

# Pedagogical Issues in Developing Mobile Assisted Language Learning Materials

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## Abstract

*This paper discusses the issues involved in developing mobile assisted language learning (MALL) materials based on the materials development process for a Leonardo da Vinci (LdV) Transfer of Innovation Project entitled Mobile Learning for Young People at Risk Groups (MLARG). The materials were developed for Grade 9 and 10 students in tourism vocational high schools in Turkey to be used as supplementary self-access materials supporting English learning at school. The paper provides a detailed account of the decisions taken to develop the materials as well as the pedagogical challenges that were faced during the development process.*

*Keywords:* Mobile assisted language learning, Materials development

## Introduction

Mobile learning (m-learning) is defined as learning anywhere and anytime. With the availability of lightweight mobile devices such as mobile phones and personal digital assistants, mobile learning has become a popular learning medium. However, designing effective learning activities for mobile systems is “complex and challenging” (Kukulska-Hulme, 2005, p. 1).

Mobile assisted language learning (MALL) projects through cell phones include the use of voice and email with mobile phones to deliver vocabulary instruction via SMS (Levy & Kennedy, 2005; Thornton & Houser, 2003), teaching vocabulary through games (Sandberg, Maris, & de Geus, 2011) or through an intelligent mobile-phone based tutor (Stockwell, 2007), assessing vocabulary retention through a classroom polling system (Thornton & Houser, 2003), practicing listening skills (Nah, White, & Sussex, 2008), and moblogging to post words and/or pictures to a website in order to promote collaborative activities (Mielo, 2005).

Kukulska-Hulme and Shield (2008) classify MALL studies as content-based versus design-based studies. The former emphasizes the development of activities and learning materials in formal language learning contexts with little emphasis on human interaction while the latter focuses on design related issues to promote human interaction and independent language learning. Content-based approaches to MALL involve examples of delivering text or audio/video content through SMS or a website whereas the design-based approaches to MALL involve activities that support learner collaboration or communication. Kukulska-Hulme and Shield (2008) conclude that MALL should support multimedia as well as collaborative listening and speaking activities.

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This paper describes the MALL materials developed for an LdV Transfer of Innovation Project entitled *Mobile Learning for Young People at Risk Groups* (MLARG). It provides a detailed account of the decisions taken to develop the materials as well as the pedagogical challenges that were faced during the development process. The chapter concludes with a brief summary of the preliminary results regarding evaluation of the materials after they were implemented with a sample from the target audience.

## **MLARG Materials**

### ***Overview***

The goal of materials development is “to develop a sequence of activities that leads teachers and learners through a learning route that is at an appropriate level of difficulty, is engaging, that provides both motivating and useful practice” (Richards, 2001, p. 262). This definition has certain implications for the design of language learning materials, some of which were incorporated into the materials developed within the MLARG project (to be discussed throughout the paper).

From a materials development perspective, the MLARG project had two main goals: (a) to develop a comprehensive set of language learning materials rather than an application with a narrow scope, (b) to go beyond content delivery and incorporate tools that facilitate collaboration and communication. For the purposes of content delivery, a courseware with eight units has been developed. The content of each unit has been carefully designed in order to achieve coherence across units and continuity within each unit. For the purposes of enhancing communication and collaboration, blog, discussion, and chat tools have been integrated into the system.

### ***Target learners***

The materials were developed for students in Grades 9 and 10 in tourism vocational high schools in Turkey. Since the students had exposure to formal language teaching in a school setting, the goal was to develop supplementary materials in order to support self-paced, individualized, and independent learning to practice language skills rather than teaching new content. Thus, the main goals of the materials were to promote vocational English (i.e., tourism English), provide additional language practice to support English learning at school, and to facilitate practice of macro-level language skills especially listening and reading.

### ***Selection of content***

The content of the units was determined based on a needs analysis conducted with students enrolled in a tourism vocational high school (see Bayyurt & Karataş in this issue) as well as 9th and 10th grade English curriculum and textbooks.

The language learning needs that emerged from the needs analysis and were considered to be relevant to the purposes of the MLARG project were as follows:

- practice with macro-level language skills,
- use of English in domain specific contexts,
- contextualized grammar learning,
- enhancing domain-specific vocabulary knowledge.

