

MobLang—Learning Foreign Languages via Mobile: A Cross-Country Comparison of End Users' Profiles, Motivation, and Preferences

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Abstract—MobLang is a Lifelong Learning Project to provide learning resources for minority languages within certain communities in the EU. It applies Mobile Assisted Language Learning (MALL) to support minority and/or less-frequently used and less-taught European languages. The aim is to promote intercultural dialogue especially in former European conflict regions or regions with many minority groups through promotion of linguistic diversity.

In order to develop mobile language courses that end users are satisfied with and will use potential MobLang end user target groups have been identified and surveyed with respect to their usage habits, learning preferences and wishes.

The results show that—although five different target groups were investigated who live in different environments with different cultural and educational backgrounds—potential MobLang end users are a homogenous group of frequent Internet users who don't use the Internet via mobile phone due to high costs. Their main motivation to learn another local language is for personal reasons. As reported by the respondents a mobile language course should definitely include survival phrases and dialogues in the form of games/crosswords/puzzles, listening and reading activities as well as find the matching word activity and fill in the missing word activity.

The results will be taken into account during the development of MobLang's language courses.

Index Terms—MobLang, Mobile Assisted Language Learning (MALL), Second Language Learning.

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I. INTRODUCTION

Language barriers between individuals of different ethnic groups living in the same country, or Europeans visiting other countries, hinder natural interaction. Communication in a foreign language can hold back the establishment of friendships and closer relationships, thus preventing fruitful intercultural exchange and dialogue. Exploiting technology and especially the recently emerging developments in mobile learning offer a viable alternative. Mobile phones are optimal learning tools that enable people to learn anytime, anywhere, and at their one own pace, even during leisure time.

MobLang (www.moblang.eu) is an innovative foreign language teaching and learning tool aiming at designing, developing, and publishing language learning courses delivered via the mobile phone. MobLang applies MALL to support the following less frequently used and taught languages: Basque in the Basque country, Turkish and Greek in the separate parts of Cyprus, Albanian and Turkish in Greece, and Irish in Northern Ireland. Potential target groups are part of MobLang's development phase and have been asked for their needs, preferences, and usage habits so as to ensure that the final mobile language course will be of interest, value and usefulness to the end users. User specific micro courses will be embedded in a social and cultural context, which will include activities such as lectures, exercises, games, quizzes, as well as access to a live tutor. The identified target groups for MobLang are listed in Table I.

TABLE I
MOBLANG'S TARGET GROUPS

Number	Country/Region	Target Group
1	Basque country	Basque learning Basque
2	Cyprus	Cypriots Learning Cyprus Languages
3	Cyprus	University students
4	Cyprus	High school students
5	Cyprus	Civil servants
6	Greece	Greeks related to Albanians
7	Greece	Greek tourists to Albania
8	Greece	Greeks with Turkish relations
9	Greece	Greeks interested for personal reasons
10	Northern Ireland	10-year old Irish high school student

11	Northern Ireland	Irish parents
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The purpose of the study was to answer four research questions:

1. What is the profile of the identified potential target groups (age, gender, usage of mobile phone and Internet)?
2. What is the identified potential target groups' main motivation to learn a second local language?
3. Which is the identified potential target groups' preferred way to learn a foreign language?
4. Do the identified potential target groups differ in their profile, motivation, and preference across the participating countries?

We firstly summarize the research that describes the role of vocabulary acquisition in second language learning with research that suggests using mobiles can be well suited for second language learning. Next, we explain the research methods. Finally, we present our results.

II. BACKGROUND AND THEORETICAL FRAMEWORK

A. Second Language Learning

Without grammar very little can be conveyed, without vocabulary nothing can be conveyed [1].

As [1] pointed out, even more important than grammar is vocabulary and its acquisition so as to successfully understand and produce language. This approach is supported by [2] who is in favor of greater attention to basic vocabulary acquisition and therefore against the traditional approach of emphasizing grammar during the teaching process of a second language. [2] identifies five fundamental principles of vocabulary acquisition in foreign language learning:

1. Present new words frequently and repeatedly in the input.
2. Use meaning-bearing comprehensible input when presenting new words.
3. Limit forced output during the early stages of learning new words.
4. Limit forced semantic elaboration during the initial stages of learning new words.
5. Progress from less demanding to more demanding vocabulary related activities.

