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How to cite:

Rosell-Aguilar, Fernando (2016). User evaluation of language learning mobile applications: a case study with learners of Spanish. In: Palalas, Agnieszka and Ally, Mohamed eds. The International Handbook of Mobile-Assisted Language Learning. Beijing: China Central Radio & TV University Press, pp. 545–581.

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Chapter 19: User Evaluation of Language Learning Mobile Applications: A Case Study with Learners of Spanish

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Abstract

Studies into the use of mobile applications (apps) for language learning have mostly focused on small samples of learners using a specific app rather than using the apps they have selected for themselves. More data is required to understand the ways learners engage with apps for language learning (through profiles of app users, how apps are used, and user opinions of learning with apps) to create a realistic picture of users in their natural settings. This chapter reviews current research, highlights the potential of mobile apps for language learning, and presents the results of a study into how a group of language learners use mobile apps of their choice. The study is innovative, as it provides the first comparison between app users and app non-users. Data was collected through a questionnaire (n = 85) and interviews (n = 7). The results suggest that there are differences in age and gender between learners who use mobile apps and those who do not. The results also indicate that learners use apps mostly for vocabulary development, translation, and grammar practice. Apps are used often, mostly informally, and for relatively short periods of time. Learners like the ability to practise specific areas, rapid access to information, ease of use, and gamification elements, but have concerns about reliability and other

factors. All users reported that using apps improved their language skills to different degrees. The chapter discusses the implications of these findings for learner training and app development, reports on limitations, and highlights directions for further research into apps for language learning.

Keywords: MALL, mobile applications, apps, evaluation, user profiles

Introduction : Apps for Language Learning

It has been less than ten years since smartphones were introduced for mass consumption, and in that time they have become almost ubiquitous in many parts of the world. Worldwide, 2.7 billion connections had been made from smartphones by January 2015, and of all webpage views between January 2014 and January 2015, 38% were made from smartphones or tablets (Kemp, 2015). In the USA, for example, 64% of adults own a smartphone, up from 35% in 2011 (Smith, 2015). Among the features that contribute to the appeal of smartphones, as well as tablets, is the ability to install software chosen by the user rather than the manufacturer. This software is specifically designed for mobile operating systems (OS) found in smartphones and tablets and commonly known as apps or mobile apps, available to download from app stores. The most popular ones are the Apple App Store for devices that run the Apple iOS operating system (such as iPhones and iPads), and Google Play and the Amazon App Store for devices that run the Android operating system. A large number of apps are available to download. As of July 2015, Google Play and the Apple App Store offer more than 1.5 million apps each (Statista.com, 2015), although many of these are the same app designed for the different operating systems. The number of downloads for these apps is very high too: the Apple App Store reached 100 billion downloads in June 2015 (Fiegerman,



2015).

Many apps are available for educational purposes, providing new opportunities to engage in learning activities in different spaces, places, and at the users' own pace. They make use of the features that smartphones and tablets possess, including larger screen size, responsive touch screen, enhanced text-entry, high-quality audio and video playback, recording and editing, voice recognition, enlarged storage, faster connectivity (Godwin-Jones, 2011), portability, sleek design, and intuitive interfaces. One effect of the widespread use of smartphones and tablet devices has been the fall in popularity and ownership of single-use devices, such as mobile phones which only allow calls and texts, traditional wristwatches, or point-and-shoot cameras; even the iPod Classic was discontinued in September 2014 (Johnston, 2014). The reason for this is that many of the capabilities of such devices are now integrated into smartphones, providing these functionalities within a single device.

As early as 2009, there were claims about how apps could serve language learning activity with tools such as translators, dictionaries and voice recorders that could be used to practice pronunciation, as well as the potential to increase students' awareness of the areas where the target language is spoken (Rosell-Aguilar, 2009). Apps were soon evaluated as potentially beneficial for language learning by a number of authors (Burston, 2014; Godwin-Jones, 2011; Kim & Kwon, 2012; Lafford, 2011; Sweeney & Moore, 2012). These appraisals were based on principles from second language acquisition (SLA) theory and computer-assisted language learning, such as noticing, negotiation of meaning, learning by doing, focus on form and collaborative learning (Skehan, 2003; Doughty & Long, 2003), the provision of tasks that are meaningful and engaging (Oxford, 1990), collaborative, interesting, rewarding, and

challenging (Meskill, 1999), interactive (Skehan, 2003), make use of authentic materials (Little, 1997), and provide opportunities to produce target language (Chapelle, 1998). Other fields that can serve as a framework for the evaluation of apps include the field of mobile-assisted language learning, which advocates the provision of resources that can be used autonomously, taking screen size into consideration in the design of resources, and chunking knowledge as independent learning objects to facilitate processing of information (Ally, 2005). The use of apps for language learning is an example of both didactic mobile learning, defined as “learning from mobile educational material ... in a way that responds to the potential and the limitations of mobile devices” (Kukulka-Hulme & Traxler, 2005, p. 26), and discursive mobile learning, based on the interaction among learners that apps can afford. Another advantage of MALL is that it offers “just in time learning” (Traxler, 2007; Pegrum, 2014) “where learners can often take advantage of unexpected free time since they often have their devices with them” (Evans, 2008, p. 492).

An issue that affects learner engagement with apps for learning purposes is Continuous Partial Attention, the process of paying simultaneous attention to a number of sources of incoming information, but at a superficial level (Stone, 2009). The practice of taking the opportunity to learn during short periods of inactivity also has implications for the design of mobile apps, as learners may choose not to engage with materials that require deep concentration or a long time to process. Kenning (2007) speculated that mobile learning could be “a highly fragmented experience liable to be fraught with distractions” (p. 194). Both this and continuous partial attention affect the mobile learning experience, as users can be distracted by notifications from other apps such as Facebook, Twitter, email, or messaging whilst using their mobile devices.



