Apps for Informal Autonomous Language Learning: An Autoethnography

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Abstract The suitability of mobile apps for language learning finds increasing recognition in the field of language education. Recent research investigates the new learning experiences apps provide, taking the perspective of the language learner. This chapter seeks to contribute to this new line of autoethnographic research. As researcher-participant, I explored over the period of one year a wide range of different language apps and features from my mobile phone to learn Spanish. My aim was to experience language learning with apps from a learner's perspective and to increase my awareness of learning opportunities in an informal learning context. With the use of a journaling app, I documented my observations and reflections on my learning experiences. I adopted Schumann's (Learning as foraging. In: Dörnyei Z, Schmidt R (eds) Motivation and second language acquisition, pp 21–28, 2001) five-dimensional stimulus appraisal model as an explanatory framework to discuss my progression through four apps. The study shows that rather than searching for the perfect app, learners need to select and adapt apps to address specific learning needs that change over time.

Keywords Apps · Autonomy · Informal learning · Autoethnography

1 Introduction

According to Preston (2019), a staff writer of the online magazine *Tech Advisor*, "[t]here has never been a better time to learn a language" (n.p.). Language learners are indeed spoilt for choice in times where international travel is available to many, where social media connects people from all parts of the globe and where an abundance of language learning resources is freely available online. The opportunities for language learning have never been greater, catering for a wide range of language

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C. Fuchs et al. (eds.), *Language Education in Digital Spaces: Perspectives on Autonomy and Interaction*, Educational Linguistics 52,
https://doi.org/10.1007/978-3-030-74958-3_10

learners and their individual and specific motivations, abilities and goals. Preston, however, is concerned with one particular technology: language apps. His recommendations include Duolingo, a gamified app, which claims to be as efficient as a university language course; Lea Knows, a dictionary app that turns looked-up words and phrases into flashcards; Tandem, which matches language partners; and Hi Native, designed to ask people questions about their languages and cultures. Millions of people around the globe have joined these app-based learning communities, providing access to a large variety of language learning experiences. This suggests indeed that there has never been a better time for *autonomous* language learning and for language learners to take control of their learning.

In this chapter, I discuss my own experiences as a novice learner of Spanish, exploring the affordances of apps for informal autonomous language learning. I start with an overview of the autonomy literature, focusing on the conditions of self-initiated and self-directed language learning in a digital context. Drawing on Schumann's (2001) Stimulus Appraisal model, which I chose to address the affective component in my decision-making processes, I analyse and discuss my one-year long learning trajectory.

1.1 Autonomy

The ability to take control of one's learning has long been considered the core characteristic of learner autonomy. For Holec (1981), taking control relates mainly to technical and methodological skills of learning management, such as determining learning objectives, selecting methods, and monitoring and evaluating learning outcomes. Focusing on the learner's psychological relationship to the learning process, Little (1991) defines learner autonomy as a capacity for independent action, decision-making and critical reflection (p. 4). Benson (2011) maintains furthermore that learners should not only be able to control how they learn but also what they learn and determine freely the content of their learning. In light of the growing accessibility to language resources, including apps, Benson (2013) has more recently suggested that learner control should also include "learning that takes place outside the context of formal instruction" (p. 840). Shifting the learning activity into the personal sphere of the learner, however, does not only expand learning opportunities. More importantly, it reflects a change in what Benson (2013) calls the *locus of control* in autonomous language learning; from *other-initiated* in formal learning contexts where learners are provided with access to learning resources and autonomy training, to *self-initiated* in informal settings where learners are in charge of finding their own resources and creating their own support structure.

Following up on Benson's (2013) distinction, Lai (2019) argues that autonomous learning in formal contexts, which she describes as "intentional, other-initiated or other-directed", and informal autonomous learning, defined as "voluntary, self-initiated and self-directed, interest-driven" (p. 53), present into two distinct research areas. Investigations into the formal area of autonomy and technology focus on the

role and impact of technology on language learning and autonomy development as a "teacher-initiated technology-mediated learning experience" (p. 53). In contrast, autonomy in informal learning, which Lai (2019) identifies as an emerging field of research, has developed from observations of independent learning engagement embedded in everyday life experiences beyond the language classroom. Guided by the affordances of their digital devices and online resources, rather than by established pedagogical principles, self-initiated and self-directed language learning in online environments has also been described as learning *in the wild* (Godwin-Jones, 2019; Little & Thorne, 2017; Sauro & Zourou, 2019). The term reflects unconventional learning behaviours and furthermore, from a research perspective, an unexplored learning territory in which informal language learners operate, for which new explanatory frameworks based on complexity and ecological learning theories have been applied (Godwin-Jones, 2019; Kusyk, 2017; Sockett & Toffoli, 2012).

Studies in the area of informal autonomous language learning so far have given insights into three areas: (1) the reasons why language learners engage in informal language learning (Alm, 2015; Sockett, 2014), (2) the type of activities they choose (Benson & Chan, 2010; Godwin-Jones, 2011; Rosell-Aguilar, 2017; Sockett & Toffoli, 2012), and (3) how external and internal factors shape learning experiences (Lai, 2019).

