moll et al., 1992). In contrast, researchers working with a Funds of Identity approach focus on specific knowledge banks and specific skills which may or may not be in continuity with the funds of knowledge available in the household (Esteban-Guitart & Moll, 2014; Jovés et al., 2015; Subero et al., 2016).

Some of the strategies employed by researchers working with the Funds of Identity approach include identity texts, self-portraits, a significant circle and symbolic artefacts such as shoeboxes or everyday objects from home that hold symbolic value to students. Identity texts are any artefact produced by students who have invested their identity in them (Subero et al., 2016). They can take both multimodal forms and also more conventional forms such as ordinary everyday objects. For example, as part of the Home School Knowledge Exchange Project, students were given a box which they were encouraged to decorate and fill with personal items from home, such as photos, toys, postcards and books (Hughes & Pollard, 2006). Visual methods, such as self-portraits and a significant circle, have also proven to be an effective strategy for detecting funds of identity. The self-portrait is an arts-based projective technique, which consists of participants showing who they are at that moment in their lives by drawing the people, activities, artefacts and institutions that are important to them (Saubich & Esteban, 2011). A "significant circle" is a graphical representation based on relation mapping which involves participants drawing the people and activities or things that are most meaningful to them in a big circle (Jovés et al., 2015). Both of these methods are particularly effective in multilingual contexts as they allow minority students to express themselves without being constrained by either mother tongue or second language (Poole, 2016b). Visual strategies also allow researchers to

conduct interviews in a creative and unthreatening manner that is responsive to the participants' own meanings and associations (Subero et al., 2016). In addition, these visual methods are also supplemented by a self definition task in which learners are encouraged to answer the question "who are you?" and to fill in a shortened version of the Twenty Statement Test (Hartley, 1970) which helps to distinguish between the roles that people play and who they really are or want to be (Saubich & Esteban, 2011). This multimodal approach to identifying Funds of Identity, which combines visual and written modes, provided the inspiration for my own contribution to funds of identity, namely the use of avatars and word clouds as strategies for drawing on existing funds of identity and a process by which students can construct new identities. However, the strategies above have been critiqued for not necessarily generating new knowledge according to a prospective paradigm of education (Subero et al., 2016). While the methods proposed above are designed to draw on existing funds of identity, avatars could facilitate the creation of new identities and therefore new knowledge.

### 3. Towards an ethico-interpretative framework

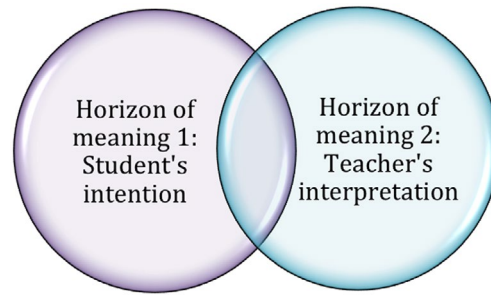
While visual strategies for drawing on students' funds of identity are able to facilitate the flow of lived experience, teachers are likely to rechannel this flow due to the existence of teacher frames of reference which are mobilised in the process of meaning making. Because these frames operate on a tacit, unconscious level in the form of assumptions, beliefs and subjective truths, what Stigler and Hiebert (1998) refer to as cultural scripts for teaching and learning, teachers are unlikely to be aware of the existence of these scripts which makes their transformation practically impossible (Pajares, 1992). This distortion, moreover, is compounded in an international teaching context because the teacher and the curriculum are often western, while the students and the culture of learning are Chinese. Research has shown that there is an epistemological and axiological difference between Socratic and Confucian cultures which also shapes the way individuals perceive "good" teaching (Jin & Cortazzi, 2006; Liu & Feng, 2015; Stigler & Hiebert, 1998; Tan, 2015). An ethical concern that appears not to have been addressed in the Funds of Identity literature is the fact that good-intentioned teachers may still unwittingly reinscribe asymmetrical power structures and also further entrench their deficit thinking by imposing their own deficit-laden interpretations on students' identities. Given that it is impossible for the interpreter to place a phenomenological bracket around their beliefs and assumptions: How can teachers make ethical use of students' funds of identity without reinscribing deficit thinking and therefore committing symbolic violence?

#### 3.1. The hermeneutic circle

This leads me to propose two mechanisms by which ethical interpretation can be maximised. The first is an interpretative framework, based on Gadamer's hermeneutic circle (2004) and the second is a collaborative methodological approach based on Participatory-Based research (Bang & Vossoughi, 2016). Both of these mechanisms are commensurate with the ethical-epistemological ethos that underpins this project, which is to place the students' lived experience at the forefront of everything that is done.