For foreign language learners, vocabulary acquisition necessarily begins with the learning of word forms, the learning of basic word meanings and the establishment of an association between the two. This is a process that can only be realized through repeated encounters with lexical items in contexts that re-enforce meaning [3], [4], whence the first two principles of [2]. Principles three and four derive from [5] and [2]'s own studies that demonstrate the negative effects on vocabulary retention that results from requiring beginning-level learners to use new vocabulary before it has been adequately acquired. Learners have only so much language processing capacity and whatever has to be expended in extended output activities comes at the expense of the input

processing needed to encode word forms. Barcroft's last principle recognizes that extended output activities, such as the building of semantic networks (e.g., synonyms, antonyms, word families, etc.) have their place in the curriculum, but at later stages of development, i.e., after basic encoding has taken place.

The authors of [6] and [7] stress the critical importance of lower-order skills in the vocabulary acquisition of beginning-level learners. Bottom-up processing, specifically the recognition of orthographical form, is an essential element of word knowledge that must be mastered before higher-order skills can be developed. Inefficient orthographic processing hinders lexical retrieval and thus adversely affects language production as well as comprehension.

[8] identifies three processes necessary for thorough acquisition of new vocabulary: noticing, retrieval, and generative use. Noticing, of course, is the essential first step in any type of language learning [9]. With respect to vocabulary acquisition in particular, Nation relates noticing to decontextualization, i.e., the ability of learners to perceive lexical items as part of the linguistic system as opposed to just being part of the message in which it occurs. Drawing on the work on memory of [10], [8] emphasizes the need not just for repetition, but specifically for repeated opportunities to retrieve, and thereby actively reconstruct, form-meaning pairings. Such retrieval can be either receptive or productive. Receptive retrieval involves perceiving form and retrieving the corresponding meaning. Productive retrieval on the other hand involves starting with meaning and associating it with an appropriate form. While both forms of retrieval are essential to vocabulary acquisition, there is evidence to suggest that the greater effort required for productive retrieval results in better learning [11]. The third process identified by [8], generation, involves the recognition or use of previously encountered words in different contexts, that is to say their recontextualization.

Results of [12]'s study of incidental lexical acquisition lend support to the critical role of retrieval and generation in vocabulary learning. They correlate vocabulary acquisition with task involvement, "the greater the involvement, the greater the learning". According to [12], three major factors affect involvement: need, search and evaluation. Searching only takes place when one of the constituents of a form-meaning pair has to be recovered. Task involvement with searching is considered to be moderate if learners have to search for the meaning of the item (i.e., receptive retrieval) and strong if learners have to search for the form to express the meaning (i.e., productive retrieval). Evaluation involves the effort involved in determining the appropriateness of the use of lexical items in new contexts (i.e., generation).

The Lexical Approach advocated by the author of [13]-[15] is of particular relevance to the teaching of beginning-level language. Even more so than Barcroft, Lewis insists upon the primacy of vocabulary acquisition in language learning.

Findings from psycholinguistics and corpus linguistics along with second language acquisition insights deriving from

Input Processing theory and the Lexical Approach thus combine to provide very good reasons to foster initial foreign language learning through basic vocabulary acquisition. Specifically, it is known with reasonable certainty that:

- 1) Language learners intuitively realize that vocabulary mastery is key to language comprehension and production and don't need to be persuaded of its importance.
- 2) Input processing constraints dictate that language learners will instinctively attend to lexis more than grammar for comprehensible input.
- 3) Input processing constraints dictate that grammatical input cannot become part of linguistic uptake until a threshold level of lexical mastery is attained.
- 4) At beginning levels, the essential task of the learner is to master basic form-meaning relationships.
- 5) Repeated opportunities to retrieve form-meaning pairs play a critical role in vocabulary learning.
- 6) At beginning levels, a focus on word forms, especially orthography, is critical to the retention and retrieval of vocabulary.
- 7) Extensive output activities need to follow, not precede, lexical encoding.
- 8) Much of the grammar of a language is in fact encoded in the lexicon itself and is extracted from it as linguistic competence increases.
- 9) Lexical chunking is critical to vocabulary retention and retrieval and is thus essential to language comprehension and production.

B. Mobile Language Learning

One might wonder why use a mobile phone for learning in general and for language learning in specific. This section tries to answer this valid question by summarizing characteristics of mobile learning as well as pointing out advantages.

