A Citizen-Centred Approach to Education in the Smart City: Incidental Language Learning for Supporting the Inclusion of Recent Migrants

Mark Gaved, Institute of Educational Technology, The Open University, Milton Keynes, UK
Ann Jones, Institute of Educational Technology, The Open University, Milton Keynes, UK
Agnes Kukulska-Hulme, Institute of Educational Technology, The Open University, Milton Keynes, UK
Eileen Scanlon, Institute of Educational Technology, The Open University, Milton Keynes, UK

ABSTRACT

Smart cities are often developed in a top-down approach and designers may see citizens as bits within data flows. A more human-centred perspective would be to consider what the smart city might afford its citizens. A high speed, pervasive network infrastructure offers the opportunity for ubiquitous mobile learning to become a reality. The MASELTOV project sees the smart city as enabling technology enhanced incidental learning: unplanned or unintentional learning that takes place in everyday life, in any place, at any time, with the city itself the context and the prompt for learning episodes. Migrants in particular will benefit: limited in their opportunity to attend formal education yet with a pressing need for language learning to support their integration. Incidental learning services, like smart city planning, need interdisciplinary communication for successful development. The authors describe the MASELTOV Incidental Learning Framework which will act as a boundary object to facilitate this process.

Keywords: Boundary Object, Incidental Learning, Informal Learning, Learning Frameworks, Migrants, Mobile Learning, Situated Learning

INTRODUCTION

Smart cities, with their highly developed networked infrastructures, offer technological “affordances” (Gibson, 1979). However, the discourse surrounding smart cities, emphasising “smart technologies …. to control information flows” as solutions to logistic challenges (acatech, 2011, p.9), can suggest technological determinism and an infrastructure favouring planners and managers. Consequently, citizens’ activities in smart cities risk being “interpreted through a lens of potential profit, not always as actual everyday practices and needs” (Halegoua,
A more citizen-centred approach would be to imagine how citizens can leverage the affordances of a smart city to their benefit. One approach is to consider the presence of pervasive, reliable, high speed networks as enabling novel means of mobile, situated, and contextual learning to a smart city’s residents. An emerging paradigm very suited to smart cities is that of incidental learning, which may be understood as “unintentional or unplanned learning that results from other activities” (Kerka, 2000, p.1); such learning is not new, but it can now be captured as it happens, supported at the point of need, and used more easily for subsequent reflection and further learning. Where learning can be done via users’ smart phones and make use of well-developed network services, a smart city enables mobile devices to become powerful tools for learning.

In this paper we will describe our perspective on incidental learning and how it can offer a valuable approach to providing mobile situated learning in networked urban environments. In particular, we consider one significant urban population, migrants, who face particular challenges and hence may be able to benefit from mobile incidental learning services to support the development of their language skills and social and cultural inclusion. This population is the focus of the MASELTOV project (http://www.maseltov.eu), in which we are developing a framework for facilitating the creation of technology rich and socially inclusive learning opportunities for migrants within cities. The learning opportunities include everyday practice in using a foreign language and improving one’s knowledge through various forms of informal and semi-formal language learning. For migrants, language learning is a critical educational task as it is fundamental to enabling social inclusion (e.g. Marsh, 2002). We consider how this may be supported within situated, contextual learning that uses mobile devices as well as social networks consisting of other migrants, migrant organisations and local volunteers. Successful development of such learning requires different domain experts to come together: educators, migrant support workers, technology providers, city planners. We are developing a learning framework that may act as a “boundary object” (Star, 1988) to enable sharing of ideas and practical discourse when devising services, in particular between members of very different disciplines. The framework is a descriptive mechanism that permits analysis of mobile, incidental learning, and supports software systems design.

We present our approach to incidental learning and how it is designed to support migrants’ language learning needs and social inclusion. We explore how the incidental learning framework is enabling communication between domain experts to develop services that can both address the challenges and take advantage of the opportunities presented by the smart city vision.

First, we will consider how a smart city may enable learning everywhere. We will then turn to consider what mobile learning can be, and how, combined with incidental learning, it can offer a powerful new form of learning to city residents. We consider the particular challenges faced by migrants, and describe the MASELTOV approach, including how a learning framework can support the development of mobile incidental learning services within a smart city.

THE SMART CITY AS AN ENVIRONMENT FOR UBIQUITOUS LEARNING

Advanced networked ICT infrastructures are seen as central to the concept of a smart city (Batty et al., 2012). The smart city vision moves beyond the earlier “digital city” model (e.g. Ishida, 2002) with its emphasis on technological infrastructure, towards “a more complex attitude” considering areas of urban development and management such as economic activities, transport, health, environment and governance (acatech, 2011, p.9). The term “smart” implies that greater efficiencies can be achieved through coordinating and integrating technologies and gaining insight from feedback gathered through
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