3 Mobile Learning of Language for Specific Purposes: From Course Design to User Testing

Lucia Načinović Prskalo
University of Rijeka, Croatia
lnacinovic@uniri.hr

Vanja Slavuj
University of Rijeka, Croatia
vslavuj@uniri.hr

Marija Brkić Bakarić
University of Rijeka, Croatia
mbrkic@uniri.hr

This chapter presents the whole process of learning a language for specific purposes (LSP) on a mobile device. First, a general approach to developing an LSP course for the mobile context is described. Then, the web and mobile applications developed for this purpose are presented. The proposed learning approach is thoroughly evaluated through unmoderated remote usability testing of the mobile app conducted over a period of one month. Following the testing phase, an extensive anonymous questionnaire is completed, which includes sections on user demographics, user experience with the mobile app, specifics of the learning approach, and language-specific user experience. Finally, the answers to the questionnaire are analysed and a conclusion is drawn.

Keywords: language learning application, mobile application, language learning, computer assisted language learning, language for specific purposes, mobile learning

Introduction

This chapter describes the procedures for developing a language learning application resulting from the EU-funded Language Guidance Tool for Improving Language Knowledge (LanGuide),[1] and explains how the applica-

[1] The project involved six universities from five different countries. The coordinating institution was the Faculty of Humanities (FHS) at the University of Primorska (UP) in Slovenia, while the partner institutions were the School of Innovation, Design and Engineering (IDT) at Mälardalen University (MA) in Sweden, the Department of Computing Systems at

tion was tested and evaluated through an extensive questionnaire, by users who tested the application. As a result of this project, a freely accessible language learning application was created, which, in addition to English, includes the languages of the participating institutions – namely Croatian, Slovenian, Spanish, and Romanian – with the addition of Italian.

The LanGuide tool provides language exercises at three levels – basic, intermediate, and advanced. For each level there are language exercises or tasks created for productive language skills (speaking and writing), tasks for receptive language skills (listening and reading), grammar exercises, and vocabulary exercises. There are three categories of target users (or learning personas) considered by the tool – university students, university teachers, and administrative staff. For each category of users, the tool provides exercises that correspond to their proficiency level and the selected language skill. The tool does not focus on language learning in general, but on specific areas, which include language for Academic Purposes, language for Administration or Secretarial Purposes, language for Mobility Purposes, and language for IT Purposes. In this chapter, the authors focus on the process of creating the language for specific purposes (LSP) course related to English in English for Academic Purposes (EAP) and English for IT Purposes (EITP), as they have been responsible for most of the exercises that have been created in these two areas – namely EAP at all three levels, and EITP at the intermediate and advanced levels.

In addition to describing the approach to course development in the second section of this chapter, the third section also describes the procedures for creating exercises and entering exercises into the Content Management System. The fourth section describes how the application was tested and analyses responses to the extensive questionnaires that users completed after testing was performed. Again, only the results related to the areas for which the authors of this chapter were responsible – EAP and EITP – are processed. Final conclusions are given in the fifth section.

The LanGuide Approach to English for Specific Purposes

English for specific purposes (ESP) is an umbrella term used to cover various aspects of teaching and learning English, either as a second or a for-

the School of Computer Science and Engineering at the University of Castilla-La Mancha (UCLM) in Spain, the Department of Theoretical and Applied Linguistics (DeLTA) at the Faculty of Letters at the Transilvania University of Brașov (UTDB) in Romania, and two Croatian institutions – the Department of Anglistics at the University of Zadar (UNIZD) and the Faculty of Informatics and Digital Technologies (FIDIT) at the University of Rijeka (UNIRI) in Croatia.

eign language, to be used for communicative professional and academic contexts (Paltridge & Starfield, 2013; Widodo, 2016). The English language module of the LanGuide mobile application for language learning (or m-learning) covers four broad topical areas of ESP (Slavuj et al., 2021), as mentioned in the previous section. In this section, we focus specifically on the description of the approach taken in designing the EAP and EITP parts of the application, including the development of the language syllabus based on learner needs.

English for Academic Purposes and English for IT Purposes

English for Academic Purposes and English for IT can be considered separate, special genres of the English language and examples of English for Specific Purposes (ESP). As such, they entail that the specific needs and requirements of learners are reflected in the content to be taught (Gillet, 1989). They aim to develop a set of linguistic or other skills that a person needs to function independently in an English-speaking academic environment (de Chazal, 2014), whether for study or work, usually in the context of higher education (Gillet, 2011), while the latter enables the same within the IT community. Although the focus is often only on academic writing, a full EAP course should cover all four language skills (listening, reading, speaking, and writing), as they are all used in a typical interaction in an academic context. The same is true for EITP, where IT professionals and users communicate orally and in writing, usually within the confines of a particular genre that is evident in the text-types employed. In addition, the vocabularies of EAP and EITP differ significantly from what is commonly referred to as 'everyday English,' so special attention must be paid to vocabulary found in these contexts as well.