One common assumption regarding the use of technology, including mobile technology, by 21st Century learners is that they are “digital natives” already prepared for the use of devices (Prensky, 2001). Many, however, have questioned this notion, (e.g., Bennett, Maton, & Kervin, 2008). Instead, Pegrum (2014) refers to learners being “tech-comfy”, able to use new technologies for social and entertainment purposes, but in need of training to become “tech-savvy” and use the technologies for professional and academic purposes as well as developing critical skills to evaluate them (Pegrum, 2014, p. 39).

Finally, other factors to take into consideration in the evaluation of apps for language learning are usability of the app (Shield & Kukulska-Hulme, 2006) and gamification, i.e., using game design elements applied to educational contexts (Domínguez et al., 2013).

Literature Review: Research into Apps for Language Learning

The use of apps for language learning has been the subject of a number of studies. Most of these have found very positive attitudes towards learning with apps (e.g., Khaddage & Lattemann, 2013; Brown, Castellano, Hughes, & Worth, 2012). A study with 13 university students of German using iPads to engage in listening and speaking activities at advanced level by Lys (2013) concluded that the devices were suitable for engaging with such activities; her students felt that they had the necessary competency to use the devices and were also comfortable using them. Castañeda and Cho (2013) carried out a study with undergraduate students of Spanish who showed significant improvements in verb conjugation ability after using a conjugation app. The participants in their study also reported that the gaming features of the app were the most enjoyable. Kim (2013) also found positive attitudes towards the use of apps. Her study of Korean students

learning English reported improvements in listening comprehension. Yildiz (2012) reported that using apps with young learners of English as a second language led to positive effects on vocabulary acquisition, phonological awareness and listening comprehension skills. Similarly, other studies have found improvements in literacy, reading and writing with native speakers of English (McClanahan, Williams, Kennedy, & Tate, 2012; Harmon, 2012). In his study of 70 Hungarian learners of German, Kétyi (2013) reported that most students enjoyed using the chosen app (*Busuu*) and considered it helpful for language learning. The students liked the gamified elements, the use of different media, interaction with other learners, and immediate feedback. *Busuu*, however, requires a paid subscription for full access to the content, and 92% of participants stated that they would not be willing to pay after the free seven-day trial in which they took part. Other studies have reported on skills specific to certain languages, such as learning Chinese characters (Rosell-Aguilar & Kan, 2015), with very positive results.

As well as positive results and impressions, there have also been criticisms about language learning apps, particularly in terms of design. Many language learning apps are designed for learners at a beginner level. Activity types for vocabulary recall and grammar drilling are relatively easy to design. Since beginners need to build their vocabulary and value exercises that drill grammar items such as conjugation, plural formation, or prepositions, apps are a good fit to practice in such a way. This sort of drilling also lends itself to activity types where only one answer is correct, and therefore such activities are easy to assess as right or wrong, with feedback on performance often limited to a tick or a cross. Advanced language learners, in contrast, require more sophisticated activities, which are consequently harder for automated software to assess and provide



feedback on. Brown et al. (2012) warned that the success of any activity involving mobile devices depends on the task carried out as well as familiarity with the device and software. Kim and Kwon (2012) reviewed a number of language learning mobile apps and concluded that most apps focus on cognitive processes (recognition, recall and comprehension) and receptive language skills rather than socio-cognitive activities, with little collaborative learning. Burston argued that “pedagogically, nothing new has been done with smartphones that has not already been done with earlier mobile devices” (Burston, 2014, p. 108). Other criticisms surrounding the design of language learning apps include poor navigation and user-interface design, the fact that there is too much focus on translation, and little use of the unique properties of smartphones, such as multimedia capabilities and connectivity with other users in particular (Godwin-Jones, 2011; Burston, 2014).

This situation is changing and, as Sweeney and Moore (2012) have noted, “more useful material is gradually being created by publishers” (p. 35). Whilst some app developers continue to offer limited activities that focus on drilling and translation without much meaningful feedback or support, some apps such as *Duolingo*, *Busuu* or *Babbel* offer a much more well-rounded experience, including practising a number of language skills (reading, speaking writing, listening), a wider variety of activities, and use of gamification to keep the user engaged.

Research Questions

Studies into the use of apps for language learning have mostly focused on small groups using a specific app rather than learners using the apps they have selected for themselves. However, learners typically find their own apps through searches, recommendations, or download popularity charts in

apps stores, and most app use for language learning is rarely integrated into formal teaching. As such, a research approach that allows the investigation of app use in naturalistic settings is necessary. More information is required to understand the way learners engage with apps for language learning, including providing a profile of the app user, how apps are used, and user opinions of learning with apps. In addition, although smartphones and tablets are mobile devices, there is little evidence that they are being used “on the move”. The research questions this study focused on were:

- Are there any differences between app users and app non-users? This includes factors such as age and gender, devices owned, and operating system of those devices.
- What type of apps do language learners choose and use independently to aid their learning?
- How do learners use apps? How often, for how long, where, and when?
- What are the most and least appreciated features of language learning apps? This question includes features that learners would like to see in apps and the issue of payment for apps.
- Do learners think the use of apps contributes to their language learning?

Participants and Methods

Participants in this study were adult learners of Spanish taking a Higher Education qualification with a distance learning university in the UK. The research received approval from the university’s Human Research Ethics



Committee. At the time of the study, the participants were attending a weeklong residential school in Spain. A questionnaire was distributed among all 165 participants (60.61% female / 39.39% male) in the residential school, who were advised that filling it in and returning it was voluntary. A total of 85 students (51.51%) returned the questionnaire.

A first version of the questionnaire was designed and a pilot study was carried out with a sample set of 91 students in 2014. Based on the responses from that pilot, the questionnaire was revised. The more concise and clearer questionnaire contained 27 questions: twenty multiple-choice questions and seven open questions. Questions included personal data (age, sex), device ownership (which device, Operating System), and use of apps for language learning (which, where, when, how long, what for, opinion, features, impressions) (see Appendix A for full questionnaire). The data from the paper questionnaires was input into SurveyMonkey for statistical analysis.

