

Identity and Context - The Reader and the Read

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Abstract—Digital literacy is the capacity to read and write the digital worlds, to comprehend and express in digital spaces. Personal mobile digital technologies are powerful and ubiquitous tools in these digital spaces and worlds, ones that permeate and connect physical spaces and worlds in ways unlike other digital technologies; they thus extend the notion of digital literacy. They support and require new forms of learning, of which 'mobile learning' is perhaps only a specialised manifestation, but more importantly the specific affordances of these technologies change both identity and context, extending further the notion of digital literacy as the tool mediating these two.

Index Terms—mobile technologies, context, identity.

INTRODUCTION

The idea of digital literacy now has a considerable history, literature and community. One definition, attempting maximum neutrality, defines it as “those capabilities which fit an individual for living, learning and working in a digital society” (Beetham, 2010:1)

DEFINING DIGITAL LITERACY

The idea of digital literacy now has a considerable history, literature and community. One definition, attempting maximum neutrality, defines digital literacy as “those capabilities which fit an individual for living, learning and working in a digital society” (Beetham, 2010:1). There are other much more substantial, complex and problematic – but not necessarily any better - attempts to reach a definition and whatever thinking lies behind it (Belshaw, 2011). Our purpose now is just to use these as a point of departure, and to look at how the impact of mobile technologies on digital literacies may differ from that of other digital technologies. A more pragmatic approach to definition might be to see what we expect of these constituent capabilities;

- they are a pre-requisite or foundation for other capabilities;
- they are critical to an individual's life chances;
- they are essential to the making and sharing of culturally significant meanings;
- as a result, there is or should be a society-wide entitlement to these capabilities at some level.”

(Beetham 2010:1)

So here, we have some basic ideas about digital literacy.

Literacy, of any kind, is a component and a foundation of many types of learning, irrespective of how these terms are defined. Digital literacy is a component and a foundation of digital learning, or rather, e-

learning to use the conventional term and as personal mobile digital technologies become increasingly conspicuous amongst the older, static digital technologies, questions arise about the relationships between these mobile technologies, the nature of digital literacy and the evolution of learning, and about wider issues of digital inclusion, digital divides and digital entitlement. Our purpose now is however to probe a very specific slice of this area.

On a personal note, I was involved as a tutor, organiser, writer and speaker in the late 70s/early 80s in adult literacy provision (and as Chair of the National Federation of Voluntary Literacy Schemes). This was, at the time, a contested and highly politicised domain. It left me keenly aware of how complex, significant and problematic notions of literacy are in people's lives, in their personal, social and family lives as well as their vocational, professional and academic lives, and how discussion of literacy can implicitly define illiteracy and thus create labels and perceptions of inadequacy.

MOBILE LEARNING

Looked at from a literacies perspective, mobile learning could be viewed as a new way of reading and writing the existing curriculum, within the existing education system, a way opened up by mobile devices. They allow access for readers who were previously too distant, too geographically, socially, physiologically, infrastructurally, culturally or economically distant from the other kinds of educational reading and who thanks to mobile technology could now be brought into the community of academic readership. Mobile learning could also be viewed as enhancing or enriching the nature of the academic text, creating the opportunity to read and write richer texts from that curriculum. These two claims can be elaborated (Traxler 2011) but one aspect of this second perspective, perhaps the most significant, is the capacity to enrich this text with context; even this does however seem to leave the fundamental distinction between the reader and the read untouched and unchanged.

THE IMPACT OF CONTEXT AS TEXT

Context has been defined and classified in a variety of different ways. Working definitions include, "the formal or informal setting in which a situation occurs; it can include many aspects or dimensions, such as environment, social activity, goals or tasks of groups and individuals; time (year/month/day)." (Brown 2010:7), or "any information that can be used to characterize the situation of an entity, where an entity can be a person, place, or physical or computational object" and thus context-aware computing is "the use of context to provide task-relevant information and/or services to a user" (Dey & Abowd, 1999:1), "typically

the location, identity and state of people, groups, and computational and physical objects". Popular and powerful retail mobile technologies now routinely sense aspects of context, usually time, location, orientation and inclination in a variety of frames of reference but in terms of the current formulation, the context was always the read, the text, it was outside and other, it was the container of the reader.

Classifications of contexts have been proposed. One (Schilit *et al.*, 1994; Chen & Kotz, 2000), defines four categories:

- Computing context including network connectivity, communication costs and bandwidth, nearby resources such as printers, displays and workstations, though this however becomes progressively less significant as the factors concerned become more stable, uniform, transparent and capable.
- Physical context including lighting, noise levels, traffic conditions and temperature though these too may also become less significant as devices become more impervious to many of these aspects of physical context.
- User context including the user profile, location, people nearby and current social situation. Increasingly devices might give orientation and might sense or even recognise objects in their vicinity so this aspect continues to become richer and the 'internet of things' (Siorpaes *et al.*, 2006) increasingly draws the physical world and its objects into the virtual world.
- Time context including obviously time of day, week, month and season of year.

