



## m-Learning Manager Training Program

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### 1. Introduction

There never was a technology as widely available to citizens as mobile telephony. This technology connects people working at different places and having different education and learning paths with opportunities for expert and peer feedback and co-learning. Mobile technology offers unprecedented possibilities for combining the strengths of formal and non-formal education and professional internship. For the first time in the history of the use of technology in education and training, there is a technology that will cost the learners nothing, because they own the technology to be used.

The mLearning is emerging as a new sector in education and training provision, side by side with face-to-face education, distance education and e-learning. We can say that we have been in the process of acceptance of mLearning since the beginning of the 21st century, along with 3G/UMTS and Smartphone.

The new mobile learning arena imposes significant new design requirements for training programs - the ways they are structured and maintained. The effective mLearning imposes specific usability requirement. The assessment of the mobile learning in terms of learning outcomes is similar in all VET systems but techniques in mLearning are specific. The validation of the assessed formal and non-formal mLearning should be done in accordance with the common European principles. The quality assurance should be an integral part of the management of mLearning providing institutions.

Our study shows that managerial level in the field will act as premise and stimulus for development of job-roles in the design and development levels. mLearning Manager is a manager but should know about specifics of mLearning pedagogy, mLearning technology and mLearning application development. He or she is not a developer, or teacher – he or she has to organize and manage mLearning design, development, evaluation and implementation into his, or her, organization. In this light he or she needs to get a picture of development and teaching processes of mLearning. mLearning Manager should be aware of the benefits and potential of mLearning, staff needed for mLearning development, resources and organization.

Mobile learning differs from electronic learning (usually referred to as e-learning) because it uses smartphones, mobile phones, PDAs (Personal Digital Assistants), palmtops and similar devices instead of the desktop and laptop computers of e-learning. This means that mobile learning, unlike e-learning, uses devices which citizens are used to carrying everywhere with them, devices which a man can carry in a pocket or a woman can carry in a handbag and uses devices which citizens regard as personal, friendly, cheap and easy to use. A further difference is the mobility of the learner in mobile learning. The mobility of the learner is seen with commuters on buses, trains and metros, with learners on the job for instance on a crane or at a base station and with learners at art galleries, museums or tourism locations. A major difference is in the type of technology used which means that there are types of learning that mobile learning can do that the other sectors of education and training (face-to-face, distance education and e-learning) cannot do or cannot do as well as mobile learning: context sensitive and location sensitive learning materials and augmented reality.

This paper presents the training program for an emerging profession - m-Learning Manager. The multimedia learning resources are presented in the form of task for performance in four languages (English, Bulgarian, Italian, German). The training program is the one of the main objectives of the m-Learning Manager project [1]. mLeMan answers to the need of establishing European level standardization of the quality assurance framework of m-learning management and thus lays down a foundation stone for the profession of m-learning manager.

### 2. The training program

#### 2.1 Performance-centered approach

The teaching in the training program is Internet-based and performed in the DIPSEIL system (Distributed Internet-based Performance Support Environment for Individualized Learning) [2]. The instructional design of the DIPSEIL courses was based on the principles of performance support system (PSS). DIPSEIL is an integrated electronic environment structured to provide individual online access to the full range of information, guidance, advice, data, tools, and allowing the user to perform the task with minimal external intervention and assistance in convenient time and place [3].

The structure of DIPSEIL system has: courses, containing modules, containing tasks. Students can obtain modules contents into the learning task. As in modules design, all the tasks are designed in the same format. Each learning task consists of the following elements:

- Task description - the learning tasks is described, explaining the students what is expected of them.
- Reference information
- task relevant resources that support students by making immediately available information, which they either have to study or use just in time to perform the task.



- Task-specific training - training materials which help the user to learn while performing the task.
- Instructions how to perform the task.
- Expert advice about a task - expert advice part contains specific advice on performing tasks.

### 2.2 Structure of the Courses in DIPSEIL

DIPSEIL contains all the information necessary to pass successfully the m-Learning Manager exams, needed for obtaining a certificate. m-Learning managers must obtain knowledge about best practices in the following areas:

- Pedagogical Aspects of mLearning
- Mobile Learning Tools and Technologies
- mLearning Management.

The training program comprises three courses (table1).

Fig. 1 represents an example of Task specific training screen for Task1 from Module “Devices and Content“. Fig. 2 shows the screen of Instructions how to perform of the same task.

### 2.3 The training program - mLearning solutions

Integrating performance-centered learning and m-learning, results in a performance-centered mobile learning approach, in which students receive performance support via a mobile device while performing the tasks [4].