In addition, seven voluntary interviews were carried out with five female and two male respondents. These interviews were 15 minutes long on average and were audio recorded with the students' consent. The interview questions asked about device preference, use of apps context, feedback obtained from using apps, app features and paying for apps. Some of these questions were followed up with impromptu questions to seek clarification, depending on previous answers. The interview recordings were transcribed and coded for thematic analysis following principles of participant anonymity and research rigour.

Questionnaire respondents provided information about device ownership. Those respondents who did not reply and those who did not own a smartphone or tablet ($n = 8$) were removed from the analysis, making the total $n = 77$. Of these, forty-eight (62.34%) were female and twenty-nine (37.66%) were male. Seventy-one respondents provided their age. The age

spread was twenty-five (35.21%) in the 18-30 range, seventeen (23.94%) between 31 and 40, fourteen (19.72%) between 41-50, nine (12.68%) between 51-60, five (7.04%) between 61-70 and one (1.41%) over 70.

Results

The results are presented here, divided into five sub-sections in response to the five main research questions.

User Profiles: Are There Any Differences between App Users and App Non-Users?

Fifty-eight (78.38%) respondents use language learning apps to support their language learning, compared to sixteen (21.62%) who do not. This is a considerable decrease from the pilot study, where 34.06 of respondents did not use apps. Among the app users, thirty-seven (63.79%) were male and twenty-one (36.21%) female, whereas among app non-users, the gender split was 50% (eight each). Of the sixty-eight participants who provide their age, fifty-three (77.94%) were app users and fifteen (22.06%) were app non-users. The breakdown of age ranges is presented in Table 19.1.

Table 19.1 Age Ranges of App Users and App Non-Users

Age	App users	App non-users
18-30	19 (35.85%)	4 (26.67%)
31-40	16 (30.19%)	1 (6.67%)
41-50	8 (15.09%)	5 (33.33%)
51-60	6 (11.32%)	3 (20.00%)
61-70	4 (7.55%)	1 (6.67%)
70 +	0 (0.00%)	1 (6.67%)

A total of fifty-eight (100%) app users and thirteen (81.25%) app non-users provided details about which devices they own (Table 19.2).

Table 19.2 Device Ownership among App and App Non-Users

Device owned	App users	App non-users
Smartphone	19 (32.76%)	5 (38.46%)
Tablet	4 (6.90%)	2 (15.38%)
Both	35 (60.34%)	6 (46.15%)

Participants' devices had a variety of Operating Systems, but iOS (Apple's OS) devices almost doubled those who used Android OS. Only a minority use devices that run the Windows mobile OS.

The respondents who did not use language learning apps listed the following among their reasons for not using them: lack of awareness of apps for language learning (37.50%); preference for other methods (such as videos, podcasts, using a laptop rather than a mobile device), or more "traditional" methods, such as books or spoken exchanges with other people (25.00%); lack of time (12.50%); and screen size (6.25%). The main reason for not utilising apps in language learning given by three respondents (18.75%) was that the app store for Windows Phones lacked adequate content for language learners.

What Type of Apps Do Language Learners Choose to Use Independently to Aid Their Learning?

The primary area of language learning for which respondents use apps is vocabulary (82.26%), followed by translation (66.13%), and grammar practice (58.06%). Some 41.94% use them for reading and 38.71% for listening practice. Apps are used least for speaking practice and to facilitate interaction with others (11.29% each). The top five apps used by

questionnaire respondents are *Duolingo* (a full language learning app), mentioned by seventeen respondents (29.3%), *Memrise* (flashcard app) by sixteen respondents (27.6%), *Google Translate* (translation app) by twelve respondents (20.7%) and both *Word Reference* and *Collins Spanish Dictionary* (dictionary apps) by four respondents (6.9%) each. Other apps mentioned included *Busuu* and *Babbel* (full language learning apps—three respondents each); different dictionary apps, and various news, TV and radio apps, which allow language learners access to native sources of Spanish reading and listening practice, were also used.

The use of apps is not restricted to a single app: three quarters of respondents use more than one app to supplement their language learning.

How Do Learners Use Apps?

The majority of mobile device users of language apps in this study state that they use apps informally, as and when the opportunity arises (60%), rather than in planned study sessions, although 40% state that they use apps both informally and during planned study sessions. Male and females do not differ significantly in their response to this question, but there is noticeable variation between respondents of different age ranges, with younger age ranges tending to use apps only in informal situations, while older age ranges are more likely to use apps both informally and in planned study sessions. One of the interviewees (Interviewee 4) stated that he tends to plan the use of apps and can devote between 30 minutes to an hour on *Memrise* “ if the session is going quite well ”.

Some sixty-one participants responded to a question about the frequency of their app use: ten respondents (16.39%) use them several times a day, seventeen (27.87%) use them every day, twenty-two (36.07%) several times a week, five (8.20%) about once a week and seven



(11.48%) less frequently than once a week. There is no particular trend between different ages, but there is distinct variation between male and female respondents in this question, with 52.38% of male respondents using apps at least daily, compared to 36.11% of women. Although female respondents use apps less frequently, they are more likely to use them for a longer period of time; 52.63% of female respondents report they use an app for 15 minutes or longer, in contrast with male respondents among whom only 23.81% use the app for that long. Some 76.19% of male and 47.36% of female respondents use apps for shorter periods of time, ten minutes or fewer (see Figure 19.1).