Developing an ESP Course as Part of the LanGuide Mobile Application

The process of developing any ESP course, including the one offered by the LanGuide mobile application, should be a systematic endeavour. In designing the EAP and EITP courses for the LanGuide language learning tool, we have taken the following steps based primarily on the work of Bell (1981), later adopted and adapted by many researchers (e.g., Frydrichova Klimova, 2015): (1) analysis of learner needs → (2) definition of course objectives → (3) syllabus design → (4) development of course materials → (5) evaluation of course materials → (6) implementation of materials into the tool → (7) course delivery → (8) post-use evaluation.

The stages of the development process were executed as shown above, in

a chronological order. The stages are tied by very strong links as the output of each stage is taken to be the input for the one that follows.

The subsections to follow offer additional detail regarding the first three stages and cover the design segment of the E S P course development. For the description and thorough discussion of the stages pertaining to materials development and their implementation in the language learning application, please see Slavuj et al. (2021).

Analysis of Language Learner Needs

The first stage of the E S P course development, as described by Bell (1981), consists of gathering and analysing language learner needs with regards to the specific topical area of interest. In order to do so, we applied the approach known in the relevant literature as Target Situation Analysis (T S A). Based on this approach, course developers need to identify language priorities for E S P education, having in mind *necessities, lacks,* and *wants* regarding language skills, the teaching/learning situation, and the functions or activities to be performed by the learners (i.e., users of language) (Elsaid Mohammed & Nur, 2018). *Necessities* thus refer to the (language) skills and knowledge a learner is expected to have in order to be able to function in a target situation. *Lacks* signify the difference between what learners currently know or can do with language, as opposed to what they will have to know or do in order to perform in a target situation. Finally, *wants* pertain to learners' ideas of what they need in order to navigate the intricacies of a target situation (Hutchinson & Waters, 1987). Over the years, many researchers and practitioners have employed T S A and similar needs-analysis-based approaches for the purpose of E S P course development, including courses in the area of computer science (Irshad & Anwar, 2018), business (Li, 2014), and law enforcement (Torregrosa Benavent & Sánchez-Reyes, 2015; Javid et al., 2020).

In the case of the LanGuide E S P courses for E A P and E I T P, this stage was executed in three steps. In the first step, LanGuide course designers made direct observations of the target situations in which language users of different categories employed their language skills to do everyday tasks in the academic and/or I T contexts. They shadowed students, teachers, and the administrative staff in their daily activities at the Faculty of Informatics and Digital Technologies, University of Rijeka, over a period of one week (in early 2020), marking down the activities, interactions, and communicative endeavours of all three groups into a non-structured list. In the second step, the designers arranged for informal consultations with

the members of all three groups of learners in order to amend the list compiled in the previous step, thus adding new items to the list or removing them if deemed unnecessary. In the last step, the list was analysed and shaped to its final form.

The analysis of learner needs (i.e., *necessities*) was structured following Munby's (1981) model of linguistic needs and realised in the form of a *profile of needs*. The profile includes several key categories that the course designers are required to describe, keeping in mind the learners and their needs, the learning context, and the learning outcomes: (1) participants, (2) learning domain, (3) setting, (4) interaction patterns, (5) medium and channel of communication, (6) target level(s), and (7) communicative events. The profile may be considered the most important step of the course development process as it sets a clear standard against which all future decisions are compared. The LanGuide profile of learner needs is given in the subsections below.

Participants. In the case of the LanGuide approach, language learners are also users of the LanGuide guidance tool who, among other, participate in the Erasmus mobility scheme (whether before, during, or after the mobility period) and use the English language for communication in an academic context at the tertiary level or for interaction with other English language speakers within the IT-related discourse. Given their position and role within the academia, they may be divided into three distinct groups, namely students, teachers, and administrative staff.

Domain. The domains within which participants operate using the English language are EAP and EITP. There is no need to subdivide further these domains into specific fields or areas, as they are aimed at general linguistic competences found in usual academic and IT contexts.

Setting. Language learning within the context of the LanGuide application is carried out using the support of a piece of software intended for mobile devices such as smartphones and tablet computers. As such, it represents a case of mobile learning during which learners may use the application any time and any place convenient to them (as long as they have access to the communication network).

Interaction. All three categories of learners are expected to use the application for independent learning, without direct interaction with other participants in the communicative process, including the language teacher.

This reduces their interaction patterns to only those with the software: *learner to software* and *software to learner*.

Medium and Channel of Communication. There are two basic media employed during the learning process within the LanGuide approach:

- spoken (includes listening as a receptive and speaking as a productive skill, enriched with vocabulary and grammar elements);
- written (includes reading as a receptive and writing as a productive skill, enriched with vocabulary and grammar elements).

The channel of communication is primarily provided by the technology (i.e., device) used for language learning, without immediate, face-to-face contact with other participants of a communicative endeavour. Instead, technology serves as the generator of feedback for learners to act upon during the learning process, and prompts language-oriented interaction with the learner.

Target Levels. In the LanGuide guidance tool there are three basic levels used to distinguish learners with different linguistic competences. The levels are defined following the Common European Framework of Reference for Languages (CEFR) (Council of Europe, 2001). However, following the decision of the project partners, there was no need for finer-grained division of levels such as they appear in the CEFR, so the six levels of the CEFR have been reduced to three levels only by omitting the higher and lower interpretations of the classic CEFR division. This decision resulted in the following division of levels:

- Basic level – includes A1 and A2 levels of the CEFR scale;
- Intermediate level – includes B1 and B2 levels of the CEFR scale; and
- Advanced level – includes C1 and C2 levels of the CEFR scale.

