

1 Background to LanGuide Language-Learning Framework

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The paper focuses first on the novelties introduced to foreign language learning by MALL and mLearning, thus drawing an overview of recently published research into unique affordances they offer and implications they have for a new language learning methodology. Secondly, we discuss the framework for foreign language learning materials for 6 languages (English, Croatian, Italian, Romanian, Slovenian and Spanish) adapted to mobile devices, while also providing a description of the structure of the LSP modules for language for academic purposes, secretarial or administrative purposes, mobility and IT language needs. The range and variety of modules represent the core feature of the LanGuide App, which is a result of intertwining expertise of foreign language teachers and researchers with IT developers and researchers from 6 tertiary institutions in 5 EU countries (Slovenia, Croatian, Romania, Spain and Sweden) within the international consortium of the LanGuide Project.¹ The results of this enterprise lead to re-evaluation of some teaching approaches and suggest recommendations for teaching practitioners and materials developers engaging in mLearning.

Keywords: eLearning, mLearning, teaching approaches, LanGuide project, multilingualism

Introduction

The objective of this paper is to examine the salient theory and research about mobile learning (henceforth mLearning) in the field of foreign language acquisition, so as to complement theoretical insights with examples of implementation of the novel approaches. A related aim is to assess to what extent lessons learned from earlier published research can inform

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the design technology and pedagogy for mLearning of the new LanGuide App, developed within the LanGuide project.

The language-learning materials developed within the project rely on the presupposition that language usage in an internationalized academic environment is tightly connected to practical everyday situations of a sojourner where an app can make a difference, for instance when seeking to make themselves understood and communicate own meaning in typical everyday situations within mobility exchanges. An app cannot solve all language issues when engaging with a variety of situations in a new country and a new academic institution. However, informal learning with content that can be useful and shared with others, is suggested to enhance language learning, add to the pace of integration and help provide a smooth transition to a new studying or working environment.

After a lengthier analysis of earlier pertinent research, the paper discusses the framework that helped structure the language-learning materials within the LanGuide project and guided the technical design of the LanGuide App. The approaches adopted in designing the language modules and the underlying pedagogy are presented, followed by a discussion on the effectiveness and/or shortcomings of the methodology adopted. Finally, a few suggestions for further integration of eLearning methodology and resources into practices of foreign language learning are also briefly examined.

Learning with mobile devices is rapidly entering the mainstream of education (Johnson et al., 2014) and learning of foreign languages seems to have a particularly prominent role in these endeavours. However, there are still limitations imposed by technical affordances of the mobile devices that can bound the pedagogical exploits of a resourceful language teacher.

Thus, the paper tries to answer the questions regarding the pedagogical principles, which should guide development of language-learning materials for mLearning, which approaches adopted in designing language-learning materials for mLearning can be considered similar to those directing textbook production, and summarizes the lessons, which can be learned to successfully implement autonomous language learning on mobile devices.

Considerations on Traditional Language Learning, eLearning and mLearning

According to recent research on education in a technology-oriented world, future learning in higher education will presume independence and in-

dividualism (e.g. Laskova, 2021; Bower, 2019), thus teaching professionals should gear their pedagogy to promoting intrinsic motivation, agency, self-direction, self-regulation and the principles of life-long learning. Such developments are predicated also on the basis of recent practices, advanced and exploited in the virtual learning environments during the pandemic, in which educators strove to balance and encourage sustainable and independent learning models. In view of the widespread use of smartphones all over the world (Silver et al., 2019), mobile learning is bound to have a major role in language learning evolution, since it can increasingly offer new options for integrating real-life communication with learning incentives by its multifaceted affordances.

However, a number of researchers still point out to a disconnect between the world of education and the mobile technology, which learners interact with mostly beyond the classrooms and lecture halls (e.g. Walsh, 2010; Kukulska-Hulme et al., 2015; Jie et al., 2020), thus failing to integrate into the learning process an important source of learner's motivation. Furthermore, research identifies as a problem the lack of new pedagogical frameworks that could guide educational endeavours for integration of mLearning into the curricula (e.g. Sharples, 2006; Bernacki et al., 2020). From recent research into mobile pedagogy, it has also become clear that education in the mobile age cannot replace formal education; rather it can offer a way to extend, support and scaffold learning inside and outside the classroom (Mutiaraningrum & Nugroh, 2021).