As originally conceived by Gadamer, the hermeneutic circle is a dialectical process between text, context and reader. Understanding is achieved by a circular movement between the text as a whole and its constituent parts and *vice versa*. Because of the gap between present or past (or in the case of this study, between western and Chinese culture) the interpreter is forced to project a meaning on the text even as some initial meaning starts to emerge from it. Even though the interpreter should try to be objective, their assumptions, bias and deficit thinking nevertheless shape the meaning that is projected into the text. Prejudice and pre-understanding are thus necessary conditions for the understanding of the present or for other cultures. Understanding takes place when there is a fusion of past and present horizons of meaning—that is, when there is a fusion of the student and teacher's horizons of meaning. Through a process of refinement, the teacher's prejudices (deficit thinking) are gradually filtered out through the interplay of the whole and the parts of the hermeneutic circle (Debesay, Nåden, & Slettebø, 2008). This leads to a new transformative understanding: teachers' beliefs (what Gadamer calls tradition) are transformed as a result of negotiating a new reality in which students' out-of-school lives are valorised as lived experience in their own right rather than

**Figure 1. Ethico-interpretative framework.**



being assimilated into the lived experience of teachers. The issue still remains, however: How does a teacher know when they have arrived at the “right” interpretation? Within Gadamerian hermeneutics, tradition functions as a yardstick of sorts by which judgements are made about meaning (2004). Within the ethico-epistemological imperative of my own project, tradition is reconfigured as the lived experience of the interpreter (the teacher) which could be likened to an experiential form of tradition of the self. However, in order to ensure fidelity to a participatory research methodology, it is necessary to adapt Gadamer’s ideas to also reflect the learners’ tradition; therefore, the yardstick is also the learner’s own lived experience: it is their tradition (cultural and experiential) that should be used as the main mediating interpretative frame (illustrated by Figure 1).

The diagram is a simple representation of this process. The overlapping section is where negotiated meaning between student and teacher is constructed. It is also the realm where transformation of a teacher’s deficit thinking occurs. Finally, it is the realm where students’ out-of-school identities are valorised by teacher legitimisation. The model recognises that no interpretation can be value free, but emancipatory learning is more likely to take place if teachers ground their interpretations of students’ identity texts in the tradition of the students’ lived experience.

#### **4. Methodology**

In order to ensure that the data collected for the project were ethically valid, it was necessary to appropriate a methodology that placed the participants’ lived experience at the centre of the research project. One such approach is Participatory Design Research (Bang & Vossoughi, 2016; Gutiérrez et al., 2016; Zavala, 2016). Inspired by Participant-based research, Participatory Design Research is a recent methodological innovation for undertaking social justice research which, amongst other things, seeks to develop educational interventions that result in sustained and positive outcomes for the participants. Rather than undertaking research on participants, Participatory Design Research forces researches to reflect on their ontological, epistemological and axiological assumptions in order to bring about transformational thinking that repositions the researched as equal participants. Research is thus done *with* rather than *on* at-risk and marginalised participants. By critically reflecting on their exposed deficit thinking, teachers and researches become aware that structural critiques of systems of power are a necessary component within processes of partnering and learning (Bang & Vossoughi, 2016). In order to prevent “normatively powered dynamics being reinscribed in the roles and relations between researchers and the researched”, participatory methodologies intentionally work to “disrupt or create new roles and relations to achieve transformative ends” (Bang & Vossoughi, 2016, p. 173). Validity within this ethico-interpretative imperative is reconstituted as idiographic in nature and is therefore not designed to be representative of all Chinese students. Moreover, generalisability would undermine the very purpose of the study which is to explore Chinese students as individuals rather than as collective members of a group.

##### **4.1. Data collection and analysis**

It was decided to forgo interviews as the main method of data collection and instead focus on students’ work as the main unit of data analysis. Such an approach is adopted as a strategy by researchers in the Funds of Identity tradition (Esteban-Guitart, Pallisera, Fullana Noell, & Gifre Monreal, 2017). This study, however, adopted a number of new strategies for uncovering students’

funds of identity by employing written identity texts, word clouds and avatars as the main instruments for data collection. Avatars in particular are able to facilitate the creation of new identities, thereby fulfilling one of the main tenets of prospective education which is to create new knowledge. Another advantage of focusing on visual work is that it allows researchers to conduct interviews in a creative and unthreatening manner that is responsive to the participants' own meanings and associations (Subero et al., 2016). This is essential if teachers are to draw upon students' funds of identity ethically in order to bring about transformative education that is both prospective and socially just. Validity in this study, then, is understood in ethical terms as fidelity to the participants' lived experience. However, a major disadvantage of this approach, as pointed out earlier, is the fact that visual data, due to its polysemic nature, requires an interpretative framework in order to be analysed. Utilising an a priori framework, however, is problematic because it could reinscribe normative ways of knowing by imposing a framework of analysis that was developed with other contexts in mind. Such an approach thus might reinscribe the hierarchical relation of power that privileges academic over local (Zavala, 2013).