In those instances where no explicit descriptors for the highest levels (namely C1 and C2) were given in the CEFR, the LanGuide approach uses B2 descriptors to specify the Advanced level, while the B1 descriptors serve to define what is termed as Intermediate level. For example, there are no C1- and C2-level descriptors given for planning oral production in the CEFR, so descriptors for the B1 level were taken to correspond to the intermediate level, while descriptors available for the B2 level were taken to mark a more advanced usage of language.

Table 3.1   Extract from the List of Communicative Activities in EAP: Cross-Skill Overview

Reading	• Read academic texts such as journal articles, textbooks, essays, and reports for general understanding (skimming), specific points (scanning), or for information and argument. • Read texts related to academic studies such as syllabi, curricula, study programs, learning agreements, grant conditions, educational policies, or personal and institutional communication (e.g., email or memos), including online content appearing on university/faculty website, in news bulletins, public announcements and calls. • Read and follow instructions and guidelines related to their scope of work.
Listening	• Attend and follow live lectures and talks on a variety of topics, including highly specialised and technical ones related to their field of work. • Listen to digital recordings on a variety of topics, including highly specialised and technical ones related to their field of work. • Listen and follow instructions and guidelines related to their scope of work.
Writing	• Write texts of immediate concern to their work with students such as instructions, task descriptions, exam tasks, handouts, feedback messages, evaluations, or grading guidelines. • Write shorter and longer academic texts related to their field of expertise, including journal articles, books, book chapters, essays, and reports. • Write short communicative texts such as emails, queries, messages, forms, or memos pertaining to their immediate working environment.
Speaking	• Prepare and deliver live lectures and talks on a variety of topics, including highly specialised and technical ones related to their particular field. • Give instructions and make announcements to students related to their academic success including task explanations, activity expectations, and feedback. • Explain the particulars of the subject matter during office hours and in other contexts outside the usual class setting. • Converse with other speakers of English, including native speakers, in formal and informal situations related to their academic context such as meetings, goal-oriented co-operative activities, discussions, or interviews.

Communicative Events and Profile.   Based on the gathered learner needs during the previous steps of needs analysis, a detailed list of communicative activities, performed by students, teachers, and administrative staff, has been compiled. The list enumerates a wide array of possible activities in which each target group of learners is predicted to participate, for each of the four language skills separately.

An example from the list of teacher-related activities for all language skills in EAP is given in Table 3.1. Similarly, Table 3.2 is illustrative of the differences between teachers, students, and administrative staff regarding communicative activities involved in reading. These communicative events

Table 3.2 Extract from the List of Communicative Activities in EAP: Overview of Differences in Reading Activities for Teachers, Students, and Administrative Staff

Teacher	• Read academic texts such as journal articles, textbooks, essays, and reports for general understanding (skimming), specific points (scanning), or for information and argument. • Read texts related to academic studies such as syllabi, curricula, study programs, learning agreements, grant conditions, educational policies, or personal and institutional communication (e.g., email or memos), including online content appearing on university/faculty website, in news bulletins, public announcements and calls. • Read and follow instructions and guidelines related to their scope of work.
Student	• Read academic texts such as journal articles, textbooks, essays, and reports for general understanding (skimming), specific points (scanning), or for information and argument. • Read texts related to their academic study such as syllabi, curricula, study programs, learning agreements, grant conditions, educational policies, or personal and institutional communication (e.g., email or letter of acceptance), including online content appearing on university/faculty websites, in news bulletins, public announcements and calls. • Read texts of immediate concern to their academic success such as instructions, activity/task descriptions, exam tasks, class notes, handouts, feedback, or grading guidelines.
Administrative staff	• Read communicative texts such as emails, notes, queries, messages, forms, or memos pertaining to their immediate working environment and everyday situations. • Read and follow instructions and guidelines related to their scope of work.

may be taken to represent what was earlier termed as *necessities* in the TSA approach.

Definition of Course Objectives

Given the results of the needs analysis described in the previous section, EAP and EITP courses within the LanGuide guidance tool have the following general objectives:

1. Introduce learners to EAP and/or EITP and their prominent lexical, syntactic, and semantic features so they are able to apply them in daily (language) activities in the academic and/or IT contexts.
2. Expose learners to a wide variety of written texts that typically appear in the academic and/or IT contexts and enable them to understand general points and specific information contained there.
3. Expose learners to a wide array of spoken texts that represent typ-

ical aural communicative situations in academic and/or IT contexts and facilitate both general understanding and understanding of finer points and arguments, enabling them to (re)act accordingly.

4. Facilitate learner's writing skills by focusing on formal aspects of a variety of written texts found regularly in the academic and/or IT contexts.

5. Facilitate learner's speaking skills by focusing on interactive situations that require the participants to understand utterances and take turns when appropriate.

6. Empower learners to use a range of specific vocabulary characteristic of EAP and/or IT in written and oral forms, including both productive and receptive modalities.

7. Enable learners to become proficient in using the English language for the purposes of research, study, teaching, and work within the academic and/or IT contexts.