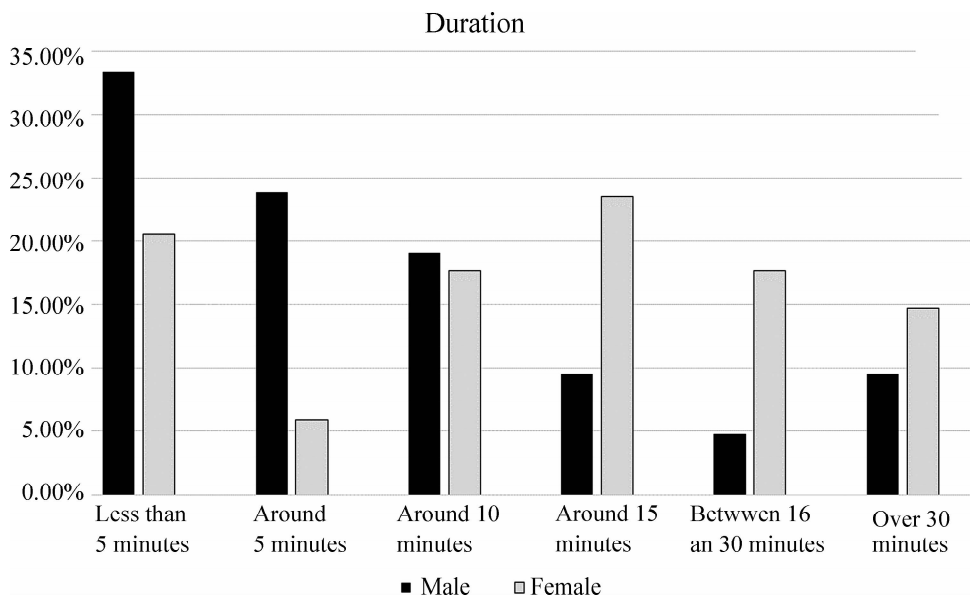


Figure 19.1 Percentage of Time Spent Using Apps by Gender

This trend is echoed in the interviews with female app users. Interviewee 6 reported that she could spend up to 30 minutes on just one entry of the *Collins Dictionary* app, as it afforded her the opportunity to expand and explore many different phrases from just one word. Interviewee 2 also reported that she often used apps for up to 30-45 minutes, although

she would use game apps or *Memrise* to “kill time” when waiting for the bus. Interviewee 3 reported using *Memrise* for up to 30 minutes at a time, although she would also use apps “whenever I have five minutes”, e.g., on the way to work. Interviewee 7 also used *Duolingo* or similar apps for between 30 minutes to an hour, as she found it “quite fun” and “tends to get quite caught up in it”.

To obtain information about where respondents use language learning apps, the questionnaire offered a number of choices and asked participants to select all that applied. Responses can be seen in Figure 19.2.

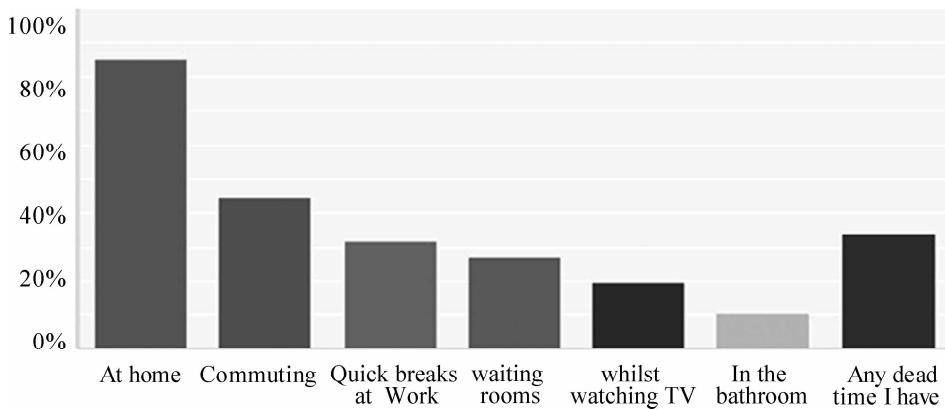


Figure 19.2 Situations Where Language Apps Are Used

During the interview questions related to the location, interviewee 6 states that she could use apps any time in a 24-hour period, particularly as she does not sleep well, but she also used apps during breaks at work. Interviewee 1 used apps to listen to audiobooks via *Audible* on long train journeys and on her way to Spanish tutorials to get her in the right frame of mind. Interviewee 4 commented that he needed to concentrate on the apps, rather than use them while doing other things, such as watching TV.

One of the interview questions asked those who own more than one device (smartphone and tablet) about preferences for which device to use



for language apps. For Interviewee 7, the choice between a tablet and a smartphone depended on where she was in the house, and the purpose for which she was using the device. She stated that her iPad was used for planned study sessions, when she was using apps such as *Duolingo*, which are more visual, or when she was having her lunch. In contrast, she used her iPhone when she just wanted to quickly check something on *WordReference* whilst studying, or to look up verb forms whilst speaking in Spanish. Interviewee 6 also stated that location is a deciding factor in her choice of whether to use a tablet or a smartphone at any given time, and noted the convenience of an iPhone over a tablet, although she found the *Collins Dictionary* app easier to use on an iPad due to screen size. Interviewee 2 also noted the convenience of smartphones when “on the go” due to device size, compared to a “big tablet”. She did not find that screen size affected her decision between a tablet and a smartphone. For interviewee 5, the choice between iPhone and iPad was decided by the type of app he wanted to use at the time. Like the others, he saw dictionary apps on the iPhone as convenient, as he could “take it around with [him] everywhere and when [he thought] of something, [he could] just look at it”, but saw the iPad as more suited to visual apps and games such as *MindSnacks*, as it was “just easier to look at” and also easier for using books due to its bigger screen.

What Are the Most and Least Appreciated Features of Language Learning Apps?

Three questions in the questionnaire asked respondents about the app features they liked best, least and further features they would like to find in language learning apps. This issue was also part of the interview questions.

A total of forty-eight respondents replied to the open question about most liked features. The most mentioned feature was the ability to focus on

specific areas, such as translation, grammar practice, or vocabulary (mentioned by twenty-two respondents). Other liked features included ease of use (mentioned by 12 respondents), rapid access to information (8 respondents), game-like elements (4 respondents), access to authentic materials (2 respondents), and portability and feedback (1 respondent each).