Despite these concerns, I appropriated a number of categories from previous Funds of Identity studies as a way to provisionally group and identify students' funds of identity during data analysis. Funds of identity can be divided into five categories: geographic, social, cultural, institutional and practical. Because narratives of identity are social products, it therefore follows that they are inseparable from the social, institutional, cultural and geographic forces that make up funds of identity (Jovés et al., 2015). As my own study also adopts a sociocultural perspective (*vis-à-vis* culture and identity), these five categories were used as a guiding framework during data analysis for identifying students' funds of identity. In addition, a semi-grounded approach was adopted that drew upon unexpected themes that emerged during data collection and analysis. Two additional categories emerged during data collection and analysis: ideological and existential funds of identity.

#### **4.2. Research site**

The research site is a recently opened K-12 bilingual school in Shanghai, China. In addition to offering the compulsory nine-year Chinese curriculum from grades 1–9, the school also offers international curricula from grades 10–12 in the form of the IGCSE (International General Certificate of Secondary Education) and IBDP (International Baccalaureate Diploma Programme). The school also employs international teachers to deliver these courses. Despite the rhetorical emphasis on student-centred learning and international education, the school's culture of learning can be described as examination-orientated. The compulsory Chinese curriculum, for example, terminates in grade 9 with a high-stakes external examination known as the *Zhong Kao*, a high school entrance tests that decides students' eligibility to enter a local high school. The high schools students also sit eight internal examinations a year. Overall, the school is characterised by a retrospective approach to education that values fixed bodies of knowledge that can be transmitted from teacher to student and quantitatively assessed.

#### **4.3. Participants**

The participants were all Han Chinese high school students in Grade 10, aged between 15–16 years of age. In total, 31 participants took part in the project. The students were from two classes, class 1 (17 participants) and class 2 (14 participants). Ethical approval was sought and granted by the vice Principal of the school. The project followed informed consent rules as defined by Smith (2003) by informing participants about the purpose of the research, their right to withdraw and the use to which their work would be used. Informed consent was given by all of the participants who were also asked to fill out a consent form. In order to ensure that the findings had enough depth and to generate "thick description" (Denzin, 1989), it was decided to primarily focus on a few examples of students' work in detail. Pseudonyms were used to ensure anonymity.

### **5. Findings and discussion**

The Avatar Project was a two-week English project in which students explored and developed their own individual and cultural identities by creating three identity texts—a word cloud, an avatar and



a more traditional written assignment. Appendix 1 provides more information about the project. Meanwhile, Table 1 summarises the funds of identity identified during the project.

Given length restrictions, I only focus on a number of individual examples in order to show how the ethico-interpretative framework I am developing can be applied and to provide an in-depth exploration of students' funds of identity. This level of depth is also necessary to show how my own thinking about my students was transformed as a result of doing the project. In addition to the five categories that were used for data analysis, the project also identified two new forms of funds of identity: ideological and existential, which appear to be subdivisions of cultural funds of identity (to be discussed in more detail in the discussion section).

**Table 1. Summary of funds of identity detected during the Avatar Project**

Categories of funds of identity	Examples of funds of identity detected
<i>Geographical</i>	
Any reference to an area such as a river, a landscape, a mountain, a town, a city, a country or a nation (Jovés et al., 2015)	China
	Shanghai
	Students' hometowns
<i>Social</i>	
Relevant people	Grandparents
	Parents
	Cousins
	Teachers as facilitators and regulators of learning
	Friends
	Pop stars
<i>Cultural</i>	
Artefacts such as flags or religious symbols (Jovés et al., 2015). I have also included more abstract instances of culture	Students' local dialects
	Filial piety
	Panda
	Chinese flag
<i>Institutional</i>	
Any social institution (Jovés et al., 2015)	The family
	School
<i>Practical</i>	
Significant activities for the person such as sport, music or work (Jovés et al., 2015)	Digital funds of knowledge
	Students knowledge of software and apps for designing avatars
	Knowledge of computer games
	Knowledge of music and how to play
	Sport
	Photoshop
<i>Ideological</i>	
Political, cultural, or religious beliefs	Patriotism
	Desire to study overseas to make the country stronger
	Christianity
<i>Existential</i>	
"Dark" funds of identity (Zipin, 2009) or identity related issues	Low self-esteem
	Identity issues
	Peer pressure
	Death



The mushroom cloud represents a nuclear explosion and a nuclear explosion is about the high-tech area and also the military field. I enjoy these two fields. I enjoy studying and watching these two fields, and that's why I chose it because it can represent my daily hobbies. First I should say that I write disrupt in a different colour and it is the biggest so that's why disrupt can explain the division of words afterwards. "Conservative" and "dare to try" are actually for two completely different situations and at these two situations my attitude will be either conservative or dare to try.