Taking these outcomes as the basis, together with the profile of needs developed earlier, a general course syllabus was outlined.

ESP Course Syllabus

Within the LanGuide project approach, the ESP course syllabi are defined in terms of can-do statements for each of the three proficiency levels (basic, intermediate, and advanced) and for each of the four language skills (reading, listening, writing, and speaking). Furthermore, a separate syllabus is designed for students, teachers, and administrative staff, as they differ, to a degree, depending on the (type of) work they do, language activities they participate in or are expected to participate in, as well as in their other identified needs. For example, the syllabus intended for teachers focuses on the activities teachers perform during their classroom interaction with students, but also on the activities related to their research activities (including e.g. writing of scientific papers and project proposals). On the other hand, the syllabus for administrative staff revolves around their communicative activities with teachers, students, and other members of the university staff (e.g. writing emails, memos, and official documents related to the formal aspects of university day-to-day organisation).

The can-do statements reveal the target behaviour of language learners using the English language, situations, and contexts in which they do so, and additional conditions and constraints related to the actions they perform. The added value is that the statements give examples of target texts

Table 3.3 Extract from the List of Can-Do Statements for Teachers: Cross-Skill Overview

Reading	• Can understand short, simple texts of a concrete type containing mainly high-frequency vocabulary. • Can understand basic, routine letters (queries, memos, confirmations). • Can find specific, predictable information in simple, everyday materials (timetables, website news, prospectuses, reference lists, notifications, etc.) and isolate them. • Can identify specific information in simple informational texts (brochures, letters, shorter articles), especially if provided visual support. • Can understand short, simple instructions related to his/her work. • Can recognize grammatical forms in the text appropriate for the level and use them to construct general or specific meaning.
Listening	• Can understand phrases and expressions in clearly articulated, slow speech enough to meet the needs of a concrete type. • Can identify the main topic of a conversation between native speakers. • Can understand and pinpoint the most relevant information from short, recorded texts on familiar, everyday topics. • Can recognize grammatical forms in a listening text appropriate for the level and use them to construct general or specific meaning.
Writing	• Can connect simple phrases and sentences and organise them into a meaningful whole using simple connectors. • Can recognise a topic sentence and a conclusion sentence in short, descriptive essays. • Can use basic punctuation rules in short texts. • Can use basic quotations (X says/According to X) and reporting signals without citations. • Can show limited control over a small repertoire of grammatical structures and sentence patterns and edit writing for mistakes given the level-appropriate grammar.

or text-types on which the activities are performed, and which feature in the materials prepared within the LanGuide project. The formulation of the can-do statements closely follows the approach taken by the CEFR (Council of Europe, 2001). In Table 3.3, examples of can-do statements for teachers are given, focusing on all four language skills in EAP at the basic level of proficiency.

Can-do statements across the three targeted groups of learners, namely teachers, students, and administrative staff, generally do not differ significantly, except in details regarding the specifics of their profession. The latter primarily include (job-related) activities they are required to undertake on daily basis as well as the contexts in which these activities are car-

Table 3.3 *Continued from the previous page*

| Speaking	• Can understand what is said slowly and clearly to him/her in simple conversations.
	• Can use simple everyday polite forms of greeting and address, respond to invitations, suggestions and apologies, and express likes and dislikes.
	• Can use an idea of the overall meaning of short texts and utterances on familiar, concrete topics to derive the meaning of unknown words from context.
	• Can identify the topic of discussion around him/her (and agree or disagree with others).
	• Can follow changes in topic in formal discussion related to his/her field conducted slowly and clearly.
	• Can understand what answer is expected of him/her following simple questions and statements in a conversation/interview.
	• Can show limited control over a small repertoire of grammatical structures and sentence patterns and edit speech for mistakes given the level-appropriate grammar.

ried out. For example, a can-do statement for intermediate-level listening for students emphasises the classroom environment ('Can understand and follow detailed instructions in the classroom setting, both abstract and concrete, spoken in a standard dialect.'), while a comparable can-do statement of the same level for teachers and administrative staff puts emphasis on their respective professional environments ('Can understand and follow detailed instructions related to his/her work, both abstract and concrete, spoken in a standard dialect.')

Creating and Entering Exercises in The Content Management System

Following the procedure described in the second section, appropriate language exercises were created and entered into the LanGuide Content Management System, which was specifically designed for the purposes of the project. In this phase, suitable materials such as texts, audio and video files were created or found and adapted to the needs of the defined approach. When selecting or creating language learning materials aimed at performing language tasks, several criteria were considered, following the work of Schader and Waibel (2016). These criteria consider, for example, the age of the learners, the defined learning context, and the suitability for promoting independent thinking of the learners.