Moreover, studies evidence an important paradigm shift between the traditional educational systems and mLearning. Namely, the primary goal of the traditional educational system was effective transmission of canons of scholarship in a formal educational setting, while the construction of knowledge in a mobile era occurs as information processing in the interaction through and with personal and mobile technology in a range of environments (Sharples, 2006).

In terms of language acquisition, the traditional, well-paced acquisition process requires persistence and stamina, since a 'drip-feed approach [...] often leads to frustration as learners feel they have been studying for years without making much progress' (Lightbown & Spada, 2006, p. 186). On the other hand, mobile assisted language learning (henceforth MALL) and mLearning¹ give students the opportunity to engage with language dur-

¹ mLearning refers to affordances of language tuition supplemented by informal learning on smartphones, whereas MALL (mobile-assisted language learning) – a subfield of mLearn-

ing lessons and between lessons with personalised, self-paced and learner-centred activities (Viberg & Grönlund, 2012), thus allowing a more agile, focused and needs-centred development of communicative skills in a foreign language.

Such a shift of goals and objectives calls for a thorough rethinking of teaching and learning approaches, as well as requiring development of effective methods and teaching materials for mLearning. Technology itself plays a role in reshaping people's preferences, perceptions, and attitudes, leading to the idea of a methodology co-constructed in a sociotechnical system (Viberg & Grönlund, 2012) and drawing on lessons learned from practices developed within distance learning and computer assisted language learning (henceforth CALL), while also requiring adjustment to the new demands, such as flexibility, portability and spontaneity (Mutiaraningrum & Nugroh, 2021).

Narrowing the view to the main objective of the LanGuide project, namely, to the design of a mobile app for language acquisition, it needs to be observed that 'there are apps for all aspects of language learning, but very little consideration has been given to the pedagogical premises that underpin the design of mobile apps' (Brick & Cervi-Wilson, 2015, p. 24). These apps provide a multifaceted capability that offers time and space flexibility and adaptability that facilitate the changeable environment favoured by a variety of self-learners from students to professionals (Ibache, 2019), but the convenience of virtual learning and 'the ubiquity of mLearning options affect the manner in which one learns, as language learning intertwines with users' daily life activity and work' (Kukulskahulme, 2012, p. 10). Enhancing motivation of self-regulated learners still seems to require a well-organized design, relevant content and clear scope (Broadbent, 2017), as well as a learner and knowledge centred approach. Successful mLearning of a foreign language should build on the skills and knowledge of students, enabling them to reason from their own experience, while providing a structured syllabus of validated knowledge, taught efficiently and with inventive use of concepts and methods (Sharples et al., 2005; Elbabour & Head, 2020).

Consequently, the new medium entails also a shift in roles and respon-

ing – covers a broad range of activities for individual practice of language skills and knowledge, including language courses and lessons, but also exploratory learning in urban settings, collaborative and competitive language tasks, reference books and similar. eLearning is based on a structured, formal course delivered or supported by learning materials provided on a website, it includes CALL (Computer-Assisted Language Learning).

sibilities of teachers, thus Conole and Alevizou (2010, p. 44) highlight that ‘the boundaries between traditional roles (teacher and learner) and functions (teaching and learning) are blurring. “Teachers” need to be learners in order to make sense of and take account of new technologies in their practices.’ Teachers and materials writers need to be aware of the specific ways in which digital devices can conveniently be used inside and outside the classroom by their end-users, as well as of the specific sites and apps students frequently access and the ways they plan to use their digital devices (Brick & Cervi-Wilson, 2015).

We can conclude that mobile language learning has already changed the approach to language acquisition to some degree, while a number of issues still need to be addressed and analysed in order to provide a meaningful and productive user experience on language-learning apps.

