› 3 Mobile Learning | Some Considerations

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Introduction

At the time of writing, Mobile Learning as a field of enquiry and practice has a tradition of more than a decade within the field of educational practice, although it is only really starting to be taken seriously since smartphones have reached a significant market penetration with around 50 per cent of internet access now coming from mobile devices rather than desktop computers, and since the iPad has reinvigorated interest in tablet computers. Nevertheless, how teaching and learning with mobile technologies is realised diverges greatly. In this report we present scenarios mainly for use in learning in informal contexts with so-called at-risk learners.

To provide a general context for these scenarios, this section outlines more generally the approaches to learning with mobile technologies that seem to be popular and it discusses which aspects need to be considered in planning mobile learning, such as paying due attention to the knowledge and expertise learners bring with them from their everyday lives.

At a first glance, the use of mobile technologies for learning is not obvious. This is because mobile technologies are commodity items and originally not designed for learning but for entertainment, communication, networking etc. and they are sold as part of users' lifestyle choices and for media consumption. At a second glance, though, a manifold range of opportunities emerges. No standardised concepts exist for the systematic use of mobile technologies for teaching and learning. But some trends can be discerned (see e.g. Seipold 2011 ; Pachler et al. 2010; Bachmair et al. 2011).

Before we look at these trends, let us consider some more general issues about mobile devices and services and learning (see e.g. Pachler, Bachmair and Cook, 2010; Pachler, Bachmair and Cook, forthcoming).

Some general and conceptual issues

One key general observation concerns the growing significance of mobile devices in learners' everyday life-worlds. This significance manifests itself, among other things, in their use for identity formation, social interaction, making meaning in and of the world, leisure pursuits etc. We see a danger in formal and informal education failing to keep pace with the developments in technology use in daily life, as a potential disconnect between the two is likely to lead to an increase in the questioning of the relevance of education and its approaches in particular by the at-risk target group that is already at a distance to education.

With the availability of smartphones, such as the iPhone or the Samsung Galaxy, at increasingly affordable prices, more and more learners have at their constant disposal personally owned and technically highly capable computing devices characterised by what we call 'convergence' of services and functions in a single device, ubiquitously linked to online repositories, services, databases and networks. This trend can be seen to be accelerating (see e.g. › www.guardian.co.uk/technology/2012/jun/27/smartphones-iphone-mobile-market)

These technological developments coincide with significant transformations in other areas of life: society, culture, media, education, the economy, etc. Key features of these transformations are the increase in provisionality and fragmentation, as well as the individualisation of risk-taking and new learning habits, all of which are intimately linked with the growing importance of mobile phones. Paradigmatic changes in the world of media from a push to a pull model on the one hand afford device users growing agency in decision making and an increase in choice, for example in relation to access to information; on the other hand they transfer responsibility for initiative to the users/learners and require them to familiarise themselves with the wealth of information on offer and to make use of the opportunities available (see Pachler et al. 2010, pp 11 ff., 205 ff., 249 ff.). These opportunities are mostly subject to market principles and users/learners are mostly left on their own when navigating the new media landscape. Whilst mobile device users often develop significant expertise in their everyday life-worlds, this expertise tends to be 'naïve', i.e. unreflected. Yet, they are forced to make choices and take risks, which could prove costly, both in financial terms (for example downloading and subscribing to unsuitable mobile phone apps and services) as well as in relation to acquiring necessary prerequisites for the job market or further study, for example by spending their time on activities that are not tested in examinations or recognised by institutions. One integral feature, therefore, to some of the scenarios discussed in this report is the mobile portfolio which allows learners and facilitators to add a level of (meta)reflection to their 'being in the world'.

The characteristic features of what we call the 'mobile complex', in particular everyday life-worlds becoming learning spaces linked to ones media habits, not only provides an ideal application field for mobile devices for learning but in our view it makes the use of mobile devices for learning (in informal contexts) inevitable. Indeed, the question arises whether institutional pedagogy is necessarily the most efficacious context for learning.

This is underlined, of course, by the communicational advantagess of mobile devices, which are closely linked to our conversational definition of learning, namely learning as the outcome of effective communication and as socio-culturally bound and contingent on factors such as co-learners, time, location, (technical) resources etc. Viewed from this perspective, mobile device use can be purposive engagement with the cultural resources and digital artefacts.