The interviewees also mentioned these features. In terms of app design, Interviewee 2 mentioned that she liked apps that were “colourful, easy, straight to the point”, and were “simple and visual,” while for interviewee 3 the app she used the most (*Memrise*) was simple and had “just what you need”. With regards to the ability to focus on specific areas, one respondent mentioned the ability to practice “over and over.” Interviewee 1 mentioned how she appreciated the ability to focus on troublesome areas in *Memrise*, and how the app would repeat words that the user was not getting right. Likewise, Interviewee 4 stated that a helpful feature of *Memrise* is that the user was not allowed to make too much progress until they had mastered a certain number of words. In terms of gamification, several respondents mentioned that apps were “fun” and the competitive nature of some apps, which gave them targets to reach every day, were encouraging. Interviewee 5 stated that “fun” is an important feature for him and that certain games can be “quite addictive,” although the app needed to be effective as a language learning tool as well. Interviewee 7 mentioned that she gets competitive with herself and loved “that buzz of being able to recall” vocabulary. Interviewee 4 drew attention to the “clever little system”, whereby one’s progress on the app he used is measured by the growth of virtual plants. Interviewees 3 and 5 mentioned that apps on mobile devices offered more opportunities for study and negated the need to carry around heavy language books when one wants to “learn on



the go”. This was particularly beneficial for users such as Interviewee 6, who had to stay in hospital for long periods and needed to know she had everything available to continue her studies. She also mentioned that iPads are much easier tools on which to study than a laptop, which is much heavier and awkward for somebody who may have to study in bed. The convenience of being able to undertake short bursts of activity was also mentioned; Interviewee 1 stated she was able to “do two minutes and then put it down” while waiting for something to boil, and Interviewee 6 mentioned that she liked being able to do “a selection of different tasks” during breaks at work.

There was also a variety of responses to the question of what features were liked least in language apps. Forty questionnaire respondents answered this question and the most common response (8 responses) highlighted usability issues about the interface and design of the app: cluttered interface, text size and colours that have poor contrast, too many clicks, and amount and difficulty of typing on a smartphone. Other responses included unreliability of content/content errors (7), lack of grammatical explanations and usage examples (4), software glitches / freezing (4), advertising (2), the decontextualized manner in which content is presented in some apps (2), having to pay for content (2), requirement to be online to use certain apps (2), and poor feedback (1).

The interviewees mentioned some of these issues as well. Concerning content unreliability, Interviewee 4, a user of both *Google Translate* and *Translator*, suggested that many translation apps provided different answers and unreliable translations; at the same time, nuances could be lost. He tended to use these types of apps as “a bit of a crutch” and “confirmation,” which he could “access at any given moment” but noted that it was important not to “over-rely” on them and be “selective” in what he uses. Interviewees 1 and 5 stated their dislike of advertisements in mobile

applications, particularly when the apps were so intrusive that they prevented the user from actually utilising the app until the advertisements were closed. However, Interviewee 1 was not bothered by them when they did not impede the use of the app. Although adverts did bother Interviewee 5, he did not consider this enough to justify paying for an app solely to disable them. Interviewee 6 also found them “distracting and annoying” and she named advertisements among her least favourite features of apps; she is willing to pay to eliminate adverts.

Other issues that did not appear in the questionnaire responses but were mentioned during the interviews are :

- Lack of content for advanced users Interviewee 5 suggested that apps tend to be tailored more for those at beginner level or who want to learn holiday phrases. Interviewee 1 made a related point, that drop-down or multiple-choice questions offered by some apps were too easy; she believed they would be more challenging if users had to come up with the answer themselves.
- Inability to customise according to level or need; Interviewee 1 stated that although she had used *Busuu* in the past, she no longer used it, as one has to complete beginner-level sections before moving onto more advanced areas, which is too time-consuming. Interviewee 3 also mentioned certain missing features in *Memrise*, such as the ability to test oneself on gender of nouns, rather than just the noun itself.
- Lack of synchronicity between apps; although not mentioned by any respondents in the questionnaires, an



interesting point raised by interviewee 6 is the lack of synchronicity between language learning applications, of the type, which exists between diet tracking and fitness apps, for example. She described language-learning apps as “disjointed” and would like to be able to highlight a new word in a dictionary app, and then incorporate any new words into a flashcard app to aid vocabulary learning.

- **Predominance of Latin American Spanish:** this was not mentioned by any of the questionnaire respondents, but two interviewees mention that they dislike the predominance of Latin American Spanish varieties in the apps available, as they would prefer to focus on Peninsular Spanish. Interviewee 5 mentioned only using *DuoLingo* for German, not Spanish, due to its focus on Latin American Spanish.

Questionnaire respondents and interviewees were also asked about features they would like to see in apps. Answers to this question were, in many cases, extensions to the question of what was disliked most about apps. This might be due to the location of the question in the questionnaire, a design fault that should be rectified in further replications of the study. Responses include mainly design and pedagogical issues. In terms of design, participants mention better structure and mapping of content, better quality sound and spoken translation capabilities, the ability to access content offline, and the ability to speak to somebody “in real time” and facilitate exchange with native speakers. From a pedagogical point of view, participants include having one app that allows them to practise all four skills of reading, speaking, listening and writing, more grammatical

content, more tests, quizzes and interactive material, more usage examples of both grammar and vocabulary, more colloquial and idiomatic examples, and better quality feedback.

Survey respondents were asked specifically about the type of feedback they receive from apps, to which 42.11% replied that feedback is either “very good” or “good”. For 22.81%, feedback is either “OK” or “not very good”. Although no respondent stated that feedback is “terrible”, 35.09% of respondents claimed that they do not receive feedback from the apps they use – possibly due to the types of apps that some respondents use. Interviewee 5 provided an example of useful feedback that he used to receive from using *LiveMocha* – native speakers of the language would correct him by listening to audio recordings he made in Spanish and pointing out mistakes in pronunciation. Interviewee 7 added that apps such as *WordReference* offer a way to check herself on areas such as verb conjugations.