The courses from the training program are developed according to the principles of mobile learning performance support system. mDIPSEIL [5] is the mobile version of the DIPSEIL system. mDIPSEIL is closely integrated with DIPSEIL. In the DIPSEIL system, learners build their own courses from all available tasks on the system. This is stored in a database. The course of the learner in mDIPSEIL is automatically built from all tasks preliminarily selected in the DIPSEIL.

Fig. 3 and fig.4 represent the Task specific training windows of a Task1 from Module “Devices and Content“, displayed on the mobile device. Fig.5 shows the Instructions how to perform of the same task.

Table 1. Structure of the Courses

<b>Course1: Pedagogical Aspects of mLearning</b>	<b>Modul1: Mobile learning characteristics and design principles</b>	<b>Task1:</b> The student will know the meaning of ubiquitous, bite sized, on demand, just-in-time access to resources, blended learning and collaborative learning.
		<b>Task2:</b> The student will know the principles to be kept in mind while designing mobile learning solutions.
		<b>Task3:</b> The student will know the design principles for creating quizzes that can be downloaded onto mobile phones.
	<b>Modul2: Devices and Content</b>	<b>Task1:</b> Student will know which devices should be considered for mobile learning (PDAs/smart phones, digital phones and non-telephony devices including MP3 players, tablets) and their main specifications.
		<b>Task2:</b> Student will know the type of media elements (text, audio, video, etc.) used in m-learning content according to the characteristics of the mobile devices.
	<b>Modul3: Learning theories &amp; approaches in mLearning</b>	<b>Task1:</b> Student will know when, according to a specific context, within a particular social and physical environment, the "situated learning" applies to m-learning.
<b>Task2:</b> The students will be aware that Mobile devices can support Collaborative Learning by providing another means of coordination among users.		
<b>Task3:</b> Student will know the basics of augmented learning (localization, adaption and personalization of the mobile contents).		
<b>Course2: Mobile Learning Tools and Technologies</b>	<b>Module1: mLearning Content Development – main concepts</b>	<b>Task1:</b> Student will know the the different mobile operating systems (Symbian, Windows Mobile, Web OS, Google Android, Apple iOS) and their characteristics.
		<b>Task2:</b> Student will know how to prepare materials for m-learning. (Tools for converting and formatting file formats, Media-Convert Tools for creating resources (Diagrams, Images, Audiovisual, Audio, Documents, Interactions)).
	<b>Module2: Technological Layers in mLearning</b>	<b>Task1:</b> Student will know the basics of mobile networks (GSM, UMTS, CDMA) and how these can influence the learning. Student knows the hardware mobile standards for content delivery (Bluetooth, Wi-Fi/WLAN, GPRS/EDGE, 3G and 4G,

		WiMAX and HSDPA etc.). <b>Task2:</b> Student will know the typical characteristics (display size, weight, touch/non-touch, etc.) of mobile devices of different kinds/types – e.g. mobile phones, tablets, PDAs, etc.). Student knows typical sensors in modern mobile devices (GPS, A-GPS, Camera,...) and how to use them in mobile learning.	
<b>Course3: mLearning Management</b>	<b>Module1: Needs analysis</b>	<b>Task1:</b> Student will know the importance of identifying the target group (stakeholders, customers). <b>Task2:</b> Student will know how to elicit needs and expectations from the target group. <b>Task3:</b> Student will be able to analyze the needs and expectations (operation environment, constraints, interfaces) where m-learning will be used. <b>Task4:</b> Student will understand the needs for an effective and regular communication (feedback) with the customers/target group.	
		<b>Module2: Innovation and Business Management</b>	<b>Task1:</b> Student will maintain awareness of new mobile technologies, platforms and concepts. <b>Task2:</b> Student will be able to manage the innovation of mobile learning services and products to improve either business goals.

### 3. Conclusion

To become an ECQA Certified m-learning Manager and to be listed within the pool of experts (available at [www.ecqa.org](http://www.ecqa.org)), participants have to take an exam.

DIPSEIL will contain all the information needed to pass successfully the m-Learning Manager exams, needed for obtaining a certificate. Capability Adviser will successfully point out, which fields the user lacks knowledge of, and thus should learn better. All of the needed information is situated on the DALA environment (Development, Assessment, Learning, Assessment), which establishes the connection between the Capability Adviser and DIPSEIL system [1]. The m-Learning Manager Skill Card can successfully be covered via the DALA system.

The exam is done electronically, using a central exam pool of multiple choice questions.

Participants, who pass the ECQA exam for the certified m-learning Manager successfully, will be able to justify their skills with a Europe-wide, market recognised certificate. This certificate will prove their skills and will serve as a reference for employment or for providing services on the market.