A portfolio comprises artefacts which result from or emerge through the process of learning. For a mobile portfolio the functionalities of the mobile phone are used for producing artefacts. As a concept that aims to frame mobile activities and to support reflection, the mobile portfolio tends to take the form of a photo report of the teaching and learning process. Participants as well as the facilitator take photos – casually or deliberately – for example of key words (from the board), of a presentation, of a screen or a book, of documentation of their own learning in informal contexts, of social activities of the learners or of impressions of the social climate etc. In addition to photos, sound recordings or videos are possible. The mobile portfolio is an almost ideal intersection between everyday life practices with media production, naïve forms of reflection such as a holiday photo collection and the deliberate appropriation of knowledge and skills in formal learning institutions. Mobile portfolios are the outcomes of the mobile as the students' everyday life resource. Combined with existing portfolio techniques, the m-portfolio bridges the gap between everyday life and formal learning institutions, between the naïve and the trained expertise of learners. It links media use at home, on the go or with peers with deliberate learning. It makes visible the options of the personal media devices as resource for learning and reflection.

Another obvious question arising from the very name of the phenomenon under discussion here, 'mobile' learning, is who or what is mobile? For us the answer is clear: mobility is turning the environment into a site for learning (see Kress and Pachler, 2007). This, of course, requires a certain disposition on the part of the learner, which needs to be nurtured. In particular in relation to at-risk learners we know from research about the importance of social milieu-related dispositional differences in users/learners, which need to be taken into account when conceptualising scenarios for mobile learning in informal contexts.

In our work (Pachler, Bachmair and Cook, 2010; Pachler, Cook and Bachmair, 2010), the notion of appropriation is particularly important. Appropriation can be understood as being in juxtaposition to learning as a transfer of knowledge. By appropriation we mean the processes concerning the internalization of, and externalization into the pre-given world of cultural products in school, college and university but also, importantly, in everyday life. In short, we consider mobile devices to afford contexts for human development and learning.

Indeed, we see user-generated contexts as a key asset of mobile device use for learning (see e.g. Cook, Pachler and Bachmair, 2012). Mobile devices enable the user to create synergies across knowledge distributed of people, communities, location, time, social contexts, sites of practice, networks, systems etc. and negotiate a mutual understanding of learning situations with others, with whom they are affiliated in increasingly loose configurations. Mobile devices not only enable users to transcend the limitations of their immediate physical environment, but also enable external representations of knowledge through social interaction and the augmentation of internal conceptualisations of knowledge.

Building links to the everyday life of learners by referring to structures, agency and cultural practices

Mainly because mobile technologies and their functions are designed for communication, entertainment and consumption, they are first and foremost related to aspects of learners' everyday lives outside of educational contexts. However, this doesn't mean that the use of these devices, their functions and their content in these contexts is un-reflected. Quite the contrary: everyday life use of technologies is intentional. Everyday use – e.g. making appointments with friends, using the calendar function of the mobile phone or accessing the internet with its social networks – indicates not only communication, entertainment and consumption. Users of mobile technologies communicate, structure, organise and order, plan, network, furnish information, assess, evaluate and produce. In the process they are friends, managers, producers, journalists, reviewers etc. The challenge is to acknowledge such activities taking place in everyday life as competences which have relevance for formal learning and thus to relate formal learning and everyday life meaningfully to each other. This can be realised e.g. by considering in which structures people are acting, which structures they are constructing, which competences they are establishing in this process and which routines they are developing in the process (see the model of socio-cultural ecology by Pachler et al. 2010):

- Structures are for example structures of mass communication and everyday life, e.g. learning environment, home, school, peers, leisure time. Learners navigate within these structures and use them but they also produce structures, which is an important and emancipating aspect. Orientating oneself is as important as is to provide orientation.

- Agency means the ability to act in the world with all available structures and to appropriate these structures. Part of this is that each individual has a subjective perspective on the world. This indicates that agency is affected by subjectivity and that – as a consequence – appropriation and learning are first of all and always subjectively meaningful. The aim is for school learning to moderate between subjective perspectives of the learner and objective requirements of school.
- People develop routines through their activities and they construct cultural practices and relate them to the cultural practice of other people or institutions. These cultural practices enable young people to act confidently and safely in situations and within structures. Here it becomes necessary to acknowledge e.g. the organisation of everyday life, networking, media reception and production or investigation competences of the learners in relation to curricular requirements and to make them available for school learning.