What was implicit in the word cloud is now made explicit in the supplementary reflection: the existence of practical funds of identity, as suggested by "high-tech" and "military" as well as social funds of identity in the form of "sociopath", although this might be labelled "anti-social funds of identity" or dark funds of knowledge due to its negative meaning. Overall, word clouds were effective in drawing out students' perceptions of themselves as individuals, but were not so effective in detecting social funds of identity, perhaps due to their slightly restrictive form which forces the user to use single words, such as adjectives and nouns, which encourages more introspection.

## **5.2. Written identity texts**

In contrast to the word clouds, the written identity texts were able to detect more general forms of funds of identity and also revealed two new categories that I provisionally label ideological and existential. In my haste to bring prospective education into my classroom and to "make it new", I overlooked the potential that more traditional forms of literacy could play in detecting funds of identity.

### *5.2.1. Social funds of identity*

The written identity texts revealed that students defined their identity in terms of many social roles, such as a "teenager", "son or daughter", "student", or "Chinese". This finding is not particularly surprising given the age and the cultural background of the students. Firstly, the students are all teenagers who are studying the IBDP and are therefore preparing to study overseas. Secondly, they are all Han Chinese students and therefore share a common Confucian culture, which emphasises filial piety, and therefore respect for parents (Tan, 2013). This is also reflected in the students' written work, which also similarly emphasised the social aspect of identity. Ruby's writing, for example, highlights the many roles that comprise her identity as she perceives it. As she writes:

I am a 16 years old Chinese. In my family, I am a daughter, granddaughter (used to be a great granddaughter but not anymore). Also, a niece and a cousin. In school, I am a student and a member of my clubs and students' union ... I used to be a hostess, a scriptwriter, an organizer, a candidate and I am going to be an IB learner and maybe a leader of a club.

What is surprising, however, was the way Ruby's identity can be seen to play out across temporal, physical and social contexts. Rather than embodying one identity, she perceives her identity as embodied in a number of roles within the social institutions of the family and the school. For example, in her family she is a daughter, a granddaughter, a niece, but she is also a cousin, a peer or an equal. Similarly, in school she is a student and a member of a club, but she is also an organiser and, potentially, a leader of a club. Future identities are also valid ways of being in defining the self, and Ruby's narrative shows how they can be integrated to form a mosaic that makes up a whole.

### *5.2.2. Ideological and institutional funds of identity*

Another surprising insight that emerged from the data was a strong emphasis on patriotism, familial obligation as well as social obligation to the country. This is illustrated in Annette's written assignment about her identity:

I'm a Chinese high school student. To be a student, my duty is to finish my study and improve myself. I feel really grateful that I have a middle-class family that could afford to give me the advanced education. There's still a long way for me to go in my life. To be a Chinese, I have Asian features. I use Chinese logical way to think. I take Chinese cultures or festivals seriously. I have responsibility to make China a better country. Those are my identity.

The two main themes that emerge from Annette's narrative are her role as a student and her relationship to her family and to the country. There is a sense in which she feels an obligation or debt to both her family for giving her the opportunity to attend "advanced education"—that is, an international education<sup>2</sup> that will lead to an overseas university—and also the country, towards China, which she feels a responsibility to improve and develop. Although "better" is ambiguous here, it echoes the discourse on human capital development in which Chinese citizens are encouraged to study and work overseas in order to accumulate "western" knowledge and practices which are then used to strengthen the country on their return, and suggests that advanced education is synonymous with international education (Law, 2014). The Chinese expression for this is "Zhuanye Waiyu Fuhexing Rencai" which has been translated as human resources who possess both knowledge in specialised areas and strong competence in a foreign language (translation from Feng, 2007, p. 16).

### 5.2.3. *Existential funds of identity*

In contrast to the more matter-of-fact tone that characterised the majority of the participants' written work about their identity, a few written assignments also revealed the presence of what could be called *existential funds of identity* or what Zipin calls *dark funds of knowledge* (2009). The funds of identity identified here are described as existential because identity is perceived to be problematic. In relation to existential philosophy, identity is constituted neither by nature nor by culture, but through an individual's existence in and of the world (Crowell, 2016). Existential funds of identity can be detected in Maximus's reflection:

About two years ago, I bought a book called *The History of Western Philosophy*. But I never opened it once. Because I soon realized one thing, that the human world is a restriction. It drains your brain out and shapes it however it wants. Over the past few years, every time I think deep into the discovery of myself and the world, I realize terribly that every single move in our lives is made not by us but by the outside world. You go to school because the outside world told you so.