Research Framework

The main aim of our research was to examine recent developments in the field of MALL and mLearning for second language acquisition (henceforth SLA), in order to identify the salient pedagogical principles, which govern the design and implementation of technology-mediated self-study materials for foreign language acquisition, in particular the mLearning pedagogy. A review focusing mainly on pedagogical and linguistic aspects of the available mobile apps and a critical evaluation of their exploitation provided the basis for the assessment of the language learning materials developed within the LanGuide project, as well as for proposing recommendations for possible future developments.

The following research questions guided our work:

- Which pedagogical principles guide development of language-learning materials for mLearning?
- To what extent are the approaches adopted in designing language-learning materials for mLearning similar or different from those directing textbook production?
- What lessons can be learned for a successful implementation of autonomous language learning on mobile devices?

Methodology

In order to acquire insights into recent developments in the field of MALL and mLearning for SLA, a selection of self-study language learning apps were first identified and briefly examined. Secondly, a corpus of articles

reporting on research of current practices promoted by mobile-learning pedagogy provided a framework for identifying some salient features and affordances of this novel language learning environment. Finally, the criteria derived from this research served as the basis for evaluation of the practices introduced in the LanGuide Mobile App.

Insights from mLearning Models for Language Learning

Almost two decades ago Keegan (2002) suggested that mLearning, as a subset of eLearning, would fashion the future of learning, since technological innovations and new devices offer learners the possibility to study at their own convenience, wherever and whenever one wishes to exploit the opportunities provided by the ubiquitous learning devices. So far, the prediction seems to have come true only to a certain extent in the field of language learning, namely, the language-learning apps have proliferated, but there is scant research available that would confirm a revolutionizing effect on practices of language acquisition.

For purposes of this article, mobile language apps are those accessed through a website, as well as apps downloaded onto portable smartphones, tablets, desktops, and laptops.

Examination of Some Technology-Mediated Self-Study Resources

For the purpose of this research, the following mobile apps have been briefly examined: *Duolingo*,² *Babbel*,³ *Busuu*,⁴ *Beelinguapp*,⁵ *Memrise*,⁶ *50 languages*,⁷ *HelloTalk*,⁸ *Slonline*⁹ and *Flax*.¹⁰ It was established that numerous language-learning apps offer the possibility to engage with a wide range of languages (*50 languages*: 50 different languages, *Duolingo*: 38 languages, *Memrise*: 25 languages, *HelloTalk*: 150 languages, *Babbel*: 14 languages, and *Busuu*: 13 languages) and the choice is still growing. However, except for *Beelinguapp*, they all offer the possibility of learning a foreign language both on the mobile application and/or on the web platform. In

² <https://www.duolingo.com>.

³ <https://uk.babbel.com>.

⁴ <https://www.busuu.com/en>.

⁵ <https://beelinguapp.com>.

⁶ <https://www.memrise.com>.

⁷ <https://www.50languages.com/phrasebook/it/en>.

⁸ <https://www.hellotalk.com>.

⁹ <https://www.slonline.si>.

¹⁰ <http://flax.nzdl.org/greenstone3/flax>.

fact, the mobile apps regularly offer a limited selection of the resources provided on their respective eLearning platforms. Some apps offer to focus on a single language (for example *Slonline* for Slovenian, *Flax* for English) and still combine the use of mobile devices with web platforms.

The great majority of resources for mLearning offer language learners collections of exercises organized in a systematic way, i. e., complete language courses focusing on the essential knowledge of grammar and vocabulary, broadly following the main structure of textbooks for different levels of mastery of individual languages. Due to somewhat limited possibilities of interaction offered by the devices (e.g. multiple-choice exercises, drag-and-drop exercises, quizzes, gap-fill exercises, jumbled-sentence exercises and similar), the exercises tend to be somewhat repetitive, while offering almost the same topics, vocabulary and grammar content. They provide practice into developing the four skills, i.e., listening, reading, speaking and writing skills. The learning approach suggested seems to be above all based on constant repetition and recycling in order to help memorize a set of vocabulary items or grammatical features or even entire sentences. They do not provide any explicit grammatical explanations, expecting learners to deduce the principles of grammar on their own. Some mobile language-learning apps provide a glossary of key vocabulary items included in the language course (e.g. *Slonline*).