Another (Schmidt *et al.*, 1998) contains two categories representing two different perspectives.

- Human factors
 - User, their personal habits, mental state, *etc.*
 - Social environment, namely the proximity of other people, social relations, collaboration
 - Task, any goal directed activities or more general objectives
- Physical environment
 - Location
 - Infrastructure, the interactive and computing environment
 - Conditions such as the level of noise, brightness *etc.*

Both of these definitions start to break down the solidity of context as the user osmoses into it. Context has an increasingly rich meaning for the mobile learning research community and describes processes by which learning is enhanced with contextual ideas, images and information. In the early days (for example, the MOBIlearn project) this context of the learner and their learning meant the spatial and temporal context. The time and place of the learning and the learner, and their mobile device, would trigger images

and information that would enhance their learning. Practical considerations of technology and resource usually meant this was bounded in space, for example to the confines of a museum building, heritage site or cultural venue, and bounded in time, to the duration of the visit of the individual learner. The technology would nevertheless be able to make increasingly better inferences about the learner's interests as the history of the episode built up and would react accordingly by providing more personalised images and information. In context-aware mobile learning, these interactions might take the form of oral and social history; artistic, expressive, creative and literary creations; reviews, responses and reactions to the environment, all specific to the locality and the context, all specific to their creators. They could clearly also be cumulative and iterative, reactions triggered by reactions, recollections triggered by recollections.

The subsequent trajectory of context in learning could exploit the *internet of things*, that is the integration of physical objects into the information network (Atzori *et al* 2010), the social context, namely the learner's social circle, and the *user-generated context*, namely, what the learner brings with them to the external context, their preferences, values, knowledge and history. The distinction between the learner and their context or environment has been eroded by the notion of these *user-generated contexts* (Cook, 2010), the concept named to emphasise the role of learners themselves in shaping their own context, "the context within which communication takes place is augmented by users to suit the needs of the individual and/or the conversational community" (Cook *et al.*, 2010:4).

NO LONGER THE READER AND THE READ

This weakens the notion that context is a passive text, merely to be read or indeed written back to, separate and distinct from the reader. A more radical and comprehensive account of mobiles in society takes this further. Several authors (such as Nyíri, Plant, Fortunati and Geser) have argued that the mobility and connectedness afforded by these devices are implicated in profound changes in our conceptions of space, place and time; on identity, presence and community; and on learning, understanding and knowing.

There is a resonance here with the various positions of post-modernism and these undermine the simple and apparently intuitive dichotomies of the self and its context, between subject and object, and between the reader and the read, or indeed the writer and the written, of the digital literacy discussion. Our interest is specifically with the contextual and associated technologies and their impact.

Mobile devices are accelerating the erosion of physical place as the predominant aspect of the spatial context started by other networked digital technologies, creating one physical space and multiple mobile virtual spaces of conversational interaction instead of a solid stable spatial context. Mobile devices are recon-

figuring the relationships between spaces, between public spaces and private ones, between public and private contexts, and the ways in which these are penetrated by mobile virtual spaces. This reconfiguration is accompanied by what goes on within those spaces. Consequently, time and space become more complex and more confusing. Mobile devices are reconfiguring the relationships between spaces, between public spaces and private ones, between public and private contexts, and the ways in which these are penetrated by mobile virtual spaces, and a growing dislocation of time and place. This reconfiguration is accompanied by what goes on within those spaces. The growing number of augmented reality applications adds to the dilution of the immediate experience of the here-and-now context, the read is becoming less tangible and fixed. Mobility and connection are also amongst the factors changing individuals and their identities, and the nature of communities. Furthermore, the rise of networked technologies has led to far more complex ideas about identity, both formally, in relation to official network technologies, and informally, in relation to social networks. What constitutes the user, the *reader*, as opposed to their context, the *read*, changes and blurs. Mobile devices affect the processes by which ideas, images, information, identities and knowledge, and hence informal learning, are written, produced, stored, evaluated, valorised, distributed, delivered, consumed and read. They are now part of a system that allows everyone, including learners and potential learners, to write, generate and transmit content for learning, not just passively read, store and consume it, making mobile systems an integral part of the *Web2.0* ideology that takes users from merely the Web's readers to its writers. The impact of mobility and connectedness on knowledge and reading is to make them far more obviously relative, local, transient and partial. Knowledge and text are local in being local to a community, local in being location-specific, produced locally and consumed with defined communities, not necessarily geographically or spatially defined communities. The informational context, and hence the text, is no longer fixed, monolithic and external. (Traxler, 2011)." Mobile technologies fundamentally trouble the notions of the reader and the read, replacing stable and intuitive boundaries with more fluid ones.

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