It is worth explicating Maximus's extract in some detail in order to tease out its identity resonances. There is an interesting juxtaposition between the book of philosophy which contains the sum of all of western philosophy and the more intuitive epiphany that Maximus has that the human world is a restriction. Two forms of knowing, or epistemologies, are thus juxtaposed: the fixed certainty of western knowledge and the kind of revelation that can only come to an individual as a result of lived experience. Significantly, Maximus does not open the book because it is a product of the "human world" and also because he comes to his own personal philosophical conclusion through experience and therefore does not require the book which itself is the product of a philosophical tradition that is alien to him.<sup>3</sup> The book sitting unopened on the bookshelf is a form of resistance, "a gesture of protest against academic philosophy, its anti-system sensibility, its flight from the 'iron cage' of reason" (Crowell, 2016). The insight that Maximus comes to is not transcendental or cathartic but rather terrible in its implications, for there is a sense of resignation and fatality: the decisions that we make are not our own, but the result of the "outside world", those societal forces and individuals that dictate and shape our actions and beliefs. The shift to the second person "you" in the final line has the effect of shifting the gaze from Maximus to the reader, as if he is now not only addressing his peers from his class but also anyone and everyone who has ever gone to school. It is also tempting to interpret Maximus's rejection of western philosophy from a post-colonial perspective, whereby he asserts Chinese agency in the face of globalisation as a form of westernisation. However, there is nothing in the text itself to support this reading—therefore, it falls outside of the text's horizon of meaning (that is, the lived experience of the student) and is therefore ethically invalid.<sup>4</sup>

### 5.3. *Students' avatars*

The project culminated in students constructing identity texts in the form of avatars. As the project was guided by an ethico-interpretive imperative, students also had to provide a written reflection which served as an additional modality of meaning to ensure that the interpretation of the avatars was within the student's horizon of meaning. Similar to the word clouds, the majority of avatars

Figure 3. Students' avatars.



embodied more personal traits rather than social or collective funds of identity and tended to be humorous in nature, as illustrated by the three avatars in Figure 3.

The avatars also revealed that many students were conscious of their physical appearance and used avatars as a way to project a “perfect” version of themselves as revealed by comments such as “I don’t really want to make my avatar too realistic, so I think a cartoon avatar might fit my imagination” (Jenna) and “I want to be a muscle man who looks very very strong, with Chinese KUNG FU. But this software could not change my body” (TuTu). The software for creating avatars, therefore, plays a significant role in mediating students’ identities. I was surprised that the male students were also conscious of their body image, assuming that this was an issue that primarily affected female students. Once again, the existence of “dark” funds of identity could offer opportunities to explore more problematic areas of knowing and being that resonate with students’ lived experience as young adults.

Even though students did not appear to embody social funds of identity in their avatars, the process of creating them offered many opportunities for social interaction, as illustrated by Juliet’s written reflection:

When I was making it, I also made the decision through my friends’ help. Although it is a project I can do by myself, I think I also need to get the opinions and the comprehensions from my friends to me, so I can objectively and clearly know who I am. When I was tangling which hairstyle was more suitable for me, my friends gave me a suggestion and I know how my appearance and characteristics are in other people’s eyes.

I also observed many instances of in-class interaction between students where individuals took on the role of an expert or a helper, thereby assisting students along their *zone of proximal development*. All the while, I remained more of a spectator than a facilitator, an experience which I initially found uncomfortable as it required me to assume a new role that was disempowered in nature.

Identifying funds of identity using visual data, however, proved to be more difficult than anticipated when it came to more abstract representations of identity as illustrated by Figure 4.

Figure 4. Left to right, from top to bottom: Juliet, Annabelle, Valerie and Skyrim's avatars.



In contrast to the more humorous avatars presented above, a few students produced avatars that were quite morbid in nature (such as Annabelle's avatar) or heavily symbolic (such as Skyrim and Valerie's avatars), both of which are indicative of non-verdical change—human desire to change oneself (Yee, 2007). Both Skyrim and Valerie's avatars, for example, embody the theme of appearance and reality. Skyrim's avatar appears very daunting and intimidating which is accentuated by the use of dark colours and the low camera angle. In contrast, Valerie's avatar appears to show a leopard with wings hovering above bright colourful cushions, conveying a feeling of freedom and optimism. However, when their avatars were interpreted in conjunction with their explanations, a very different interpretation emerged. In slightly different ways, both of their avatars projected an idealised or non-verdical version of their self which was at odds with the way they actually perceived themselves. I quote both students at some length:

As you can see, my avatar is under a black, well-made armor, and the shot is actually looking up. This gives my avatar a daunting presence rather than a friendly one. This actually reveals the *introversion part of myself*, the armor virtually cut off the connection between myself and the outside world. I prefer to hide my real feelings inside than sharing them with others, but I want to have an *aggressive or extrovert appearance* in front of others (Skyrim, my italics)