The types of tasks to be included in the Content Management System were agreed upon among project members, which required a close cooper-
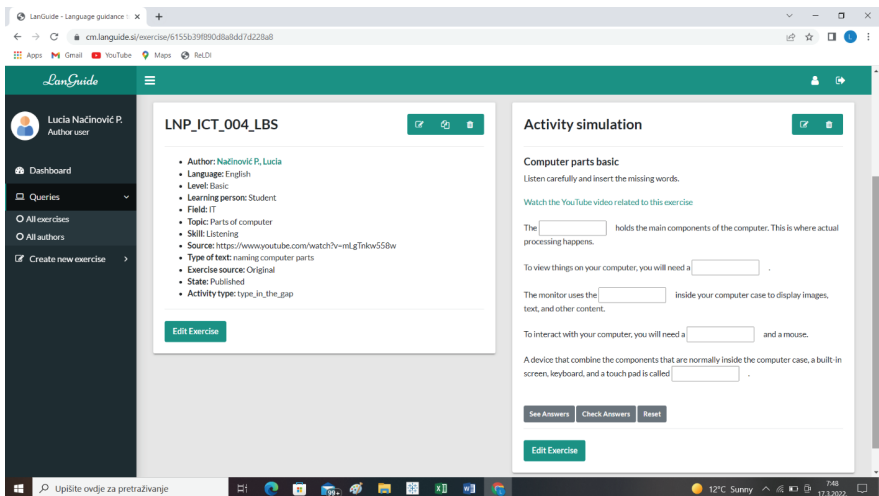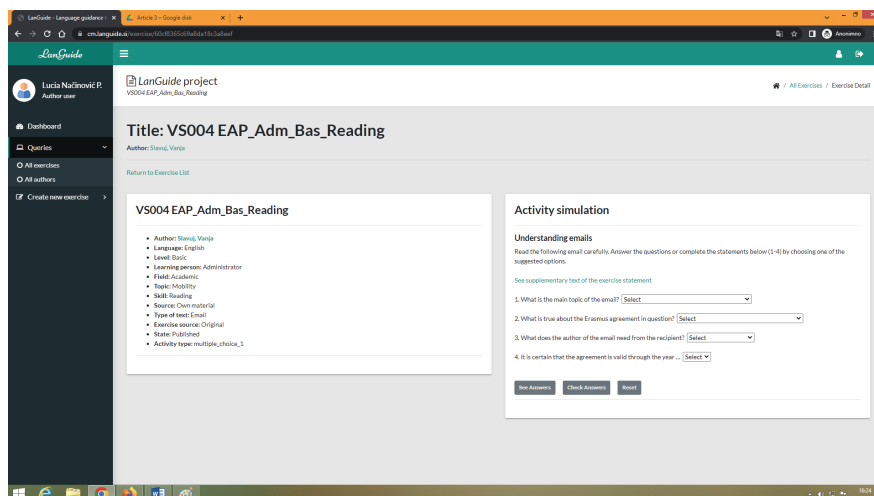
Figure 3.1 Example of an Exercise from EITP within LanGuide content Management System

ation between language experts and the IT team working on the project. Three types of tasks were selected as appropriate: Multiple Choice tasks, Cloze tasks, and Drag & Drop tasks. Other types of exercises were discarded because they are not suitable for the automatic evaluation that the LanGuide tool performs.

Once the exercises were complete, and prior to being included into the Content Management System, they underwent initial evaluation as part of the LanGuide approach to materials development. The exercises were first evaluated by the project's linguistic team. After receiving initial feedback on their materials, creators revised them as suggested and prepared them for implementation in the Content Management System. The Content Manager also supports the integration of auxiliary materials needed for the exercises, such as text files, videos, and images.

Figure 3.1 shows an exercise for practicing vocabulary: more specifically, IT vocabulary regarding basic computer parts. It is intended for language learners at the basic level of proficiency. It contains a link to a YouTube video that is shown to the learner in the LanGuide app. After watching the video, the learner has to fill in the blanks with the corresponding words (parts of a computer).

Figure 3.2 shows an exercise for practicing reading comprehension in EAP. It is intended for language learners at the basic level of proficiency. The learner is required to read a text (an email) and answer comprehen-

Figure 3.2   Example of an Exercise from E A P within LanGuide Content Management
System

sion questions in the form of multiple-choice items. Only one answer is
correct.

Testing and Evaluating the LanGuide App and the Exercises

After the exercises were entered into the LanGuide Content Management
System by their creators, they became available to users through the Lan-
Guide app. The LanGuide app is a native Android mobile app, consisting
of the login page, the home screen, the settings page, language exercises,
and basic statistics on the achieved results during language learning. These
are shown in Figure 3.3 as a series of screenshots taken directly from the
LanGuide app.

The testing phase was subsequently conducted in such a way that project
members invited students, administrative staff, and teachers from their
respective institutions to test the LanGuide app over a period of at least
one month. After a brief introduction and basic information about the app,
they were provided with detailed instructions on how to install and use the
app for language learning on their mobile devices.

After a one-month trial period, participants were given the opportunity
to evaluate the application and exercises using a comprehensive question-
naire devised by the members of the project consortium. The exercises and
application were then revised depending on the participant feedback, col-
lected in the period from December 20, 2021 to February 1, 2022.