[15] emphasizes that mobile learning “allows ... students to exploit small amounts of time and space for learning...”, meaning “regular practice in short bursts” [16]. Besides learners' flexibility of when, where, and how often to learn mobile technology moreover offers flexibility with respect to course type. Learning courses of the traditional type where the teacher gives information to the learner can be designed. Also, courses that are similar to question-answer-sessions where learners ask questions and receive answer from the teacher are feasible to design. It is also possible to design interactive courses between learner and teacher. This differentiation was made by [17] who distinguishes three diverse modes of operations: (1) push mode, (2) pull mode, and (3) interactive mode. The push mode is a one-way where SMS messages go from teacher to learner. Moreover, management of timing, frequency, and repetition are determined by the teacher. In the pull mode, learners can ask for information based on a list of contents; the information/answer will be delivered from the teacher. In the interactive mode, the teacher's messages are

pushed and pulled, i.e. learners respond to tasks and receive feedback to their performance.

Looking at potentials of SMS messages in specific, they help learners build their command of vocabulary as words can be presented through definitions and examples while using bulk SMS services to define a group of recipients as well as the schedule of SMS sending process [16].

In their study, the researchers used the push mode of operation to send SMS messages to support vocabulary learning at beginner's level of Italian in order to investigate the acceptability of the push mode [16]. While the majority appreciated the experience and found the SMS either useful or joyful, there was a wide range of acceptable message frequency with some even having had a feeling of intrusion. Moreover, the students expressed a desire to not only reply to the SMS but also receive feedback on their replies. Although the authors claim that the students valued the SMS language course, the results show that a push mode is rather restrictive, not allowing learners to actively participate in their own learning process.

A more sophisticated approach was taken by [18] who used a web based intelligent learning system accessible via PC and mobile in order to teach English vocabulary to intermediary level students. The results show a preference for the web based course with not even half of the participants having used the mobile version. Moreover, mobile learners completed fewer lessons than web learners while being engaged with activities longer via their phone than via PC. Although the results of [18]'s study cannot be generalized due to small sample size, the results not only emphasize that learners' engagement is important and can be increased by understanding users' needs as well as showing compelling reasons for usage but also show the potential of mobile language learning.

III. METHOD

A. Participants

460 individuals (273 females and 179 males; the remaining did not indicate their gender) participated in the survey. The majority with 33% of the participants belonged to the 19-30 age group, followed by the age groups 31-40 with 26%, 40+ with 21%, and 10-18 with 20%.

B. Data Analysis and Measures

In order to investigate needs and preferences regarding second language learning and mobile learning of potential end users, in addition to their mobile usage characteristics a questionnaire was used.

The questionnaire consisted of several sections: demographics (age, gender, nationality, education, and occupation), Internet access and usage via PC and mobile, type of mobile phone, motivation to learn a second language, as well as preferred course content and material. The participants could leave their contact details in case of interest

to actually take the language course at a later stage or for further project information. It needs to be noted that not all questions were delivered in all participating countries due to cultural differences, i.e. the core questionnaire was adapted and translated by each partner organization in order to fulfill national cultural and ethical standards.

IV. RESULTS

In the following sections, the results giving answer to the research questions will be presented separately according to the identified target groups across the participating countries/regions. For simplicity reasons, in this article the results are only presented for the most frequent target group per region, i.e. Basque learning Basque, Cypriots Learning Cyprus Languages, Greeks related to Albania, Greeks with Turkish relationships, and Northern Irish secondary school students.

A. Basque learning Basque

1) Profile

Seventy one Basques (36 females and 33 males; 2 did not indicate their gender) participated in the survey. The age distribution shows that the majority of the target group 'Basque learning Basque' belong to the 31-40 (39%) and 40+ (39%) age groups, indicating that in the Basque country mostly adults showed interest in MobLang. However, the age group 19-30 (21%) also has a significant number of people which cannot be ignored.

The great majority of the respondents (81%) responded to use the Internet almost every day, whereas much smaller numbers use the Internet less often (9% once per week, 7% once per month, and 3% never).

Only a very small number (11%) reported use of the Internet via mobile phone. The most prominent reason that participants gave for not connecting to the Internet via their mobile was no interest in actually doing so (43%). A smaller number of people reported that the reason they don't connect is because it is too expensive to connect (25%), as well as because their phone does not offer the option to connect (19%). Only 3% reported to not know how to connect.

2) Motivation

Most participants in the survey reported that they want to learn Basque because of personal interest (50%), followed by job related reasons (36%), and thereafter for reasons of communication with family and friends (19%) as well as travelling reasons (17%).

