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And don't forget to bring
your mobile

*Informing educational target groups
about mobile learning opportunities.*

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Work-based learning for
education professionals
A Centre for Excellence
at the Institute of Education

Summary of research

The emerging issue Mobile Learning offers opportunities for learners in formal (e.g. school) and informal contexts (everyday life). Being confronted with the fact that even if a tremendous number of mobile learning projects as well as other resources exist, no database could be found which provides a comprehensive overview of existing mobile learning projects or focuses on a standardized set of categories which allows interested parties to search by certain strings for specific projects according to their (research) interests. Also, there is still a need to address specific target groups such as teachers, parents, pupils, multipliers and stakeholders in order to inform them about opportunities that learning with mobile devices offers to learners and teachers. With this in mind, the idea to build a mobile learning project database evolved.

The project aimed to establish distribution and dissemination mechanisms to provide resources, information and guidelines by using an online-database and websites. "MoLeaP – The mobile learning project database" (www.moleap.net; see appendix) is such a mechanism which aims to reach the project's target groups. The MoLeaP database refers to a socio-cultural ecology for learning with mobile devices as theoretical and methodological basis. This framework which was developed by the London Mobile Learning Group (LMLG; www.londonmobilelearning.net) considers the agencies, structures and cultural practices of learners, and it provides categories for the formal description and analysis of mobile learning projects.

Key Findings¹

During the conceptualization of the MoLeaP database there were two components which provided a basis for the database design. One is research of the LMLG, which aims to develop an analysis framework around the notion of a socio-cultural ecology. This allows for project descriptions and analyses independently of their location, context, methodology and aims, and thus for a comparability between different mobile learning projects. The other component relates to already existing databases and resources, which served as a model for the current project, such as www.lehrer-online.de, www.handysektor.de, www.klicksafe.de, www.handywissen.at or www.internet-abc.ch. Further resources with mobile learning projects are provided by the Kaleidoscope Mobile Learning SIG (now: The International Association for Mobile Learning – IAMLearn; (<http://mlearning.noe-kaleidoscope.org/projects/>), the Futurelab mobile learning literature reviews and handbooks (<http://www.futurelab.org.uk/resources/publications-reports-articles>) as well as Becta (<http://www.becta.org.uk/>). Furthermore, proceedings of mobile learning conferences such as mLearn, Handheld Learning, and IADIS are seen as

¹ A previous version of this part (i.e. (1) Concept and (2) Methodology) was published as an article in RECTJ: Seipold, Judith; Pachler, Norbert (2010): MoLeaP - The Mobile Learning Project Database: A Pool for Projects and Tool for Systematic Description and Analysis of Mobile Learning Practice. In: Journal of the Research Center for Educational Technology, Vol. 6, No. 1, pp. 157-171. Online: <http://www.rcetj.org/index.php/rcetj/article/view/87/192>

valuable potential resources in this field. In order not to ignore the efforts and relevance of these resources, MoLeaP will provide links to these resources and thus access to further references beside those available in the database itself.

Key findings refer to different aspects of the project: (1) the concept of the MoLeaP database and (2) the methodological framework for the description and analysis of mobile learning projects.

As the MoLeaP project is at an early stage of implementation and represents work in progress, and because MoLeaP is a relatively new service – it was launched in December 2009 –, there are no results available to date which allow an estimation of the acceptance and/or use of the database. Future research will focus on these aspects.

(1) Aims and concept of the MoLeaP database

Research on mobile learning is closely related to the implementation of mobile learning projects in different contexts, in particular education and everyday life (see e.g. Kukulska-Hulme, Sharples, Milrad, Arnedillo-Sánchez, & Vavoula, 2009). Projects are characterized by different approaches to teaching, learning, locations, and a broad variety of technologies (see e.g. Faux, McFarlane, Roche, & Facer, 2006); they deal with mobile technologies as topic or they support their use as learning and teaching tools (Seipold, 2008).