However, there are also some notable initiatives proposing alternative options to virtual language learning on mobile apps. We found the example of *Babbel* interesting, because it links the exercises on the mobile app to the language courses held by experts on their web platform, so that the mLearning part seems to be meant as an incentive spurring the learner to engage with foreign language learning thoroughly on the web extension. *Beelinguapp* also introduces a novel approach by focusing only on developing reading and listening skills in a foreign language. The mobile app proposes to listen to a series of audiobooks while also reading the text with a bilingual side-by-side method, presented in the learner's mother tongue and in the target language. Moreover, an innovative approach is proposed by *HelloTalk* that declares to be a 'social language learning platform' and offers learners the opportunity to learn a language directly from native speakers by pairing individuals from different language backgrounds, thus forming a community of language learners, who study in a highly personalized manner with the support of a virtual tutor. The mobile app and the respective web site take advantage of affordances presented by the new technologies, such as interaction on video platforms,

interactive whiteboards, video chats, messaging, photography, while also using integrated tools for translation, pronunciation, transliteration and correction. A novel language-learning approach is advanced by the *Flax* (*Flexible Language Acquisition*) web platform and app, which focuses on frequent collocations and graded reading of a bank of authentic texts, thus developing exercises on the principles of data-driven language-learning systems and academic vocabulary lists. The learning materials provided cater to the needs of higher education students who wish to discover and learn the domain-specific language features of their interests in the English language.

While offering useful insights into available options to organize and structure language-learning materials for mobile devices, this brief examination of the popular mobile apps helped us identify the following guiding principles that inform delivery of language learning content:

- The resources can be organized as a collection of exercises organized in a systematic way, i. e., complete language courses accessible on the mobile device or web platform.
- The exercises available on the mobile app can serve a teaser to engage with comprehensive language courses delivered by experts on their web platforms.
- To engage in individualized language acquisition language learners and tutors can form a virtual language learning community, which exploits affordances offered by the new technology.
- A narrow set of language skills can be developed by integrating learning resources based on language mining or bilingual text reading.

Research Analysing Language Learning Software Implementation

There is scant published research of actual use of language training software applications for SLA. While these software packages are often marketed as complete language learning solutions, a deeper evaluation points to a few serious problems.

For example, in discussing approaches to learning grammar with *Duolingo* Nushi and Egbali (2017, p. 89) observe a number of problematic issues. They make a claim that ‘technology gives learners the chance to see grammar as a skill, not merely as a set of abstract rules, and [they] use that skill to choose the appropriate language form for particular contexts and meanings.’ However, the authors also emphasize that lack of any grammar notes, rules or explanations within the web platform can be problem-

atic. Consequently, should the learners make a grammar mistake in the language they learn, *Duolingo* indicates where the mistake occurred, but learners must work out the rule on their own or refer to other sources, such as dictionaries and grammar books. Another difficulty they observe regards pronunciation of new words, which are sometimes presented only in their written form without any audio input. In many languages (such as English and French), homographs do not always have the same pronunciation, which can create dilemmas for learners. In standard learning, when introducing new vocabulary, the teacher must always accompany the written shape of the word with its pronunciation (p. 95). Moreover, they also point to a major downside to how *Duolingo* ‘uses one language to teach another one’ (p. 95). If one wants to learn English, for example, it is necessary to know the language of instruction for the English course, since the course is delivered only in a few languages. This can limit the number of the app’s users.

In fact, English is the language of instruction for the majority of other target languages and this poses another problem. Namely, if learners learn the target language through a second language, they are always prone to be dependent on the second language and may never be fully able to express themselves in the newly learned third language (Carreres, 2006). Furthermore, they suggest that the *Duolingo* app can go some way as extra practice complimenting regular classroom instruction. However, its approaches develop mainly a receptive language knowledge, which can collide with the requirements for productive language use promoted in modern language teaching (p. 97).