Figure 3.3
Parts of the LanGuide
Mobile Application
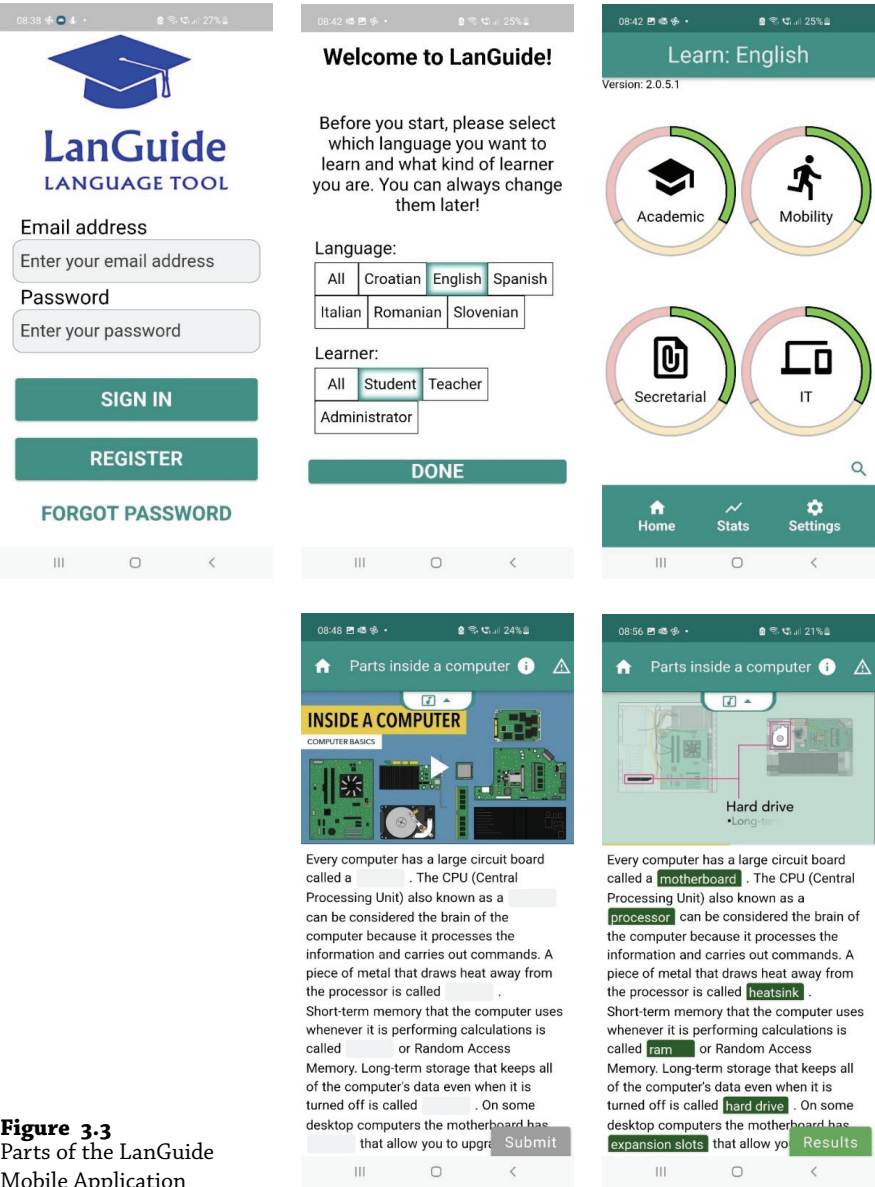
Participants

A total of 181 users completed the questionnaire. In this study, we considered only 32 users – participants from the University of Rijeka who completed the English language tasks. Feedback from other users of the app

(and other languages) is analysed by our colleagues at partner institutions. Of the 32 participants, 15 were female and 17 were male. Most of them are students in the field of information technology with intermediate or advanced English skills. All 32 participants tested the exercises in the 'Student' category. In addition, 7 participants tested the exercises in the 'Administrative Staff' category and 7 in the 'Teacher' category.

Survey

The survey consisted of a total of 27 questions divided into 4 categories:

1. Questions about the participant (gender, home university, age, etc.);
2. Questions about the technical aspects of the LanGuide application (functionalities, font size, colours, simplicity, etc.);
3. Questions about the participant's approach to learning (prior experience with similar applications, learning routine, regularity of using the application, etc.);
4. Questions about the general experience of learning English with the LanGuide application (most useful modules, usefulness of a certain type of exercises, etc.).

All project members agreed to the questions in the survey before its distribution.

The Analysis of the User Feedback

Questions about the Participants

The first group of questions was dedicated to general information regarding the participants, with which we collected information about the age, gender, home university, etc. of the participants. Based on this information, we were able to filter out the participants whose home university was the University of Rijeka and who solved English language tasks.

Questions about the Technical Aspects of the LanGuide Application

There were eight questions that evaluated the technical aspects of the Lan-Guide app. A five-point Likert scale was used, and participants had to rate the level of agreement with each of the 7 statements by selecting one of the five options – strongly disagree, disagree, neutral, agree, and strongly agree. The final item in this section was an open-ended question that asked participants to provide additional comments about the app, particularly

Table 3.4 The Results for the Group of Questions Assessing Technical Aspects of the Application

Aspects	(1)	(2)	(3)	(4)	(5)
Navigation	2	7	8	12	3
Ability to change the difficulty level	4	1	2	17	8
Ability to change the font size	1	1	3	12	15
Understanding how to solve exercises	1	5	12	7	7
Tutorial about the app is helpful	3	6	8	14	1
It is easy to use LanGuide app	5	7	6	8	6
I like the colours and the layout	2	5	12	10	3

Notes Column headings are as follows: (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, (5) strongly agree.

on aspects that were not covered by the statements. The overall results for this group of questions are shown in Table 3.4.