The alignment of the MLARG syllabus with the 9th and 10th grade curriculum was achieved by selecting grammatical structures, functions, and domain-specific topics from the 9<sup>th</sup> and 10<sup>th</sup> grade English curriculums.

### ***Content Description***

#### *Syllabus*

Syllabuses represent the choices made to organize language content of a course or program (Brown, 1995). A combination of topical and situational syllabus, where the content was organized around topics/situations relevant to the learners, was deemed to be appropriate. The eight topics/situations selected were as follows: at the restaurant, at the tourist information office, hotel check-in, at the travel agency, destinations, on the tour, hotel facilities, and hotel checkout. It was thought that selection of topics relevant to the students' needs would arouse the learners' interest in the materials. Functions, structures, vocabulary, and tasks were listed under each topic/situation. The functions, structures, and vocabulary taught were aligned to the 9<sup>th</sup> and 10<sup>th</sup> grade curriculum not only in terms of selection but also their linear progression in order to achieve congruence between the syllabus of the MLARG materials and the school curriculum (Dubin & Olshtain, 1991).

#### *Unit Structure*

The materials consist of units, each of which is identified with a different topic. The units are comprised of lessons. Each unit has a similar structure consisting of listening, reading, vocabulary, and language use sections. The consistency of the structure is important to achieve a clear reading path, thereby accessibility (Ellis & Ellis, 1987).

The listening skills emphasized are listening for gist and listening for specific information. Similarly, the reading skills target reading for gist and reading for specific information. Focusing on two different sub-skills for listening and reading allows revisiting the same listening or reading text for different purposes. The vocabulary section provides practice with domain specific vocabulary while the language use section provides practice with the language functions associated with the selected topics/situations as well as structures focused in each unit.

#### *Input*

Input is the primary component of the materials design model offered by Hutchinson and Waters (1987) in developing materials for English for specific

purposes. Input may involve text, dialogue, video/audio recording or diagram and provides new language items, correct models of language, and opportunities for learners to use their information processing skills as well as their existing knowledge of both language and subject matter knowledge (Hutchinson & Waters, 1987). An important feature of input in MLARG materials is the inclusion of target learners' cultural background. In other words, the cultural context for the given input involves the local culture so that learners use their resources to deal with language rather than unfamiliar cultural elements (Alptekin, 2006).

The types of input included in the MLARG materials consisted of reading texts, dialogues and monologues in the form of audio and video recordings, and visuals such as diagrams and pictures. Input constitutes the starting point from which content and language to be taught are drawn from.

The listening texts involve dialogues and monologues to illustrate the domain specific language. The dialogues were written considering the roles the target students are likely to take as service providers. Most of the listening materials present audio; there are a couple of video-based materials as well. Similarly, the reading texts were constructed considering the type of reading texts the students are likely to come across with in real life. The texts include brochures, advertisements, leaflets, signs, and notices.

#### *Activity Types*

Both listening and reading activities are organized under two main categories: listening/reading for gist and listening/reading for specific information. The former type of activities requires the students to get the overall meaning of the text whereas the latter requires providing linguistic or nonlinguistic responses to questions about the text as students listen or read.

The materials include the following exercise types that tap top-down skills:

- Listen to part of a conversation and infer the topic of conversation.
- Listen to conversations about given pictures and match them with the pictures.
- Listen to conversations and identify who the speakers are, where they are, and what they are talking about.
- Listen/read and order a sequence of pictures.
- Listen/read and complete a document or diagram.
- Listen/read and answer literal or inferential questions in the form of multiple-choice or true/false comprehension questions.
- Listen/read and select a relevant picture.
- Listen/read and follow the directions on a map.
- Read and determine what the text is about, where it is taken from, or for whom it is written.
- Read and select a title for the text.
- Read and match the given descriptions with pictures.

The purpose of the vocabulary section is to teach domain specific vocabulary through recognition type activities, which involve filling in sentences or matching

pictures with words. Special attention is paid to using visuals as they increase motivation to learn.

The language use section aims to provide practice with both the domain specific language and the grammatical structures emphasized in a given unit. Activity types include multiple-choice questions, matching, and filling in sentences or dialogues.