Similar observations are made by a number of researchers in regard to other mobile apps. Loewen et al. (2020) discuss the *Babbel* language-learning application and note that the tool can considerably improve users’ receptive second-language knowledge, while the degree of improvements in productive and/or communicative language abilities remains less clear. Indeed, considerable doubt has been expressed in the SLA literature on the CALL pedagogy in general, as to whether meaningful development of oral language abilities is possible in the context of commercial online language learning platforms (e.g. Lord, 2015). To date, little is known about how well technology-mediated self-study packages work or under what conditions they can result in productive SLA resources.

In their findings, Sofkova Hashemi et al. (2017) also highlight that most currently available packages for mobile language learning tend to be dominated by behaviourist approaches to developing language skills, since the

majority of exercises is formed by drills on vocabulary and grammar. The approach mainly derives from the ease to program and implement such software features. As a result, students using mobile language-learning apps demonstrated low achievement scores due to insufficient linguistic content provided by the device. What is more, such mLearning pedagogy contrasts with the SLA principles, which emphasize the need for collaborative and communicative language learning activities.

Such considerations are taken even a step further by Nielson (2011), whose study reports on responses from adult language learners using *Rosetta Stone* and *Tell Me More* – two popular, commercially available, technology-mediated self-study packages. Her report on actual learners' engagement with mLearning resources reveal a severe participant attrition in spite of initial high motivation. The reasons listed include technical problems, but also a limited exposure to vocabulary and structures in context, as well as a lack of genuine discourse provided by the software packages. Indeed, their findings suggest that successful language learners included in their research group looked for help from native speakers in their environment to enhance their learning achievements. The lack of incentives to engage in genuine discourse is actually at odds with recent theories of SLA, which call for exposure to contextually appropriate target language discourse, both from an interactionist perspective (Gass, 2003; Mackey, 2007; Long, 2017) and from a sociocultural perspective (Lantolf, 2000). However, in the author's view the main obstacle to retaining learners' interest is that independent learners using CALL or MALL require support and guidance (Littlemore, 2001; Mozzon-McPherson, 2007), because 'CALL should not be too closely associated with self-access or autonomy, and [...] teachers are needed to drive the CALL process' (Jones, 2001, p. 360). Therefore, teachers and materials writers should understand that merely providing access to self-study materials does not guarantee usage of mobile apps; additional resources to help users compensate for the inadequacies of stand-alone CALL and MALL products as well as face-to-face support should be provided (Jones, 2001; Wegerif, 1998).

A critical examination of learning approaches adopted within eLearning and mLearning thus provided the following insights:

- mLearning resources and self-study packages generate initial motivation, but are susceptible to high attrition rates among learners.
- mLearning tools and resources develop mainly a receptive language knowledge rather than a productive language knowledge.

- mLearning pedagogy contrast with the SLA principles, due to a lack of communicative language learning activities.
- A lack of any grammar explanations and pronunciation indications can hamper development of language skills.
- The languages of instruction within mLearning resources can limit the number of learners studying a target language.
- For productive language acquisition, independent learners using technology-mediated self-study packages to learn foreign languages still need the guidance and support of teachers.

The LanGuide App

The LanGuide project seeks to exploit and advance the insights proposed by the current research (e. g. Ibacache, 2019; Elbabour & Head, 2020) by focusing on exploration of the new affordances of eLearning resources, as well as drawing on new possibilities for acquisition of foreign languages as a self-study life-long learning practice embedded in mobile technology (e. g. Viberg & Grönlund, 2012; Kukulska-Hulme et al., 2015; Bernacki et al., 2020).