Fig. 1. Task specific training

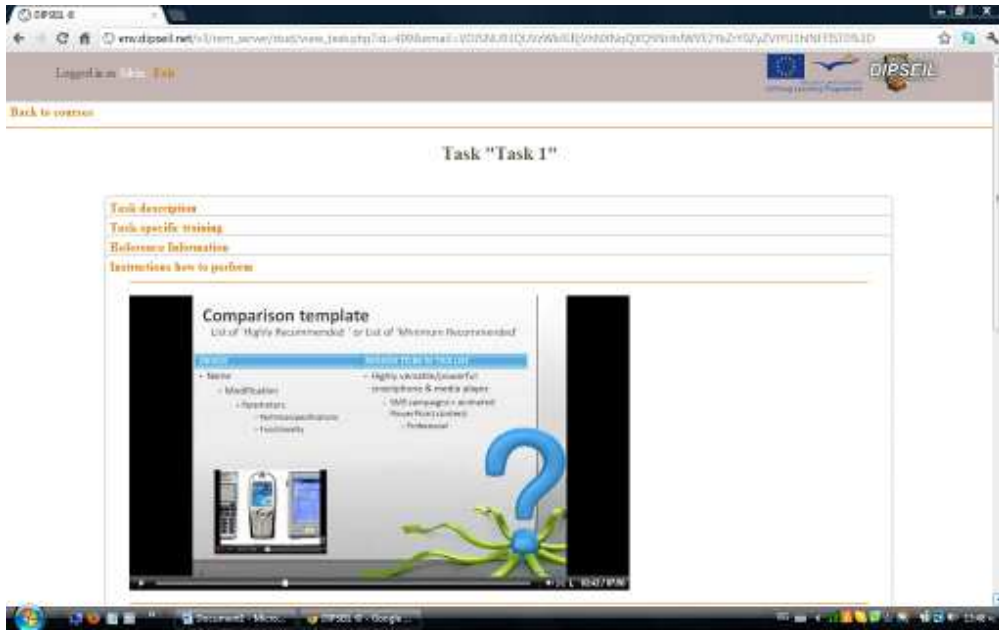


Fig. 2. Instructions how to perform

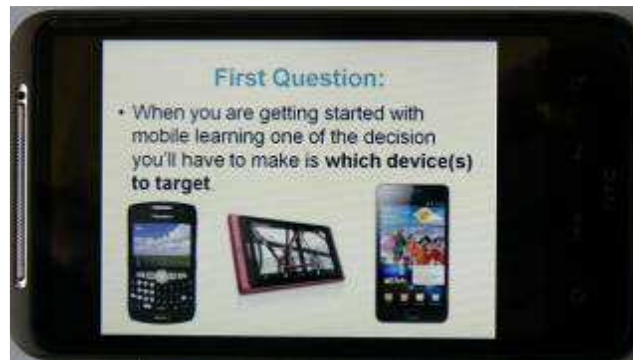


Fig. 3. Task specific training



Fig. 4. Task specific training



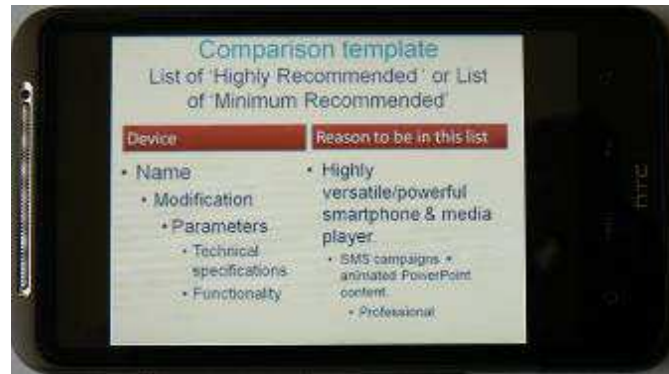


Fig. 5. Instructions how to perform

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### References

- [1] <http://mleman.dipseil.net/>
- [2] <http://www.dipseil.net/>
- [3] Mileva, N., Tokmakov, D., Milev, M., Stoyanova, S. (2007). Developing and Learning with Distributed Internet-based Performance Support Environment for Individualized Learning - DIPSEIL. International Conference ICL 2007 (Interactive Computer Aided Learning), September 26-28, Villach, AUSTRIA.
- [4] D. Keegan, N. Mileva, at al., "Mobile learning performance support system for vocational education and training", 2010, <http://mpss.dipseil.net> .  
<http://m.dipseil.net/v2>