As the rapidly developing field of mobile learning gives rise to a growing amount of projects, MoLeaP, a public and free-of-charge online database, is conceptualized as a resource and tool for education professionals who are interested in mobile learning, especially in sharing their experiences and projects with others, or in learning from established practice. Projects, applications, and resources can be submitted by users in order to make materials and experiences available to a broad audience and to encourage the implementation of mobile learning projects in different learning contexts, such as school/college/university, family, workplace, and/or everyday life. The database, which is based on the idea of non-proprietary and collaborative knowledge building, aims to provide an opportunity for the systematic gathering of practice,

- to disseminate experiences gained from such projects in order to make practice less ephemeral,
- to provide opportunities for the systematic gathering of practice,
- to enable synergies,
- to contribute to sustainability in innovation of teaching, learning and research, as well as
- to enhance the replicability of mobile learning projects.

The option to submit data in two languages, English and German, is provided in order to support knowledge transfer and scientific exchange between these two language communities. In principle, the range of language interfaces is expandable. We hope that the potential for educational exchange and knowledge sharing, the innovative use of mobile technologies in educational contexts, as well as support for learners and their technology-related cultural practices, will be an incentive for educational professionals to contribute to the database and/or to learn from projects. As the fast growing content of already existing

Seipold, J. 'And don't forget to bring your mobile'

resource-based websites attests, such resources are willingly accepted, frequently used and contributed to by education professionals in order to find new ideas to inform their pedagogical practice.

As MoLeaP is a resource for education, teaching, and learning, all data submitted, be it projects, applications, reviews, or links, are vetted and reviewed before they appear in the database in order to avoid misuse and to ensure high standards.

The database does not aim to achieve technical innovation, but simply to provide straightforward functionality on the basis of design principles derived from principled conceptual work (Seipold, Pachler & Cook, 2009) in an attempt to facilitate the sharing of pedagogical practice. The conceptual and theoretical work is considered to be a particular strength of this database. Furthermore, the operators of the MoLeaP database and website are aware that it is the initiative and willingness of project holders to contribute that makes such a database a rich resource. MoLeaP, therefore, is conceptually in line with the practices of web 2.0 communities, who together produce content in weblogs, forums and other kinds of community-based websites, and thereby provide a basis for collaborative knowledge building.

(2) Methodological framework for the description and analysis of mobile learning projects

The project database combines theory, research, and application. The categories, which are used to describe and analyze mobile learning projects, are based on the theoretical background of a socio-cultural ecology of learning with mobile devices (Pachler, Bachmair, & Cook, 2010). The database as a tool to collect and disseminate projects is seen as a web-based application, which collects practical experience and invites reflection on and analysis of it.

Theoretical and Methodological Background: A socio-cultural ecology for learning with mobile media

Pedagogical and socio-cultural research on mobile learning, which is currently in a phase that can be characterised as theory building, is a discipline that does not focus on educational establishments as the only or even main sites of learning, and, by implication, not just on traditional learning theories in order to explain learning with mobile devices. Instead, different contexts – geographical, virtual as well as conceptual spaces etc – are viewed as central to a full understanding of the challenges and changes attendant to mobile technologies in learning contexts. To fully understand learning from a socio-cultural and media-educational perspective, we argue, practitioners and researchers need to explore the life-world contexts of learners in terms of their personal lifestyles, socio-economic status and milieu background, experiences, interests and media practices. The challenge, as we see it, is not only to learn from the agency of learners but also to reflect critically upon the changing socio-cultural practices that emerge from the use of new, ubiquitous, multifunctional digital technologies, and to integrate the cultural practices that young people develop and acquire in

Seipold, J. 'And don't forget to bring your mobile'

leisure contexts meaningfully into learning in formal contexts such as school, higher education and work. Also, it is necessary to find frameworks, which can adequately describe such activities, and which provide standardised tools in order to achieve replicability and transferability of mobile learning projects, as well as the operationalisation of these components (see Seipold and Pachler, 2009).