The LanGuide Mobile App as an open-source package offers any user an opportunity to enhance language knowledge of English, Croatian, Italian, Romanian, Slovenian and Spanish at any time and everywhere by just tapping on the mobile device. It is designed for students, academic and administrative staff, who wish to advance their knowledge of any of the above target languages, while focusing on specific language domains, such as language for academic purposes, secretarial or administrative purposes, mobility and IT language needs. In order to practice their language skills in a self-study mode, learners can engage in studies at various proficiency levels.

The main objectives of LanGuide Mobile App are the following:

- to offer stakeholders within the academia and to a larger public a language learning tool at their fingertips,
- to provide a set of exercises in a chosen foreign language that can enhance their communicative skills by focusing on common communicative situations within the academic mobility and/or work settings,
- to enable users easy access to language practice wherever they are and whenever they may wish to spend a little time to improve their language skills in one of the target languages.

The registered users of the LanGuide Mobile App can easily move between languages, modules and levels of learning materials. The English language module offers a large number of exercises at three levels: basic, intermediate and advanced. The modules for Croatian, Italian, Romanian, Slovenian and Spanish also provide a compelling range of exercises at the basic and/or intermediate levels.

The LanGuide App is designed with the goal of promoting internationalisation of higher education through multilingualism and development of multifaceted language skills, thus encouraging users to take advantage of their ubiquitous hand-held devices in order to explore and practice ways of communicating in the academic environments and beyond.

Approaches to Language Learning Materials Development

In terms of materials development, the initial idea was to design a range of exercises accessible on the mobile app in order to provide convenient foreign language practice enhancing the four language skills: listening, reading, speaking and writing. Since the LanGuide project's main objective was to promote internationalisation of higher education, the foreign language needs of students and staff engaging in mobility activities were mainly focused on. Thus, the four specialism domains were identified as critical for smooth communication in a new linguistic and cultural environment, namely, the language of international mobility, the language of academic exchanges, the language for administrative needs of sojourners and the language needed to access and use IT resources during sojourn abroad. These considerations dictated also the vocabulary and grammar structures incorporated in the modules, namely, those that are used frequently in communication within the four above domains, since each variety of language for specific purposes (henceforth LSP) entails a particular set of learner communication needs and usage demands (Basturkmen, 2006; Hyland, 2013). The core methodological approaches proposed by the CLIL (Content and Language Integrated Learning) pedagogy (Coyle, 2005) were also taken into consideration, because they are often applied within the LSP field. In terms of the modules' educational objectives Bloom's taxonomy (Anderson, 2001) was consulted.

In order to gauge the learning materials to the suitable language proficiency level according to the Common European Framework of Reference for Languages (henceforth CEFR),¹¹ the Language Profile for each

¹¹ <https://www.coe.int/en/web/common-european-framework-reference-languages>.

Table 1.1 Framework of the Language Modules

Modules	Level 1	Level 2	Level 3
Students	Basic	Intermediate	Advanced
Teachers	Basic	Intermediate	Advanced
Administrators	Basic	Intermediate	Advanced

target language was consulted. Thus the words, phrases and terminology were identified that can be expected to be used by learners at each level of CEFR, along with grammatical structures and pragmatic features most frequently employed in determinate communicative situations, typical of the four LSP domains. The Language Profile series in various languages provided also a systematic specification of learning objectives for each language module.

The expected outcomes in terms of competence reference levels are supposed to reflect the forms of a given language (words, grammar and so on), the mastery of which corresponds to the competences defined by the CEFR.

The LSP Modules

The LanGuide team included a number of language teaching practitioners and researchers from various universities in Croatia, Romania, Slovenia and Spain. While taking into consideration the principles and guidelines identified in a corpus of specialized literature, individual materials developers largely depended on their own expertise and long-standing teaching practice in terms of structure and composition of their language modules. Thus, the exercises constituting individual modules or sections of modules are not uniform, but reflect a variety of pedagogical philosophies.

The core structure of all the modules followed a simple framework represented in Table 1.1, while the exercise types created depended mainly on the possibilities offered by the choice of interactive options provided by the software tool, which was devised by the LanGuide IT team of partners from universities in Croatia, Spain and Sweden.