The results indicate that navigation through the application is satisfactory, but could be further improved, as a significant number of participants disagreed (21.9%) and strongly disagreed (6.3%) with the statement that they could easily navigate through the app.

The statement about being able to change the difficulty of the exercises scored better, as most participants strongly agreed (25%) or agreed (53.1%) with the statement. However, there is a certain number of participants who disagreed (3.1%) or strongly disagreed (12.5%) with the statement, so it might be useful to further explain how the difficulty level can be changed when a participant starts the application.

The next statement was related to the possibility of changing the font size in the app. The results were satisfactory: 46.9% of the participants fully agreed and 37.5% agreed with the statement.

The aspect of the app that was evaluated in the fourth statement requires further attention. Namely, the statement referred to the ease of understanding the exercises and the ways to complete them. Most participants (37.5%) were neutral (neither agreed nor disagreed with the statement), 21.88% of participants disagreed with the question and 21.88% strongly disagreed. So, there is still a lot of room to figure out how to further explain ways to complete the exercises.

The next statement was about the tutorial in the app. Most participants were satisfied with the tutorial (3.8% strongly agreed and 43.8% agreed that tutorial helped them to understand the app), but at the same time the results reveal it can be improved.

The seventh statement was related to the colours and layout of the pages in the app. Most participants were neutral (38.7%), 32.2% agreed, and 6.5% strongly agreed. Though satisfactory, it could be improved.

The last question in the group gave participants the opportunity to leave comments. In addition to praise for the app, there was also some advice for further improvements. One of the problems participants noted was that some exercises were repeated several times, which can be annoying if you have already solved the exercise correctly. Also, it is not possible to go to the next exercise until all answers have been entered. Therefore, changes that solve these problems should be introduced. Some participants also reported that certain videos, images, and other files do not load properly, which should be investigated further. In addition, they reported that some drag and drop exercises had already been solved and they could not solve some cloze tasks because the keyboard menu obscured the area where the answer should be entered.

Questions about Participants' Learning Approach

The next group of questions was devoted to the learning approach of the participants. The analysis of the answers to the five questions shows that the majority of the participants (78.1%) already had experience in learning a language in a similar way. It also shows that most of the participants (96.9%) did not have a learning routine when they tested the app, and that most of them used the app once or twice a week (87.5%). Most participants usually spent 15–30 minutes per day (43.8%) or less than 15 minutes per day (40.6%) testing the app, and they tried all three levels of English language proficiency.

Questions about Participants' Experiences Learning English with the LanGuide App

The final section of the questionnaire was devoted to assessing participants' experience while learning a particular language with the LanGuide app. As mentioned earlier, in this chapter we only considered the experience of learning English. There were 8 questions/statements in this group. The first question revealed that 43.8% of the participants rated their English proficiency as advanced and 56.3% rated it as intermediate.

Next, most participants tried the 'Academic Language' and 'IT Language' modules, while some additionally tried 'Secretarial Language' and 'Mobility Language.'

The next two questions tested which language modules were most and

Table 3.5 Which Area of Language Did the LanGuide App Help You Improve the Most?

Area	(1)	(2)	(3)	(4)	(5)
Reading	8	7	9	7	1
Writing	8	7	9	8	0
Listening	6	6	12	7	1
Speaking	14	6	8	4	0
Vocabulary	4	6	7	11	4
Grammar	4	10	7	10	1

Notes Column headings are as follows: (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, (5) strongly agree.

least useful to participants. The responses showed that participants found the 'IT Language' module the most useful (68%), and then the 'Academic Language' module (29%). Interestingly, 36.6% of participants also found the 'Academic Language' module the least useful, followed by 24% of participants who found the 'Secretarial Language' module the least useful.

Most participants (50.35%) strongly agreed or agreed that the instructions for the exercises were easily accessible and understandable. The results are satisfactory but could be improved.

The next statement assessed the usefulness of the app to practise and improve participants' language skills. Some participants (34.3%) strongly agreed or agreed with the statement 'The app helped me to practice my language skills and improve them,' 34.4% of them were neutral, and 31.3% of participants disagreed or strongly disagreed with the statement. It should be analysed why some participants did not find the app useful and how it could be improved.

The last two questions in the group took the form of a scale in which participants were asked to rate, on a scale of 1 to 5, the language skill that the app helped them with the most (results are shown in Table 3.5), as well as their overall experience with the LanGuide app (results are shown in Table 3.6).

The analysis revealed that participants rated the ability to improve vocabulary and grammar the highest, the ability to improve the skill of listening as neutral, they were most satisfied with the ability to improve the skills of reading and writing, and they rated the ability to improve the skill of speaking the lowest. This is understandable since there are no exercises to improve speaking, as the automatic assessment is somehow difficult.