We conceive of the dynamics around these interacting processes and variables as a socio-cultural ecology (see Pachler, Bachmair and Cook, 2010; Pachler, 2010; Bachmair, Pachler and Cook, 2009)², which is characterised by

- agency: appropriation as internalisation and externalisation in relation to media use and learning habitus;
- structures (social, cultural, technological): media convergence, applications, media literacy; and
- cultural practices: linking learning in informal and formal settings.

This notion of a socio-cultural ecology comprises different components, such as learner agency, appropriation and cultural practices, everyday life, school contexts, and structures. Importantly, it views mobile devices and the digital artifacts accessed through, and produced with, them as cultural resources (Pachler, 2010). As a consequence, the database is open to any projects with mobile media, irrespective of the notion of learning underpinning it and irrespective of the setting. The theoretical work of the LMLG has led to a set of categories, which are intended to be applicable to projects taking place inside and outside of educational institutions; they provide the basis for the categories of MoLeaP.

Categories for the description and analysis of mobile learning cases

In the absence of a coherent framework for the description of mobile learning projects, the project holder and the LMLG have worked on the categorisation of mobile learning projects, which allows a formal description of mobile learning projects in a standardised way (i.e. general project data; context/rationale; approaches to teaching and learning; technologies and requirements; project outcomes; lessons learnt/issues emerging; recommendations and future possibilities; replicability and transferability).

Categories for Project Descriptions

The following categories, which are an outcome of the LMLG's research on mobile learning and a socio-cultural ecology, were designed for project description. The structure of the database has been designed to be helpful to colleagues planning mobile learning projects by flagging key considerations to be attended to during the planning and evaluation phases, in addition to fostering shareability by providing a common 'language' (soft ontology) to talk about practice.

Contributors will have to follow a multi-step online submission process (see appendix). In addition to personal data for identification and authentication

² Within this theoretical framework, different research traditions and theoretical backgrounds based on leading theoretical work and conceptual thinking from the respective national contexts of the LMLG'S members are brought into a synergy with each other.

purposes, the following information is either required or optional for project submission. Online help is available as necessary.

1. General project data: language of the project description; project name; URL; country; year; project owner and copyright holder; contact; partners; project workers; language in which the project was conducted; types of mobile devices; further media; age of participants; number of learners involved; number of teachers involved; number of supporting staff; role of supporting staff; duration; location; location latitude & longitude (of the location where the project was conducted; for further implication in location-aware contexts); type of educational establishment; phase of education; subject domain; teaching/ learning focus; tags/ keywords; optional text field.
2. Context/rationale: background information, i.e. how many persons; type of educational establishment; duration; devices used; technical support etc.; learning and teaching aims; and envisioned role of mobile devices.
3. Approaches to teaching and learning: how are the devices used; key activities, key tasks, and key pedagogical/'didactic' issues.
4. Technologies and requirements: interoperability, storage, usability etc.
5. Project outcomes.
6. Lessons learned/ issues emerging.
7. Recommendations and future possibilities.
8. Replicability and transferability.
9. Recommended literature and references (optional).
10. Project analysis (optional).

Categories for Project Analyses

The analysis framework might best be described as a heuristic with relevance for mobile learning in the context of a socio-cultural ecology, covered under meta-categories rather than a rigid analysis scheme. The analysis framework is open to examples from school contexts as well as to examples from everyday life. We opened the analysis to aspects of identity construction, and social inclusion/exclusion in order to be able to access the most evident issues of cases of mobile use from everyday life. As for the categories used for the project description, more general and/or additional categories might be considered in order to describe cases from these two 'spheres' more comprehensively. The criteria for the analysis relate to key concepts of the theoretical framework of the LMLG of a socio-cultural ecology as well. As this framework deals with a number of theoretical concepts, which are not self-explanatory, contributors to MoLeaP are free to provide a project analysis that refers to our five proposed categories below. However, in order to allow contributors to refer at least to some of the categories, we provide keywords as well:

- A. *Agency, structure, cultural practice*: e.g. new habitus and social segmentation; 'at-risk learners'; literacy, traditional vs. new; understanding media as cultural resources; participation in cultural practices.
- B. *Approaches to teaching and learning*: e.g. informal/situated/collaborative/problem-based learning; bricolage;

- knowledge building; meaning-making.
- C. *Notions of mobility*: e.g. mobile device used as tool; mobile devices used in relation to meanings; mobility in contexts (place, time, concepts, social constellations, activities, curriculum, cultural resources, and meanings).
 - D. *User-generated contents and contexts*: e.g. transformation of mass communication; mobility; learning as meaning-making in context; ubiquity, choice, appropriation; context crossing.
 - E. *Replicability and transferability*: e.g. replicability and transferability of the 'didaktik' script, using it in a new context; scalability.

Use of technology

The Mo-LeaP database is available via a standardized website which is written in html and php code, including some java-script. The pages can be displayed with all common web browsers including browsers operating on mobile devices. Due to current incompatibility issues with mobile browsers Mo-LeaP does not use Flash. Furthermore, the website does not use cookies. Also, no other third parity software such as media players is required. The database storage engine is MySQL version 5.0.32 (www.mysql.com). The data input and output is managed by PHP (www.php.net). In order to allow instant access to and linking of recent contributions to the database, rss feeds are provided which are automatically filled with newly submitted resources. This feature provides information which is automatically sorted and outputted by specific topics (e.g. the latest projects, applications, reviews, resources).

The categories for project description are mirrored in the search area of the website, where users can choose one or more items to search the database (see appendix).

Impact indicators

By the end of June 2010, the MoLeaP database had 55 registered users. As far as can be seen from the indicated registration data, registered users are from UK, Germany, Mexico, USA, Philippines, Italy, Canada, Switzerland, and affiliated to universities, schools, state departments, non-profit organisations and enterprises.

Dissemination activities

As the project is a dissemination project, distribution of the outcomes was an inherent part of the project design ab initio. Hitherto, the MoLeaP database and the methodology behind it were presented at several m-learning conferences, and were published in conference proceedings, journals and books. The MoLeaP website itself contains web 2.0 syndication features that allow users quick linking. A flyer with basic information about the aims of MoLeaP in English and

Seipold, J. 'And don't forget to bring your mobile'

German and a poster are available for download on the website, as well as business cards with contact information (see appendix).

Own conferences

The 3rd WLE Mobile Learning Symposium, which took place on March 27th, 2009 at the WLE Centre, IoE, University of London was attended by about 60 participants and hosted 2 keynote speakers as well as 30 presentations in 3 parallel strands. The book of abstracts (Eds. Norbert Pachler & Judith Seipold) is online available at http://www.londonmobilelearning.net/symposium/downloads/3rd_wle_mlearning_symposium_-_book_of_abstracts_single_page_display.pdf.

Presentations, papers and chapters

The MoLeaP database was presented on three m-learning related events, including publication in conferences proceeding:

- 3rd WLE Mobile Learning Symposium, WLE, London:
 - *Seipold, Judith (2009): Mo-LeaP - The mobile learning projects database. In: Pachler, Norbert; Seipold, Judith (Eds.): Mobile learning cultures across education, work and leisure. Book of abstracts. Proceedings of the 3rd WLE Mobile Learning Symposium, 27 March 2009. London, pp. 157-161.*
 - *Seipold, Judith (27. March 2009): Mo-LeaP - The mobile learning projects database. 3rd WLE Mobile Learning Symposium: Mobile Learning Cultures across Education, Work and Leisure, 27. March 2009, WLE Centre, Institute of Education, University of London, London. Online: http://www.londonmobilelearning.net/symposium/downloads/3rd_wle_mlearning_symposium_-_book_of_abstracts_single_page_display.pdf.*
- Handheld Learning 2009 Conference (HHL 2009), London:
 - *Seipold, Judith; Pachler, Norbert (5.-7. October 2009): Mo-LeaP - The Mobile Learning Projects Database. A pool for projects and tool for systematic description and analysis of mobile learning practice. Handheld Learning Conference 2009, 5.-7. October 2009, London.*
 - *Seipold, Judith; Pachler, Norbert (2010): MoLeaP - The Mobile Learning Project Database: A Pool for Projects and Tool for Systematic Description and Analysis of Mobile Learning Practice. In: Journal of the Research Center for Educational Technology, Vol. 6, No. 1, pp. 157-171. Online: <http://www.rcetj.org/index.php/rcetj/article/view/87/192>.*
- Further on, a presentation and a poster session were accepted for the IADIS 2009 conference, but not held.