3) Preferences

Respondents were asked to rank their preference regarding the following different types of possible course content: survival phrases/questions, short basic dialogues, vocabulary (i.e. numbers, days, months, and terminology), pronunciation, and access to a native speaker. Survival phrases were ranked number 1, dialogues were ranked 2, vocabulary was ranked 3,

pronunciation was ranked 4, and access to a native speaker was ranked 5.

Respondents were finally asked to rank their preference regarding the following different types of learning methods: games/crosswords/puzzles, quizzes, filling in the missing word, matching words (e.g. synonyms, antonyms, definitions), reading comprehension, and listening comprehension. Games/crosswords/puzzles, filling in the missing word, and listening comprehension were ranked number 1 by the majority, reading comprehension was ranked 2, and both matching words quizzes were both ranked 3.

B. Cypriots Learning Cyprus Languages

1) Profile

One hundred thirty one Cypriots (73 females and 54 males; 4 did not indicate their gender) participated in the survey. The age distribution shows that the majority of the target group 'Cypriots Learning Cyprus Languages' (CLCL) belong to the 40+ age group (40%), followed by 31-40 (33%) and 19-30 (26%) age groups, indicating that in Cyprus adults of all ages showed interest in MobLang.

Almost all surveyed Cypriots (97%) responded to use the Internet almost every day, whereas a much smaller number reported to use the Internet once per week (3%).

The great majority (80%) stated that their mobile phone has Bluetooth with a minority (8%) who did not know about the Bluetooth capability of their phone. A third (31%) reported use of the Internet via mobile phone. The most prominent reason that participants gave for not connecting to the Internet via their mobile was too expensive fees (23%). A smaller number of people reported that the reason they don't connect is because they are not interested (17%), they don't know (15%) as well as because their phone does not offer the option to connect (13%).

2) Motivation

Most participants in the survey reported that they want to learn either Greek, Turkish or both because of personal interest (74%), followed by reasons of communication with family and friends (47%), thereafter for job related reasons (24%), as well as for business (18%) and travelling (17%) reasons.

3) Preferences

With regard to types of course content, CLCL preferred survival phrases (rank 1), closely followed by dialogues (rank 2). Vocabulary was ranked 3, pronunciation was ranked 4, and access to a native speaker was ranked 5.

Looking at learning methods, CLCL had a clear preference for listening activities with rank 1. Reading and matching words activities were both reached rank 2. Games/crosswords/puzzles and filling in the missing word activity both reached rank 3; quizzes landed on rank 6.

C. Greeks related to Albanians

1) Profile

Forty Greeks (26 females and 13 males; 1 did not indicate the gender) who are related to Albanians participated in the survey. The majority of the respondents were young adults belonging to the age group 19-30 years (53%). A third belonged to the age group 31-40 (33%) and a smaller number of respondents to the age group 40+ (13%). The age distribution shows that mainly adults of younger age are interested in MobLang.

Almost all respondents reported use of the Internet on daily basis (93%); 5% reported to use the Internet weekly and 3% monthly.

A small number of respondents reported use of the Internet via their mobile phone (18%). When asked why they do not use the Internet via mobile phone most of the participants reported to not due to its expensiveness (48%). Some participants stated not to know how to do so (24%) as well as their phone does not offer the possibility to connect (21%). A small number of people responded not to be interested (11%).

2) Motivation

The great majority of Greeks related to Albanians reported to learn Albanian out of personal reasons (75%), followed by travelling reasons (33%), job related reasons (10%), and for reasons of communication with friends and family (8%).

3) Preferences

With respect to course content, respondents' preference was survival phrases at rank 1, closely followed by dialogues at rank 2. Next the following types of course content followed: vocabulary at rank 3, access to a native speaker at rank 4, and pronunciation at rank 5.

Looking at learning methods, respondents had a clear preference for games/crosswords/puzzles (rank 1). Matching words activity followed (rank 2) and correct answer activities (rank 3). Reading and fill in the missing word activities followed both at rank 4. Listening activities were rated at rank 5 and quizzes at rank 6.

D. Greeks with Turkish relationships

1) Profile

Fifty nine Greeks (39 females and 19 males; 1 did not indicate the gender) who are in relation with Turkish living in Greece participated in the survey. The majority of the target group 'Greeks with Turkish relationships' are young adults and belong to the age group 19-30 (44%). Almost a third belonged to the age group 31-40 (27%), followed by the age groups 10-18 (19%) and 40+ (10%). This distribution shows a wide range of interested individuals who want to learn Turkish.