The terms and concepts of structures, agency and cultural practices evidence the fact that engagement in media activity is an intentional activity, usually on a low level of reflection or consciousness, which is also dependent on the social and cultural situation of media use. These aspects are important for teaching because they help to consider that learners from different social milieus experience different availability of technologies, attitudes towards learning, availability of information etc.

Two common approaches to implementing mobile technologies

What can mobile learning look like in practice? Mobile learning practices are potentially manifold and creative – even if there are also challenges such as cost of devices, difficulties in purchasing mobile devices, compatibility of devices, expensive internet connections, focus of learners on the devices rather than on the curricular content and so on.

In general it is possible to distinguish two main approaches of the implementation of mobile learning practice (see Seipold 2011). They tend to focus on formal educational settings but often also apply to projects in informal settings such as workshops, clubs, charities, multigenerational houses etc.

When considering the approaches discussed below readers should bear in mind Rogers' (2006) definition of learning in informal contexts as "a natural activity which continues at all times; it is highly individualised, contextualised... It is almost always concrete, limited to the immediate need; it is always embedded within some other activity. It is associated with our identities – either with confirming and fulfilling our identities in a changing world, or with changing our identities. It is our own individual way of making sense (meaning) of life's experiences and using that for dealing with new experiences. ... like breathing, it is the (mental) process of drawing into ourselves the natural and human environment in which we live ... and using it to build up (develop) ourselves."

1. Top-down approach: often mobile devices are implemented into learning contexts from top to bottom which means they are set-up in relation to already existing teaching and learning structures. This happens often within big projects that have large budgets. In such projects, whole grades, years or even schools are provided with mobile devices such as iPads. A benefit of this approach is that learners who are structurally disadvantaged are not excluded because all learners own the same devices through which equal opportunities are ensured. Risks extend especially to two aspects: first, it may be possible that technologies now have to be used in situations that didn't require the use of technologies before and that learners and teachers need to adjust their teaching and learning process to the requirements of technology and infrastructure. This can result in excessive demands. Second: because tools from everyday life can now be used in formal learning contexts, conflicts might arise; this could happen because learners often are not allowed to use the mobile devices they are used to using in their everyday lives and how the use corresponds to their patterns of use or usage preferences, their agency and their cultural practices. A major handicap of this approach is to alienate the learners from their own and personal learning resources in their everyday life.
2. Bottom-up approach: the bottom-up approach takes account of available resources such as devices and know-how of learners and facilitators. This is cost-saving because no devices have to be supplied. Besides, learners are confident with their devices and can revert to their routines, competences and knowledge when using them. Such projects benefit also from a range of resources originating from the everyday life of learners. If they get the opportunity to work in a self-directed manner when using mobile technologies, contents and other resources supporting their creativity, learners often build exciting connections between formal educational contexts and everyday life – and at the same time the outcomes are still re-usable and assessable in the categories of formal learning. However, one needs to take into consideration that some learners don't own mobile devices, or that they have only old models at their disposal, which don't have all the features that new devices boast. In this case learning groups are the solution. The cost question still exists in relation to the internet or connection cost. Wireless connectivity could reduce this problem but connectivity remains a practical problem, which requires careful attention. And finally, the diversity of devices and models can be a challenge, which, on the other hand, can be considered in advance when planning carefully.

Creative and critical relationship between formal education and everyday life

To balance the tensions that arise from the use of mobile technologies between demands of the school/college/university and its curriculum on the one hand and informal competences, practices and resources from everyday life on the other is one of the biggest challenges with mobile learning. By referring to four parameters (see e.g. Pachler et al. 2010) it should be feasible to sensitize facilitators to such

areas, to balance tensions and to bring together those aspects that seem to be contradictory. The four parameters each span two poles and focus on the creation of content and learning contexts.

- Parameter A names the teaching setting (didactic setting), learning spaces and social form of learning and ranges between the practices of formal education and everyday life.
- Parameter B points to the relationship that the learner has to the object of learning and covers the range between mimetic reproduction and personal reconstruction.
- Parameter C covers the learners' individual expertise and covers the area between the pole of the curriculum and personal expertise.
- Parameter D refers to the span between different modes of representation such as written text in a book and moving images in films. Here, there are the two poles discrete (i.e. mono media, mono modal) and convergent (i.e. e.g. mobile and web 2.0 technologies).