Those cushions on the cat are colourful, regarding to all those daily stuff fall on me. Those things appear to be colourful, pleasant and easy, but not to me. They are burdens that push me into escaping sleep. *I am scared and tired*. The leopard standing on the cushions is half-transparent, saying it is only an image in my cat's sleep. *I want to be a furious leopard with magical wings and super power* to cope with all those things, but I am still only an escaper. I have those dreams of being capable, capable from the inside. But they are always dreams, and I am still the one sleeping with cushions on me (Valerie, my italics)

Valerie's avatar continues the theme of the cat established in her word cloud which also took the shape of a cat and included traits such as "lazy", but develops it by projecting an idealised version of herself as a leopard—again, a member of the cat family, but diametrically opposed. Rather than a passive, sleeping and dreaming cat, the leopard is furious and powerful, a transcendental version of the cat. Valerie's avatar also draws on parts of her written identity text in which she used an image of a box to symbolise restriction: "I have made so many restrictions on myself that I am basically

living in a box or something and I shall say that I definitely need some air". However, in the avatar, restriction is symbolised in the form of colourful cushions that appear to be bright and attractive to the outsider (perhaps the teacher or parents) but from her lived experience, take on the form of an existential weight that only she can feel. Once again, this underscores the need to make use of multimodal forms of data in order to ground the act of interpretation in students' lived experience. The juxtaposition of the sleeping cat with the furious leopard symbolises Valorie's struggle for catharsis, suggesting the slow negotiation of a new, emergent identity that has yet to become inchoate. Ethical interpretation aside, there is a very real practical and ethical consideration that needs to be addressed here: the fact that there is a very real young adult behind these identity texts whose repeated references to stress, tiredness, apathy and fear suggest that she may be experiencing very real psychological distress. How then should these existential funds of identity be used by the teacher? Should they be used for pedagogical purposes? Should they be used as the basis for intervention? Although it was not my intention to use avatars for this purpose, my findings suggest that they may in fact be effective for pastoral and wellbeing purposes.

Finally, the use of symbolism and more abstract representations of identity also made interpreting seemingly straightforward avatars problematic. Juliet's avatar, for example, appears to give the impression of "light" funds of identity due to the bright blue background and the affirmative words in the speech bubble. However, when juxtaposed with her reflection, a more complex and complete picture emerged:

Firstly, the eyes can represent some information about myself. In real life, obviously, I do not have super big eyes, but in this picture, it contains some meanings which are symbolizing the expectation to the future [...] Thirdly, I will focus on the sentence I wrote, "try your best", it has just three words but it means the encouragement to myself. Because I can also be depressed when I am learning, so I have lots of pressure, I think I need some power which is originated in myself. It is a powerful way to motivate myself.

Overall, while avatars were effective in drawing out or unlocking students' funds of identity, their interpretation nevertheless needed to be situated within the students' horizon of meaning in order to capture easily missed identity resonances.

## 6. Discussion

The findings from this research project suggest that digital visual strategies, such as word clouds and avatars, are effective in drawing out students' out-of-school identities. Moreover, they are also effective in channelling students' funds of identity in a way that is more congruent with their lived experiences. These results validate the use of visual strategies as an alternative to interviews and therefore support the current literature on Funds of Identity (Esteban-Guitart, 2016; Esteban-Guitart et al., 2017; Jovés et al., 2015). Moreover, the prevalence of symbolism in avatars and introversion in word clouds also reflects similar findings from Esteban-Guitart, Monreal i Bosch, Perera, and Bastiani Gómez (2016) whose comparative analysis of university students' self-portraits in the Atlos de Chiapas found that many self-portraits were abstract rather than concrete in nature as well as exhibiting individual aspects rather than social aspects in the same group. In addition, the funds of identity identified also corresponded to the categories proposed in Jovés et al. (2015) although the actual funds of identity themselves differed significantly from the findings in Saubich and Esteban (2011) due to the difference in context. The majority of empirical studies using the Funds of Identity approach thus far have been conducted in the Spanish context, specifically Catalonia with primary aged children from immigrant backgrounds (Esteban-Guitart, 2016; Jovés et al., 2015; Saubich & Esteban, 2011). My own context, in contrast, is the Chinese context with students who are 15–16 years of age and who are studying international education. Despite not revealing a great deal about students' more general contexts of funds of identity, the word clouds nevertheless provided an invaluable insight into the way the students perceived themselves which contributed a great deal to the transformation of my thinking. I went from perceiving the students as Chinese students to finally starting to know them as individuals who are Chinese. My findings also suggest that the five

categories could function as a normative framework that could be applied to other contexts. A caveat to this suggestion, however, is that the researcher needs to remain open and responsive to new, emerging categories, and also to be conscious of the cultural assumptions that underpin the research context. In the case of ideological and existential funds of identity, rather than suggesting new categories, they appear to represent sub-divisions or an enrichment of cultural funds of identity. As Lightfoot et al. (2009) point out, material and symbolic tools are historically accumulated and passed on through social processes, providing resources for the developing child or young adult. Therefore, ideology could be understood as a symbolic tool embedded in cultural objects such as the curriculum, books or symbolic routines in the school, such as the flag raising ceremony. Similarly, existential funds of identity could be said to be cultural in nature, although they also appear to be social too, as illustrated by Skyrim's avatar in which he presents an enhanced version of himself as he wants to be seen by others which is at odds with the way he actually sees himself. Avatars can thus be mobilised as a form of social camouflage.