A final issue included in this section is that of app prices and payment for upgrades, full content and/or removing advertising. The questionnaire asked whether respondents pay for language learning apps and why, giving a list of the six most common reasons from the pilot study. In response to the question about whether they pay for apps, 60.34% of questionnaire respondents selected that they never pay for apps and only download free apps. A further 29.31% pay “sometimes”, 3.45% pay “most of the time”, and 6.90% pay only after trying a “lite” version (if available). There was no discernible relationship between age range and willingness to pay for apps. However, responses suggested that male app users were more likely to pay for apps than females. No female respondent stated that she paid for language apps “most of the time”, and 25.00% stated that they paid for apps “sometimes”. Male respondents were more likely to pay for apps “most of the time” (9.52%) or “sometimes” (38.10%). The full



breakdown of responses appears in Figure 19.3.

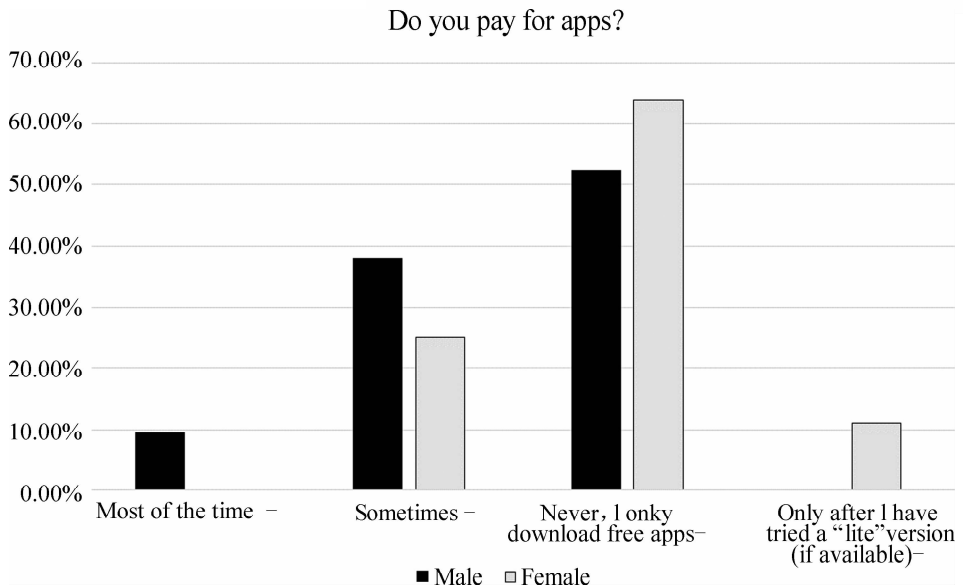


Figure 19.3 Responses by Male and Female App Users to the Question of Whether They Pay for Apps

Concerning the participants' reasons for paying for apps or not, roughly the same proportion of men and women said that all language learning apps should be free (42.86% and 43.48%, respectively). Males seemed more likely to feel that apps represent good value for money (50.00%, compared to 21.74% of women), but 34.78% of women also responded that they think prices of apps are quite reasonable, compared to 28.57% of men. When comparing responses by age range, 57.14% of 31-40 year olds and 60.00% of 41-50 year olds said that apps should be free to use, compared to 25% of 18-30 year olds. 18-30 year olds were also slightly more likely to regard apps as good value for money (43.75%, compared to 28.57% of 31-40 year olds and 40.00% of 41-50 year olds). Although no respondent above the age of 50 regarded apps as "good value for money" or thought that developers should be rewarded, 66.67% of 61-70 year olds stated that prices were reasonable.

The interviewees were also divided on whether they were happy to pay for a language learning mobile app. Interviewee 2 argued that free apps are always as good as paid ones, and disliked the inability to try an app before committing to purchase it. She has never paid for extra content, and will always check the small print for any additional in-app purchases. Interviewee 2 stated that one could usually find what they want for free. Interviewee 4 also stated that he tries not to pay for apps if he can help it. The other interviewees were more willing to consider paying for apps, but with certain caveats. Interviewee 1 stated that she will always try a “lite” version first, but would not “think twice” about paying for a good app. Interviewees 5 and 6 both stated that they would also pay for apps and have done so. The reputation of the app provider is also a factor for interviewee 7, who said that she would need to be convinced the app was “100% correct” before parting with her money.

Do Learners Think the Use of Apps Contributes to Their Language Learning?

In response to the question “Do you think using language learning apps has improved your knowledge of Spanish?”, a large proportion of respondents stated that they felt that apps had improved their Spanish either “a lot” (32.79%) or at least “somewhat” (39.34%). Just over a quarter of respondents chose “a little” (27.87%) but nobody selected “not at all”.

During the interviews, interviewee 4 stated that he would use apps as a reference now and again when he did not have his hardback dictionary on hand, but his usage of apps was “not every day” and “not for everything”. Although he had used *Memrise* and described it as a good system with “a lot of repetition”, Interviewee 4 stated that he found it difficult to keep on top of new words in the app, and has discovered instead that repeatedly writing



out words to learn new vocabulary works better for him. He also believes that apps may have had a negative effect on his language learning, as he has been criticised for over-reliance on the sometimes too-literal translations provided online. In contrast, Interviewee 2 described herself as an “audio-visual learner” and finds that apps are more suited to her learning style. She finds reading much more difficult and books with “loads and loads of words” are not appealing. For Interviewee 7, apps such as *Memrise* offer a fun alternative to traditional methods of vocabulary learning.

Interviewee 5 stated that the convenience of being able to look up words/access information quicker has probably meant he has learnt more and the convenience aspect has also improved his Spanish. Interviewee 6, who is suffering from a serious health condition, also stated that having everything handy on one device makes it much easier for her to continue her studies while she is in the hospital, where she once may have struggled.

In the final question, questionnaire respondents were asked to share any final thoughts about learning languages with apps. Respondents brought up issues about reliability of apps in terms of software as well as content accuracy, mobility, convenience and ease of use. Several respondents mentioned that they found apps very useful to provide variety and a different experience from more traditional materials, as well as motivation to keep trying. The most common comments highlighted that, regardless of how useful they are, apps are supplementary to formal learning and not replacements for it; neither can they replace human interaction or living in a country where the target language is spoken.