The parameters are intended to illustrate that the use of mobile devices does not necessarily have to be on the innovative and challenging end of the spectrum on all counts, e.g.

A	Practices of formal learning	|---■---------- |	of mobile devices
B	Mimetic reproduction	|----------■---------- |	Personal reconstruction
C	Curriculum	|---------■---------- |	Personal expertise
D	Representation: Discrete	|----------■-- |	Convergent

For worked examples, see Pachler, Bachmair and Cook, 2010. The parameters attempt to help to acknowledge learners' media use and content preferences, styles, expertise, competences, knowledge, etc., which they bring to formal education from their everyday lives and to provide spaces and places to use these resources for learning in the classroom, e.g. by bringing together formal and informal aspects.

Focal points of mobile learning

The following focal points represent the educational and didactic options within the four parameters (see Bachmair, Pachler and Cook, 2011). They can be used to guide the planning and analysis of mobile projects:

Mobile phone use:

- to integrate aspects informal learning
- to set up episodes of situated learning
- to generate learning and media contexts
- to construct conversational bridges
- to support learners as experts of media use in everyday life
- to set up responsive contexts for development and learning

For worked examples, see Friedrich, Bachmair and Risch, 2011.

Adult and work-based mobile learning

Mobile learning in the context of adult education and life-long learning has received relatively little systematic (research) attention to date (see e.g. Pachler and Cook, 2009), with the exception of the now defunct MoLeNET initiative, a mobile learning network in the UK involving some 115 further education colleges and 29 schools funded by the Learning and Skills Network, despite it having been found to be particularly suitable for supporting lifelong learning, for example in terms of social inclusion or participation (see Arrigo et al., 2012).

Whilst mobile learning can clearly provide ample opportunities for personal and individual growth, the relative paucity of public funding supporting adult education, certainly compared with school and university education, arguably has been one factor leading to these opportunities not having been harnessed to the full extent. In a 2009 report by the National Institute of Adult Continuing Learning (Schuller and Watson, 2009), for example, ten recommendations are made to promote the full role of learning in society 'from cradle to grave' among them to rebalance resources fairly and sensibly across the different life stages, inter alia on the grounds of the age profile of the population, and to build a set of learning entitlements, in an attempt to keep up with the changing patterns of work. Linked to the financial argument is the relative lack of stability and weakness of the institutional infrastructure supporting adult education and its fragmentation.

This situation contrasts with the field of work-based mobile learning, where a range of (research) projects are taking place and being reported (see e.g. Pachler, Pimmer and Seipold, 2011 or Pimmer, Pachler and Attwell, 2010).

We discussed earlier the socio-cultural ecology of mobile learning developed by the London Mobile Learning Group. Another approach which might be of relevance in bridging the gap is the social workplace learning continuum developed by Jane Hart to explain and support informal and social learning in organisations (see › www.c4lpt.co.uk/blog/2012/06/04/supporting-the-social-workplace-learning-continuum/):

The Social Workplace Learning Continuum

Formal Learning	Informalizing and Socializing Formal Learning	Enabling and Supporting Informal and Social Learning		Informal Learning
augmenting f2f or online learning events	organising semi-formal online activities	supporting professional learning communities	supporting knowledge sharing in Communities of Practice	supporting self-organised personal learning

› Jane Hart, C4LPT, 2012

Hart proposes five points for consideration:

- think 'learning spaces/places', not 'learning rooms';
- think 'social technologies' not 'training/learning technologies';
- think 'activities' not 'courses';
- think 'lite design' not 'instructional design' – for organized activities; and
- think 'continuous flow of activities' not just 'response to need'.

Whilst the above makes no explicit reference to mobile devices, her continuum and points for consideration seem to offer useful docking points for mobile learning opportunities and interventions.

Conclusion

This section of the report has aimed to provide a brief overview of some of the key issues, from the perspective of the London Mobile Learning Group, which have framed the work of the MyMobile project conceptually. With this report, we hope to be able to contribute to the discussion of the use of mobile devices and services in adult education and learning, in particular through the scenarios we have developed and tested with reference to literature and practice in the existing mobile learning literature in an attempt to bridge the seeming divide between learning in formal and informal contexts.

Links

London Mobile Learning Group (LMLG) › www.londonmobilelearning.net

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