In terms of their practical utility, however, digital strategies for detecting and constructing funds of identity were not as effective as I had previously theorised (2017). One of the biggest constraints appears to be due to the nature of the software, which often forced students to make certain compromises about the appearance of their avatars. This suggests that students need to be given more time to experiment with avatars in order to find software that is capable of creating a visual representation that aligns with their intentions or perceived self-image. Another complication illustrated by Skyrim and Juliet's avatars is the fact that avatars often take on a symbolic meaning that is idiosyncratic to their creators. This results in avatars that appear to represent one thing, but actually hold very different identity resonances for their creators. This points to the need to triangulate digital funds of identity with more traditional forms of literacy, such as a written reflection, in order to establish an interpretative framework that is rooted in students' lived experience. Ultimately, the written reflection proved to be the most effective strategy for making sense of students' digital funds of identity as well as transforming my perception of the participants from Chinese students to complex individuals. Avatars and word clouds, therefore, appear to function most effectively as conduits for channelling what could be labelled "raw" funds of identity which subsequently need some explication and interpretation in the form of students' own written reflections. This finding suggests that any form of visual strategy needs to be multimodal in nature in order to ensure that a teacher's understanding remains firmly within the student's horizon of intended meaning.

Finally, the project also led to a transformation in the way I perceive my students and also the way I perceive myself as an educator which suggests that the mobilisation of digital strategies for uncovering students' funds of identity is particularly suitable for addressing teachers' deficit thinking, particularly in an international teaching context. This finding corresponds to previous studies about teachers researching into their students' out-of-school lives (Amanti, 2005; Sugarman, 2010), but in the process adds to the literature by showing how the use of new technology as a tool for social justice teaching also requires teachers to confront existing identities and to construct new ones. For example, the Avatar Project forced me to confront my own assumptions and fears about teaching and learning as there were many moments when students' experimentation with new software caused them to go off-task or to crowd around each others' laptops. Despite defining myself as a prospective educator, the anxiety I experienced during these moments reveals that my beliefs about teaching are far more complex than I assumed, existing in a hybrid state between traditional and prospective approaches to teaching and learning. Undertaking prospective education, then, does not just require students to adopt new perspectives to learning, but also requires teachers to adopt a new role as a spectator rather than a facilitator or leader. However, this relinquishing of power is antithetical to the notion of the teacher as the transmitter of knowledge, particularly in the Chinese context in which teaching is still partly informed by cultural scripts for teaching and learning that emphasise discipline and respect for the teacher (Poole, 2016a; Tan, 2015). Therefore, prospective education not only calls for new forms of literacy that facilitate the collaborative construction of multimodal texts, but also new conceptualisations of the teacher's role in the classroom; not just restructuring of teachers' beliefs about teaching and learning from teacher-centred pedagogies to



student-centred, but also confronting issues of power and control. Rather than viewing student spontaneity as a loss of control or a form of disrespect, prospective teachers need to situate this within a context of creative-play in which the traditional asymmetrical power relations between teacher and student are inverted. In addition to my role as a teacher, the discovery of existential funds of identity also forced me to question my role as an educator in general: Am I a teacher, a counsellor or both? And what should I do when existential funds of identity are identified? On the one hand, it is tempting to encourage students to address their inner world issues in order to assist them in negotiating a complex yet potentially cathartic process of identity formation. On the other hand, these issues are very real to the students and it has to be asked to what extent is a teacher qualified to deal with the psychological and affective aspects of their learners' development? All of these questions call for a reevaluation of my identity as an educator within the prospective classroom. They are also issues that I had not foreseen going into the project and which future research will need to address.