Two thirds (67%) of the respondents reported to use the Internet almost every day; whereas 19% of the respondents reported to use the Internet weekly and monthly (14%) respectively.

A small number of people (21%) stated to use the Internet via mobile phone. The top reason that participants gave for

not using the Internet is its expensiveness (45%). The second prominent reason was that the phone does not have the capability to connect to the Internet (24%), followed by not knowing how to do so (15%) and no interest (14%).

2) Motivation

The great majority of the participants (58%) want to learn Turkish for personal reasons. Other reasons mentioned by the respondents were travelling (29%) and communication with friends and family (15%).

3) Preferences

Respondents had a clear preference of survival phrases (rank 1) with respect to course content. Thereafter followed dialogues (rank 2), vocabulary (rank 3), access to a native speaker (rank 4), and pronunciation (rank 5).

With respect to learning methods, participants preferred reading activities at rank 1, closely followed by correct answer and filling in the missing word activities both at rank 2. Matching words and listening activities were both at rank 3. Games/crosswords/puzzles and quizzes were least preferred both at rank 5.

E. Northern Irish secondary school students

1) Profile

Sixty two secondary school students (32 females and 30 males), aged between 10 and 18 participated in the survey.

Almost all surveyed students (94%) reported to have Internet access. The majority of those responded to use the Internet on an almost daily basis (57%), followed by Internet usage once a week (23%), and once per month (15%). Only 7% of the students said to have never used the Internet.

A few students (12%) reported use of the Internet via mobile phone. The most prominent reasons that students gave for not connecting to the Internet via their mobile was three fold: phone cannot connect (30%), they don't know how to connect (30%), and high costs for connecting (27%).

2) Motivation

Most students reported that they want to learn Irish because of personal interest (62%), followed by travelling reasons (26%), and for communication with friends and family (10%).

3) Preferences

Looking at course content, students had a clear preference for short basic dialogues (rank 1) and pronunciation (rank 2), then followed by vocabulary (rank 3), survival phrases (rank 4), and access to native speaker (rank 5).

With respect to learning methods, students showed a clear preference towards games/crosswords/puzzles with rank 1. Quizzes followed with rank 2, followed by reading and listening comprehension, matching words, filling in missing words, and multiple choice questions all on rank 3.

V. CONCLUSION

The purpose of this study was to mainly investigate motivation and learning preferences of potential end users to MobLang within several European countries. Four research questions guided the study to which the answers will be given here.

1. What is the profile of the identified potential target groups (age, gender, usage of mobile phone and Internet)?

Both females and males showed interest in MobLang although a slightly higher participation of females was observed. In the Basque country and Cyprus mainly individuals between the ages of 31 to 40+, whereas in Greece mainly younger individuals aged 19-40 showed interest in learning another local language via mobile phone. With respect to age potential end users in Northern Ireland differ from the other countries as the target group is clearly defined with secondary school students.

The great majority of all target groups reported to use the Internet on an almost daily basis, except for Northern Irish students who reported slightly less usage. With respect to Internet usage via mobile phone as well as reasons for not doing so similar results were obtained from all participating countries: a small number of people use the Internet through their mobile and expensive connecting fees was given as first or second reason for not doing so.

2. What is the identified potential target groups' main motivation to learn a second local language?

All investigated target groups reported the wish to learn another local language out of personal reasons. Unfortunately, this result does not allow telling for which personal reasons exactly and therefore might include all other answer options (e.g. communication with friends and family, job, travelling). Focus groups with all potential end user groups will be held in order to clarify this issue. In future questionnaires general answer options like this one should be avoided in order to obtain precise and interpretable data.

3. Which is the identified potential target groups' preferred way to learn a foreign language?

With the exception of Northern Irish students, respondents clearly preferred survival phrases and dialogues to be included in the language course. With respect to learning activities games/crosswords/puzzles were ranked first by three target groups. Moreover, listening and reading activities as well as find the matching words and fill in the missing word activities were under the more preferred learning methods to be included into a mobile language course.

4. Do the identified potential target groups differ in their profile, motivation, and preference across the participating countries?

Although the potential target groups vary with respect to their way of living, cultural and educational background, professional and social status all individuals interested in the MobLang course seem to be quite homogenous in age, Internet usage, motivation to learn another local language, as well as learning preferences and wishes.

The knowledge of who MobLang's potential end users are and what motivates them is key to creating a solution that they are able to use and will find useful. MobLang development team will use these results in order to develop target specific language courses delivered via mobile phone.

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