In terms of actual presentation of the exercises on the LanGuide App, some modules are based on random sampling of a set of exercises, while others follow a structured layout. A section of such a module for the Italian language is presented in Tables 1.2 and 1.3.

Based on Neuner et al.'s (1985) exercise typology, the ideal sequence of exercises for LSP should be organized in a logical way and progress from

Table 1.2 Italian Module: Students Mobility – Basic Level

Students Mobility – basic		Topic: Choosing the destination			Application		
Content	Skills	Culture	Communication		Language	Grammar	Types of exer.
Countries and nations and languages	Listening Speaking	National flags, symbols	Self-presentation	Io sono Lara/italiana/ rom- ena/spagnola Parlo lo sloveno/il croato Io vengo dalla Svezia	Names of countries, languages, nations	Spelling Gender (singular) Gli articoli determinativi Derivation of adjectives/nouns	Matching Multiple choice
Travel	Reading Speaking	Capital cities	Simple questions/answers	Da dove sei? Dove vai? Come vai? Quando vai?	Country/City map Street, road, alley, square	Presente Domande	Matching
Destinations	Listening Speaking	Tourist sites	Asking for directions	Quando parte? Quando torna? Quanto costa? Come si arriva?	Means of transport	Coniugazione Pronomi personali	Multiple choice Matching
Review Quiz							Odd man out
Numbers, timetables, hours&days	Reading Speaking		Asking/saying time&date Buying tickets		Time&dates	Numerals Pronunciation of language special sounds	Matching
Name & Address	Speaking		Giving information		Telephone/house/room numbers		Jumbled sentences
Review Quiz							Bingo
Campus: buildings	Reading	Student life	Finding info		Buildings (dorms, canteen, halls ...)	Prepositions	Matching
Halls/Offices at UNI	Listening	Level of formality	Addressing strangers		Types of services, titles	Polite forms Verb-noun collocations	Matching
Making friends	Speaking	Greetings and good-byes	Descriptions Asking for opinions		Accommodation, dorms	Nouns (C, UN)	Drag and drop
Quiz							Close test

closed to open exercises, from receptive to productive ones and from predictable to unpredictable use of language. Due to limited technical possibilities of creating different types of interactive exercises for mLearning, mainly the stages from closed to open exercises (spelling exercises; translation, matching and exercises to rephrase meaning, or multiple choice exercises and gap-filling exercises) and from receptive to productive use of language (typical tasks include finishing sentences or texts, answering questions about a text or audio input) have been implemented.

Table 1.3 Italian Module: Students Mobility – Intermediate Level

Students Mobility – interm.		Topic: Choosing the destination		Application		
Content	Skills	Culture	Communicat.	Language	Grammar	Types of exer.
Courses	Reading Speaking	Politeness strategies	Asking for info	Types of courses	Adjective-noun agreement	Multiple choice
Consulting the student's brochure: Study fields	Reading Speaking	Degrees, diplomas & certificates	Agreeing & disagreeing	Fields of study Levels of study	Passato Prossimo Modals Verbi regolari	Close test
Motivation letter	Reading Writing	Forms of address	Letter writing	revision	Verbi ausiliari	Jumbled text
Quiz						Close test

Overall, the collection of exercises on the LanGuide App offers users to practice and enhance their English knowledge by completing over 450 exercises, learn and polish their Croatian by doing over 100 exercises, enhance their Italian by going through over 250 exercises, study Romanian by applying themselves to over 100 exercises, dedicate themselves to learning Slovenian by completing over 370 exercises and dipping into Spanish by solving over 350 exercises.

Discussion

A first step in postulating a theory of mLearning is to distinguish what is special about mLearning compared to other types of learning activities. The obvious difference of language practice offered by mobile apps such as LanGuide App is that it starts from the assumption that learners are continually on the move. We presuppose a learner who learns across space, takes the ideas and learning resources gained in one location and applies them in another. We all learn across time, by revisiting knowledge that was gained earlier in a different context, and more broadly, through ideas and strategies gained in early years that provide a framework for a life-time of learning. We move from topic to topic, managing a range of personal learning projects, rather than following a single curriculum. We also move in and out of engagement with technology, for example as we enter and leave mobile phone coverage (Vavoula et al., 2007; Hyland, 2013). All these principles are particularly true in international sojourn situations, where unexpected communicative situations may require to be addressed at once.