Seipold, J. 'And don't forget to bring your mobile'

Methodology and theoretical framework behind the database was presented at two conferences and published in an authored book:

- 3rd WLE Mobile Learning Symposium, WLE, London:
Seipold, Judith; Pachler, Norbert, Cook, John (27. March 2009): Towards a methodology of researching mobile learning. 3rd WLE Mobile Learning Symposium: Mobile Learning Cultures across Education, Work and Leisure, 27. March 2009, WLE Centre, Institute of Education, University of London, London. Online:
http://www.londonmobilelearning.net/symposium/downloads/3rd_wle_ml_earning_symposium_-_book_of_abstracts_single_page_display.pdf.
- EERA ECER conference 2009:
Seipold, Judith; Pachler, Norbert (28.-30. September 2009): Researching mobile learning. A socio-cultural ecology as framework for qualitative research standards. ECER Conference 2009, 28.-30. September 2009, Wien. Online: <http://www.eera-ecer.eu/ecer/ecer-2009-vienna/>.
- *Pachler, Norbert; Bachmair, Ben; Cook, John (2010): Mobile learning: structures, agency, practices. With contributions from Gunther Kress, Judith Seipold, Elisabetta Adami and Klaus Rummler, New York: Springer.*

Website syndication and promotion

The MoLeaP website includes web 2.0 syndication features (twitter, facebook, linkedIn, rss syndication) in order to allow people to spread information about MoLeaP on social networks. Also, flyers with basic information about MoLeaP in English and German language are available on the MoLeaP website.

In addition to the website inherent features, MoLeaP was teased by the German Association for Media and Communication Culture (Gesellschaft für Medien und Kommunikationskultur – GMK) in its newsletter as well as on the website of the German Journal for Media and Education (Medien & Erziehung - merz).

Potential for further development

Future dissemination should envisage the sustainability of MoLeaP, and should cover the following areas:

- Address target groups (teachers, educators, researchers, students, development, industry, stakeholders, institutions) with view to the following issues:
 - search contents, submit contents; use MoLeaP as reference platform for projects
 - engagement in strategic partnerships: promotion, networking, sponsoring
- Increase publicity of website and database by finding

Seipold, J. 'And don't forget to bring your mobile'

- users
- contributors
- partners

- Undertake promotional activities by
 - linking MoLeaP on third-party websites
 - adding MoLeaP logo to partner websites and print issues
 - distributing flyer to target groups
 - distributing information via mailing lists
 - establishing direct contact to target groups
 - initiating (sponsored) (thematic) contests on MoLeaP

- Engage in strategic partnerships through
 - presentations, publications, workshops, seminars, advisory activities
 - become partner of research projects
 - finding sponsors for
 - website improvement
 - website maintenance
 - review activities

Partners involved

For the development of the MoLeaP database and website, the following people and contractors contributed to the project:

Conceptional framework:

Members of the London Mobile Learning Group (LMLG;
www.londonmobilelearning.net)

Web design:

Visuelle Kommunikation Gabriele Schlipf – momik

Database, programming and scripting:

Klaus Rummler M.A., University of Bremen, Germany

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Seipold, J. 'And don't forget to bring your mobile'

Figure 3: MoLeaP poster