Discussion

Most research into mobile applications and how they are used has focused on app users only, so it is interesting to contrast the differences

among app users and app non-users in terms of age and sex, even if the numbers are rather small to draw meaningful conclusions. From a sample made up of 62.34% female and 37.66% male respondents, the fact that the gender split among app users was 63.79% male and 36.21% female strongly suggests that men are more likely to use apps. The differences in age also suggest that younger learners are more likely to use them. The decrease by over 10% in percentage of respondents who do not use apps between the pilot study and the current study (both with students taking the same course) is an indicator that with time more learners are beginning to introduce apps into their set of resources to support their language learning. It is also worth noting that over 80% of app non-users own devices in which apps can be used, so device ownership is not the deciding factor for non-users (except perhaps Windows phone users, who made reference to the lack of language learning apps in the Windows app store). Instead, preference for traditional methods, reliability, limited knowledge of device and apps, and time were the main factors. This suggests that training on the potential of mobile devices and apps available for them, as well as how to evaluate apps for their own learning needs, would be beneficial for those who as yet do not use apps for language learning as it would help them make the transition from “tech-comfy” to “tech-savvy” (Pegrum, 2014).

It is not surprising that vocabulary and translation are the most popular apps used by the language learners in this study. First, because these are the most widely available types of language apps, and second, because they are the type of app that can be utilised to check meaning “just in time” whilst doing something else (Traxler, 2007; Pegrum, 2014). It makes sense that grammar apps are also very popular, as these can be used for shorter or longer periods of time. Additionally, grammar apps as seen as convenient and rewarding to use; grammar is an area of language learning



that modern pedagogies (e.g., communicative language teaching or learner-centred approaches) do not always place at the forefront of language learning, yet it remains something that students believe they need to master, regardless of their language level. The small number of available apps that focus on speaking and interaction is the obvious reason for their low use, although there may be other reasons.

The results show that learners use apps mostly spontaneously, but a considerable proportion also use them in planned study sessions; age seems to be a factor in this. Over 48% use language learning apps at least once a day, and men tend to use them more often but for shorter lengths of time than women. There is no clear reason why women use apps less often but for longer, and this may be worthy of further research to ascertain whether it is a design issue that developers need to take into account. In terms of location where apps are used, the most popular answer was “at home”, which raises issues about how mobile the learning experience is, despite apps being used on mobile devices (Kukulska-Hulme & Traxler, 2005). As reported above, home use does not mean that they are used in planned study sessions as, within their homes, learners use them whilst doing other activities such as watching TV (19.64%) or in the bathroom (10.71%). This and the rest of the locations such as commuting, breaks at work, and waiting rooms suggest that engagement with learning apps may not be exclusive, and indeed users are engaging with other activities, which in turn suggests that the concepts of continuous partial attention (Stone, 2009) and the matter of distractions whilst engaging with mobile content (Kenning, 2007) are relevant to the use of apps. This result is of high relevance for app developers, and language learning app developers specifically, who will need to consider different levels of engagement when designing apps to attract and keep the user’s attention.

The choice of device for those that own both smartphones and tablets seems motivated mostly by convenience, although the design of the app and how it is used are important factors. Hence, dictionaries and translation apps are mostly used on smartphones for quick reference, but there are also examples of learners using them for extended periods of time, depending on their needs.

Regarding features of language learning apps, the responses from the learners who took part in this study in terms of most appreciated features (rapid access, convenience, portability, gamification elements, ease of use) and least liked characteristics (reliability, interface, design, advertising and customisation among them) provide a valuable starting point for reflection around app and task design. It is interesting that learners wish for apps that can cover all language skills, a more integrative approach to language learning, when most of them engage in “app smashing” (using more than one app for a purpose) and know that they can get different things from different apps. A possible solution comes from the suggestion by one student for better synchronicity among apps so they can form part of a bigger personalised learning suite of tools.

Considering that most language learning apps provide very limited and impersonal feedback, mostly consisting of a simple tick or cross (or green or red) indication of whether the answer is correct, it is surprising that over 40% of respondents consider feedback either good or very good. In many of the available apps, when learners provide incorrect answers, they do not get any support to help them understand why their answer is incorrect and they can only try again until they get it right by elimination. In part, their satisfaction with the limited feedback may be due to low expectations of what an app can provide. Additionally, most activity types in language learning apps tend to be multiple choice, filling in blanks with multiple choices, and

matching exercises, activity types for which simple feedback might be seen as sufficient.

There seems to be a general attitude towards apps as something that should be free, both within and outside education, and this is reflected in the responses from the survey respondents and interviewees. The question of app payment is crucial for app developers; without generating income there is no business in app development, yet many users dislike advertisements and most are not willing to pay for apps or in-app purchases. Many providers, such as *Busuu* or *Babbel*, use a subscription model. Although data about the percentage of app users who choose to subscribe is not publicly available, it can be presumed that this is a viable model for them. Others offer free access to a limited amount of content and sell further content through in-app purchases. *Duolingo* does not offer subscription or in-app purchases, which may be the reason for its popularity and dominance on the market. Instead, their revenue comes from offering crowd-sourced translations that companies, not users, pay for (Simonite, 2012). *Duolingo* has recently ventured into the language testing and certification market and this may well be a direction that other app language providers will move towards.

It is clear from the results that learners who use apps feel that their use contributes to their language learning to some extent. This use is clearly supplementary in the case of the participants in this study, as they are enrolled in a language module. The extent to which apps contribute to their learning is not easily measurable, as different learners use apps for different purposes in different places, and engage in varied ways. Learners can choose to supplement their language learning with apps, which can constitute either a large or a small proportion of their supplementary learning.

Conclusion, Limitations and Further Research

Conclusion

This study has shed light on the practices and beliefs of language learners who choose to use apps to support their language learning, as well as some insights into those learners who choose not to use them. It is innovative in that it has produced the first comparison between app users and app non-users. It has also discussed the implications of the results in terms of app design and pedagogical practices.

Learners appear generally satisfied with what they are offered (although they wish for more and better quality content) which, considering that most do not and would not pay for apps, is perhaps appropriate. Some developers are striving for constant improvements, although others continue to use repetitive activities and focus on written language only.