In order to facilitate communication-based collaborative activities, blog, chat, and forum tools are built into the system. The blog tool allows learners to post both text and multimedia messages. The discussion forum is used for posting text-based comments to given topics.

### ***Design Features***

An important characteristic of the MALL materials in the current project is the integration of multimedia features. Multimedia is defined as the integration of different types of media in a single application. Supporting verbally presented information with visuals to facilitate meaningful and contextualized learning (Kramsch & Anderson, 1999) and allowing users control over their interaction with multimedia information (Deimann & Keller, 2006; Plass & Jones, 2005) are important features of multimedia environments. Scheiter and Gerjets (2007) identify several types of learner control. It is argued that allowing learners to control the pace of the material (pace control), to choose the content and spend as much time on selected content as they need (content control), to choose the order of the available topics to study (sequence control), and to determine how content should be displayed, e.g., in a verbal or pictorial format (representation control) increases interest and motivation in learners (Alexander & Jetton, 2003; Deimann & Keller, 2006).

Thus, the current materials incorporate different types of media along with text to present information such as audio, video, and pictures. Moreover, learners are allowed to control the pace and content. For instance, the audio and video control menu becomes active during listening for specific information so that learners can pause, play, rewind, or forward the files. Sequence control is allowed to a great extent except for the sequence listening and reading sub-skills. Specifically, listening/reading for gist is required before listening/reading for specific information since getting the gist of text facilitates detailed comprehension. Representation control is allowed where possible. For instance, reading texts incorporate multimedia glosses, which provide definitions of words and pictures associated with those words. Learners are allowed to display the type of information.

### **Challenges**

Small screen size poses certain challenges in terms of controlling the cognitive load imposed on working memory resources (Sweller, 1988). Therefore, the design of materials has to be carefully carried out as poorly designed instructional materials increase the load on working memory. Unfortunately, little empirical research exists to guide the design of MALL materials.

One of the challenges that have to be dealt with is the length of reading texts due to small screen size. Reading normally is a discourse level activity. Therefore,

pedagogically speaking, selected texts should be beyond paragraph level. However, the reading texts in the MLARG materials range from 76 to 310 words. Empirical research is necessary to guide the decisions regarding the choice of reading texts.

Another challenge is the design of listening activities. In order to decrease the load on working memory, students should be able to see and answer the questions as they listen. However, small screen size allows for seeing one question at a time. It is demanding for the learners to answer the question, submit the answer, and move to the next question as they listen. Usability studies should be conducted to identify an efficient user interface for such a task.

### Conclusion

The MLARG materials have been piloted with 85 students enrolled in a tourism vocational high school in Turkey. The preliminary results indicate that learners have, in general, positive attitudes towards the materials. After being exposed to the materials more than a month, they were asked what they liked and disliked about the materials.

Twenty-six per cent of the students stated that accessing materials through mobile phones made learning enjoyable. Some students especially emphasized the mobility feature in that they liked being able to access the materials anytime and anywhere. On the other hand, seven per cent of the students expressed strong dislike towards being exposed to the materials through mobile phones. One student said it is not possible to acquire new knowledge from mobile phones; they should be used for practice only. Several students complained about the slow download time and difficulty of navigation.

As for the content of the materials, 18% of the students indicated that practicing listening was useful while 16% emphasized the use of visuals within the materials. These results suggest that MALL materials should especially incorporate practice of listening skills and presentation and practice of content through visuals such as pictures, photographs, and diagrams.

Other features of the materials that were positively evaluated by the students involve practicality, relevance, and facilitating learning. The students stated that the materials were practical because they did not involve detailed content teaching, questions required short answers, and they provided immediate feedback. In addition, materials were perceived to be relevant by the students to their needs in that they involve vocational English. Finally, the students perceived that the materials facilitated learning because the input was comprehensible to them, the activities were challenging enough to support their English classes at school, and practice with a variety of skills such as listening, reading, and vocabulary were provided.

To conclude, MALL has a long way to go with empirical studies geared towards investigating the effects over learning and usability studies exploring the best possible solutions for user interface to support learning.

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