Therefore, the LanGuide App as a learning resource while based on contemporary accounts of practices that enable successful learning, such as learner centred and knowledge centred approaches, it also seeks to address the needs of communication in real-life situations. It builds on students'

skills and knowledge, enabling them to transfer earlier language-learning experience in confronting a new language or in improving the level of proficiency of a language studied earlier.

The collections of exercises for individual languages and segments of modules are organized according to validated knowledge and with inventive use of concepts and methods. Thus, some collections are organized in a systematic way, while others build on random sampling criteria. In both cases, the exercises available on the LanGuide mobile app should be considered as a teaser to engage with comprehensive language courses delivered in a formal learning setting. Alternatively, the exercises can sometimes be used as on the spot reference for tackling immediate communication needs. Due to the constraints imposed by the software options only a narrow set of language skills can be efficiently developed within the LanGuide virtual environment, while extended communication practice within an extended mutually supportive language-learning community could not be set up at this stage of the LanGuide project.

In terms of affordances of the mobile technology, the LanGuide App builds on the core advantages of a personal, user-centred, mobile and ubiquitous learning process mediated by technology. It takes into consideration the requirements of nowadays learners to have access to knowledge and independent learning at their fingertips anywhere and anytime, whenever it is convenient, especially during the void spaces of time during breaks, transfers and activity gaps. It also allows the user to have control over the pace and style of interaction with the app and thus lends itself to lifelong learning practices.

The preliminary testing of the LanGuide App among a batch of over a hundred users seems to suggest that these collections of exercises can generate initial motivation and interest in learning new languages (see also Čebtron et al., 2021; Lozano et al. in Chapter 4 and Načinović Prskalo et al. in Chapter 2 of this monograph), but cannot predict levels of attrition among learners at some further stage. Such an assessment will only be possible once the resources are tested for a longer period.

However, the problems of scant grammar explanations and pronunciation indications could only partly be overcome within this resource due to the constraints inherent to the mobile technology. The language of instruction remained mainly English, or English in combination with the learner's target language, which could lead to frustration and even rejection of the LanGuide App as a language-learning resource. Similarly, some of the SLA principles such as communicative language learning activities and task-

based learning activities could not be successfully implemented. Furthermore, the cycle of goal, action, feedback could only partly be respected. All these considerations lead to the overall conclusion that the resources on the LanGuide App would best be exploited as a set of complementary practice opportunities supporting teacher led, formalized learning activities.

Conclusions

Mobile language learning has altered the approach to language acquisition and the LanGuide App reflects these changes in a variety of ways. The mobility, portability, and ubiquity of mobile apps have been taken into account in the structure of its modules and in the types of exercises provided. The manner of language acquisition that provides a sense of freedom and self-management seems to be the main motivating factors in mLearning, however, the initial excitement upon discovering a new mobile app for language learning may taper quickly and lead to attrition among learners at a second stage. Thus, we conclude with the suggestion that productive foreign language acquisition should complement foreign language learning based on technology-mediated self-study packages with guidance and support of teachers, or else be combined with structured language courses in traditional setting at the present stage of technology development.

In future, particular attention should be devoted to further investigation of learning strategies and learning styles compatible with the use of mobile technology. An exciting development may also be found in expanding the interaction on mobile devices to its full range (e.g. chats, e-mails, social media, video calls, e-libraries and similar), thus overcoming the repetitive exercise typology restricting materials development at present. At the same time, learning methodology could enhance productive forms of language learning. Such improvements can have a crucial impact on both language instructors and learners of foreign languages, as well as help materials writers and software developers to arrive at optimal mLearning solutions. We are happy to consider the LanGuide App as a small step in this direction.

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