Apps provide a good supplement for learners who are enrolled in formal instruction and a good starting point, perhaps primarily for independent learners. Anecdotal evidence seems to point towards a growing number of adults re-igniting their language learning (after some experience at school) by first using apps informally. Language learning apps may be a new way to attract students towards formal learning once they have discovered an appetite for languages and get past the basic language practice that apps tend to offer, something that would be welcome in areas where formal language teaching is in decline.

Finally, there is a case to be made for mobile device use training and potential for learning, including apps. Non-app using language learners may be unaware of mobile app potential, or may be reluctant to use them due to a lack of information or concerns surrounding data protection and online payments.



Limitations

A number of limitations affect this study. The data is self-reported and may be subject to the limitations that such research methods have (Paulhus & Vazire, 2007). In addition, the participants are registered on a distance-learning course and may be more used to engaging in independent learning than students taking traditional face-to-face courses. In addition, the comparison between app and app non-users is limited by the relatively small number of responses from app non-users.

Finally, no data was gathered on language acquisition gains or results from the course assessment. As this study was not designed within a language acquisition framework, no attempt was made to match questionnaire responses and course results for analysis. Additionally, causality between app use and linguistic outcomes would be impossible to measure with independent learners, due to the many different individual practices and levels of engagement reported.

Further research

It would be of great interest to replicate this research both in long and short-term studies. Software updates and new devices with improved and additional tools continue to appear in the market, and app use and mobile device ownership continue to grow. These changes mean that issues about what stops some device owners from using apps to support their language learning and the usage habits and beliefs of those who do will continue to be relevant for those interested in CALL and MALL, as well as language materials developers.

Whilst this study has provided a snapshot of app use among language learners enrolled in formal studies (as has also been the case with much of the previous research on language learning app use), it would be worthwhile to complement this data with research into how language learning apps are



used by independent learners and what they think about learning in such a way, in particular among users who utilise apps as their main medium for learning. This group of learners is also more likely to be a reliable source of data on actual language gains, since they may not take part in other activities towards language learning, which would make the effectiveness of app use towards language learning harder to prove. To supplement survey data, a future study to investigate informal learners who use apps for language learning could take an ethnographic or auto-ethnographic approach to generate rich qualitative data in a naturalistic setting.

Recommendations for Practitioners

It is important that learners understand how they can use any technology available to them to support their language learning. As evidenced in this chapter, some users of smartphones and tablets do not think of them as learning tools. It is advisable to encourage this use outside the curriculum, as, eventually, these learners will engage in informal learning. Apps can support language learners as they become lifelong learners rather than students of a subject in a formal educational setting. A few moments spent in class, discussing how students choose apps, sharing the apps they like best, how they find them and evaluate them, could help learners support their studies, whether formal or informal.

Acknowledgements

I would like to thank the students who took part in the research and in particular those who agreed to be interviewed. I would also like to thank Laura Chenery, who helped enormously with this research project, and Tita Beaven, Uschi Stickler, and the peer reviewers who provided useful feedback on drafts of this chapter.



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Appendix A: Learner Questionnaire

Survey on use of apps: this survey aims to find out more about the use of language learning apps. Your answers will be completely anonymous. It should take around 5 minutes to complete. By completing this survey you give permission for the data collected to be used in an anonymous form in reports, presentations and published papers relating to this study for research purposes.

1. You are:

Male Female I don't identify as either male or female

2. How old are you?

3. Do you own a smartphone (Galaxy, iPhone or similar) or tablet (iPad, Kindle Fire, Samsung or similar)? Please circle

Yes (please indicate which) Smartphone Tablet Both No

4. Do you use apps to support your learning of languages?

Yes (go to question 6) No (go to question 5)

5. If "no", why not? (After answering this question you may return your questionnaire)

6. Which device do you mostly use to access apps?

Tablet (e.g., iPad) mobile phone Other (Specify)

7. Which operating system does your device use?

iOS (Apple) Android Windows phone Other (Specify) Don't know

8. You use Language learning Apps for:

Learning Teaching Both

9. How do you use Language learning apps? (Please tick one only)

Mostly in planned learning sessions (e.g., routine evening sessions)

More informally, as when and where the opportunity arises

Both of the above

10. How often do you use Language learning apps?

Several times a day Every day Several times a week

About once a week Less frequently than once a week

11. Where do you use language learning apps? (Tick all that apply)

At home Commuting Quick breaks at work Waiting rooms

Whilst watching TV In the bathroom Any dead time I have

Other (Specify)

12. Which specific areas do you use language learning apps for? (Tick all that apply)

Grammar exercises Vocabulary Reading Writing

Listening practice Speaking practice Translating

Interacting with others Other (specify)

13. Do you use more than one app to learn Spanish?

Yes No

14. Which apps do you use to support your learning of Spanish? Give some examples:

15. Think of ONE specific app you use to learn Spanish. Which app is it?

16. How long do you normally spend using that App at a time?

Less than 5 minutes Around 5 minutes Around 10 minutes

Around 15 minutes Between 16 and 30 minutes Over 30 minutes

17. What do you think of feedback you get about your performance whilst using the app (e.g., on errors)?

Very good Good OK Not very good Terrible I don't get any feedback

18. What features do you like best in the language learning apps you use?

19. What features do you like least in the language learning apps you use?

20. What more would you like to get from Language learning apps?

21. Do you think using Language learning Apps has improved your knowledge of Spanish?

A lot Somewhat A little Not at all

22. Do you pay for Language learning apps?

Most of the time Sometimes Never, I only download free apps

Only after I have tried a "lite" version (if available)



23. Why? (Tick all that apply)

They're normally good value for money The prices are quite reasonable

The developers provide a service and therefore should get money for it.

I think all Language learning apps should be free

They're too expensive I don't have a way of paying

24. Please share any other thoughts you have about learning with Language learning apps.

Thank you very much for taking part in this survey. Please return it to your tutor.