## 7. Conclusion

The strategies employed to detect students' funds of identity have application to other teaching settings in which teachers and students are from different cultures. Not only can digital strategies such as avatars and word clouds give teachers an opportunity to know their students as individuals and therefore work through their own deficit thinking, but by bringing new technology and digital literacies into the classroom, teachers also lay the foundations for building more prospective forms of education. The use of more open-ended digital forms of literary can help to valorise out-of-school knowledge and identities. In this respect, the project was successful, as the digital strategies afforded students many chances to draw on ways of being and knowing that I typically kept out of my English classroom due to a slavish commitment to textbook content and examination preparation. Moreover, the use of multimodal forms also facilitated differentiation which also gave students more choice in how they expressed themselves. Teachers may want to consider how other forms of digital resources could be used for such purpose. Finally, this study found that actively researching into my students' funds of identity had a profound effect on my thinking about them. However, the extent to which an individual is objectively able to evaluate a transformation in their own deficit thinking needs to be considered as teachers' beliefs have been shown to operate on a tacit level and are therefore difficult to transform (Pajares, 1992; Stigler & Hiebert, 1998). Therefore, future studies should triangulate teachers' experiences of undertaking funds of identity research in order to establish a clearer picture of how effective this approach is for social justice purposes. The successful use of multimodal methods for uncovering funds of identity also suggests that they could have wider applicability to other international teachers both in China and in other contexts. Given that globalisation has resulted in global mobility and cultural heterogeneity, research methodologies that are grounded in the idiographic are going to become increasingly important as the twenty-first century progresses. The methods presented in this paper are offered as potential tools in this endeavour. Finally, the multimodal strategy proposed could also have some application for counselling and wellbeing. Even though this was not the initial function of the approach, the discovery of existential and dark funds of identity suggests that teachers working with teenagers are likely to uncover complex and problematic issues related to identity and self-image. How exactly teachers should act upon dark funds of identity is not clear. Therefore, an ethical framework needs to be developed in order to ensure that "dark" funds of identity are drawn on and used in ways that are sensitive to the learner's lived experience and conducive to both the host country's and school's cultural norms. It is speculated that such a framework would need to be situated in nature, but normatively grounded in the ethical imperative of *non-maleficence*. The next step in this ongoing project will be to construct units of work based on the funds of identity detected during the Avatar Project—such as existential and social funds of identity—and to explore the student experience of prospective education in a retrospective teaching context.

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### Notes

1. For example, an approach that acknowledges certain political restrictions, particularly in relation to ethnic minorities, but still attempts to work within these restraints by drawing on the possibilities offered by students' lived experience.
2. Member checking confirmed that my interpretation was within Annette's intended horizon of meaning.
3. Member checking confirmed that both of these interpretations were within Maximus's horizon of meaning.
4. However, this time member checking confirmed that this interpretation fell outside of Maximus's horizon of meaning.

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## Appendix 1

### Over-view of the Avatar Project

Lesson sequence	Description	English-specific skills	Existing skills and knowledge	New skills and knowledge
1. Researching definitions of identity	This activity functioned as scaffolding for the rest of the project by introducing students to the concept of identity and getting them to research its meaning and to arrive at their own meaning	<i>Receptive:</i> Skimming, scanning <i>Productive:</i> paraphrasing <i>Intercultural:</i> exploring ideas from different cultures	Students used their digital funds of knowledge to search the internet for definitions of identity	Students synthesised researched definitions in order to construct their own definition of identity
2. Round-table discussion of definitions of identity	This activity consolidated the first activity. Students were encouraged to share their definitions which were written up on the board and then turned into a Word Cloud which was left on display for the remainder of the project	<i>Receptive:</i> listening for details <i>Productive:</i> giving information <i>Social skills:</i> working in a group; negotiating meaning	Students shared the new knowledge generated in sequence 1. They also used their own experiences as a source of knowledge. The students also used their knowledge from their Theory of Knowledge class	Students worked together to co-construct a definition(s) of identity. Students created word clouds as a way to consolidate new knowledge using new technology
3. Reading texts on avatars	Students read two on-line articles about avatars from the New York Times Magazine and the Wall Street Journal. These texts were designed to provide the students with background information on avatars and also to show how they relate to the topic of individual identity	<i>Receptive:</i> locating topic sentences, identifying main points, recognising register <i>Productive:</i> summary writing	Students used knowledge from sequence 2 to help them negotiate the two reading texts	Students understood the connection between avatars and identity and some of the wider applications of avatars in education, business and people's social lives
4. Avatar tutorial	Students explored potential apps and software for creating avatars. Students were asked to volunteer to talk to the rest of the class about a number of apps for creating avatars  I also show students my own attempts at creating avatars and explain my interpretation of them. This models language structures for sequence 6	<i>Productive:</i> speaking – giving instructions, asking questions, seeking clarification <i>Receptive:</i> listening for details	This sequence drew on students' digital funds of knowledge, familiarity with creating avatars	This sequence provided important scaffolding for students unfamiliar with avatars and software for creating them
5. Students create avatars	Students used a digital device (laptop, smart phone, tablet) to create an avatar	n/a	Students put into play their digital funds of knowledge and the skills and advice generated from the tutorial session	Students constructed a digital self-portrait by using their funds of identity  The project constructed transformative knowledge for both teacher and students
6. Students produce an explanation	Students wrote a commentary about their avatar	<i>Productive:</i> students produce an accompanying reflection		The avatar and the reflection were designed as one multi-modal text in order to generate new knowledge and act as a framework for the interpretation of the avatars



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