The last question about the participants' satisfaction with the different aspects of the application revealed that most participants are satisfied with

Table 3.6   Please Answer the Following Statements Regarding Your Experience
with the LanGuide App by Putting a Tick in the Appropriate Slot

Statement	(1)	(2)	(3)	(4)	(5)
Appropriateness	1	3	7	15	6
Variety	2	8	6	13	3
Vocabulary	0	5	3	16	8
Terminology	0	2	7	15	8
Grammar	0	5	7	18	3
Feedback	9	5	11	5	2
Independency	3	4	5	16	4
Enjoyed	8	4	6	10	4

Notes   Column headings are as follows: (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, (5) strongly agree.

the appropriateness of the exercises for the chosen language level. They are also mostly satisfied with the exercises that introduced useful vocabulary, terminology, and grammar. It also appeared that most participants felt that the exercises promoted independent language learning. The lowest rated aspects of the app, which need further consideration by the development team, are the variety of exercises offered and the opportunities for better self-monitoring and feedback.

Conclusion

This chapter describes the process of learning a language for specific purposes on a mobile device. As a result of the EU-funded project Language Guidance Tool for Improving Language Knowledge (LanGuide), a freely accessible learning application was created that includes English, Croatian, Slovenian, Spanish, Romanian, and Italian. The tool offers exercises for basic, intermediate, and advanced levels of language knowledge. For each level, there are exercises for developing speaking, writing, listening, and reading skills, as well as grammar and vocabulary exercises. There are also three different categories of target users: university teachers, university students, and administrative staff. The specialist domains that the tool focuses on are language for academic purposes, language for secretarial purposes, language for mobility purposes, and language for IT. This chapter described the process of creating and evaluating the modules for English for Academic Purposes and English for IT.

The chapter includes the description of the modules for English for Academic Purposes and English for IT as well as the development of an ESP

course as part of the LanGuide mobile application, taking into account the analysis of the language learners' needs, the definition of the course objectives, and the general course syllabus.

The process of creating and entering exercises into the Content Management System developed for the LanGuide application is also described.

Finally, the chapter describes how the application was tested and evaluated by target users. Participants tested the application over a period of at least one month. They then evaluated the application and exercises using a comprehensive questionnaire. The analysis of the results showed that there are many good aspects of the application, such as the possibility to improve the knowledge of vocabulary and grammar with the help of the application. However, there are also aspects that need further revision and improvement, such as the variety of exercises offered and the possibilities for better self-monitoring and feedback. A second round of user testing will test the impacts of the changes introduced after this initial feedback was acquired. We will continue to analyse these and similar issues in our future work and find ways to improve the LanGuide language learning app.

References

Bell, R. T. (1981). *An introduction to applied linguistics: Approaches and methods in language teaching.* Palgrave Macmillan.

Council of Europe. (2001). *Common European framework of reference for languages: Learning, teaching, assessment.* Cambridge University Press.

de Chazal, E. (2014, February 24). *Prepare English language students for academic listening.* British Council. https://www.britishcouncil.org/voices-magazine/prepare-english-language-students-academic-listening

Elsaid Mohammed, A. S., & Nur, H. S. (2018). Needs analysis in English for academic purposes: The case of teaching assistants at the University of Khartoum. *How, 25*(2), 49–68.

Frydrichova Klimova, B. (2015). Designing an EAP course. *Procedia – Social and Behavioural Sciences, 191,* 634–638.

Gillet, A. (1989). Designing an EAP course: English language support for further and higher education. *Journal of Further and Higher Education, 13*(2), 92–104.

Gillet, A. J. (2011). *What is EAP?* UEfap. http://www.uefap.com/bgnd/whatfram.htm

Hutchinson, T., & Waters, A. (1987). *English for specific purposes: A learning-centred approach.* Cambridge University Press.

Irshad, I., & Anwar, B. (2018). Designing English for specific purposes course for computer science students. *Journal of Education and Educational Development, 5*(1), 156–171.

Javid, M., Mohseni, A., Ameri, A., & Baradaran, A. (2020). ESP curriculum development through analyzing the needs of border guarding police cadets in Amin police university: Target situation analysis. *Journal of Language and Translation, 10*(2), 63–86.

Li, J. (2014). Needs analysis: An effective way in business English curriculum design. *Theory and Practice in Language Studies, 4*(9), 1869–1874.

Munby, J. (1981). *Communicative syllabus design.* Cambridge University Press.

Paltridge, B., & Starfield, S. (Eds.). (2013). *The handbook of English for specific purposes.* Wiley-Blackwell.

Schader, B., & Waibel, S. 2016. Finding and selecting suitable materials. In B. Schader, *Foundations and backgrounds* (pp. 113–117). Center for IPE, Zurich University of Teacher Education.

Slavuj, V., Načinović Prskalo, L., & Brkić Bakarić, M. (2021). Automatic generation of language exercises based on a universal methodology: An analysis of possibilities. *Bulletin of the Transilvania University of Braşov: Philology and Cultural Studies, 14*(63), 29–48.

Torregrosa Benavent, G., & Sánchez-Reyes, S. (2015). Target situation as a key element. *Procedia Social and Behavioral Sciences, 173,* 143–148.

Widodo, H. P. (2016). Teaching English for specific purposes (ESP): English for vocational purposes (EVP). In W. A. Renandya & H. P. Widodo (Eds.), *English language teaching today* (pp. 277–291). Springer.