Concerning the use of apps for informal learning, it has been found that language learners reach for apps to either complement or compensate for formal learning. Survey studies have shown that language students predominantly use dictionary and reference apps (Steel, 2012) or vocabulary apps (Alm & Daniel, 2019) to complement formal language study. Informally, apps are used instead of language classes. In fact, Duolingo claims on its website to have 300 million users, making it "the world's most popular way to learn languages online". The easy access to the app – it is free and available on all devices, for people of all ages, regardless of their academic qualification – make it seem an attractive option to traditional classroom language study. Guillén, Sawin, and Springer (2018) point out that the lingo of startups, such as *Memrise*'s slogan "We make learning languages and vocab so full of joy and life, you'll laugh out loud", reflects their attempts to position themselves as the better alternative to formal language education, which is characterised as unmotivating, irrelevant, and not exposing people to "the real thing" (p. 200). Needless to say, many apps do not live up to the learners' expectations (see, for example, Freedman, 2018), and as Guillén et al.'s (2018) study reveals, many of their claims are not substantiated.

Regarding the second area of investigation, the types of activities informal learners choose, it has been shown that they prefer to practice receptive rather than productive language skills. This might well translate to app-based learning, as using a five-minute flashcard vocabulary activity that is more easily integrated into a learner's daily routine than an online conversation with a native speaker.

Thirdly, individual differences (Dörnyei, 2005) and external factors will significantly impact on a person's engagement with apps and their learning outcomes. Godwin-Jones (2019) has pointed out that "opportunities for SLD [second language development] only become genuine affordances when the time and place are right"

(p. 14). The ability to initiate and select appropriate apps and to adjust informal autonomous learning experiences to personal needs depends largely on a learner's perceived *locus of control*.

The psychological concept of *locus of control* refers to the degree to which individuals believe in their ability to control themselves (Rotter, 1990). People with an internal *locus of control* perceive that an event is related to their own behaviour, whereas people with an external *locus of control* make external forces beyond their control, such as luck, fate, or powerful others responsible for an outcome of their behaviour (Yang et al., 2017). Studies have investigated the effect of *locus of control* on smartphone and app use (Li et al., 2015) and it could be argued that apps, by providing control over life and learning situation, have the potential to strengthen a person's sense of control, or their *internal locus of control*. This would be in line with Malone and Lepper's (1987) observation that the "mere illusion of control" significantly improves motivation and academic performance (p. 238). Tannenbaum, Beard, McNall, and Salas (2010) suggests that learners with an internal *locus of control* are more likely to consciously engage in informal learning experiences, as they are more likely to believe that they can improve their ability through their own efforts and to seek out learning opportunities and in Schumann's (2001) words to "forage for information, knowledge, and skill" (p. 21).

1.2 Foraging and Stimulus Appraisal

Schumann's (1997) neurobiological approach to motivation adds another dimension to informal (self-initiated and self-directed) language learning with apps by assessing the role of emotions in decision making.

The concept of *foraging* is of particular interest in the context of informal learning, where learners navigate on their own through learning opportunities. Foraging describes the hunting behaviour of animals, and by analogy, the process of information gathering (Pirolli & Card, 1999). Schumann (2001) picked up the concept long before language learning researchers investigated language learning experiences *in the wild.* He introduced it into the field of second language acquisition (SLA), linking it to the fundamental human impulse to learn. He argued that any foraging, be it for food, information gathering, or learning is guided by "the same neurobiological mechanisms for transforming motivation into action […] the same dopaminergic responses to stimulus appraisal, and […] the same kinds of decision making" (Schumann, 2001, p. 21). Schumann's (2001) neurobiological approach to learning, stimulus appraisal theory, lends itself to explaining the emotional and cognitive basis for the uptake of apps, and their dismissal in favour of other competing activities that interfere with the learner's short-term attention. The decision to use a resource or to move to another one depends, according to Schumann (2001), on the learner's ongoing assessment as to "whether or not the effort expended generates an adequate rate of learning" (p. 25). This efficiency factor is also expressed in the *optimal foraging theory*, which postulates that foragers seek maximal results for

minimal effort. For example, the instant feedback mechanisms which are characteristic of language apps can give learners a rewarding sense of accomplishment and therefore of efficient learning. Critics warn about the double-edged sword of this effect, as addictive design strategies can adversely lead to dependency and addiction (Gardner & Davis, 2013; Neyman, 2017). Schumann's (2001) model explains how apps can captivate our attention at a primal level. He proposes that the assessment of an activity is mediated via dopamine signals. In a learning situation, a person appraises the stimuli predictive of reward and therefore worthy of continued attention, with respect to five factors: *novelty* (degree of unexpectedness/familiarity), anticipated *pleasantness*, *goal/need significance* (whether the stimulus is instrumental in satisfying needs or achieving goals), *coping potential* (whether the individual expects to be able to cope with the event), *self-concept and social norms* (whether the event is compatible with social norms and the individual's self-concept) (Dörnyei, 2005, p. 93). Schumann (1997) further argues that autobiographies of language learners provide indirect evidence for foraging and the role of stimulus appraisal in SLA.

1.3 Autoethnographies

Intrigued by their potential for language learning, some researchers have explored language apps for their own personal use and documented their learning trajectories. Using diaries as tools to record their impressions, observations and reflections, these self-investigations follow, as pointed out by some authors, a long-established tradition of diary studies (Bailey, 2015). Clark and Gruba (2010), for example, refer to a number of diary studies in CALL, which have given valuable insights into the personal use of emerging technologies. Chik and Ho (2017) talk about the use of diaries to document self-study. The authors point out that these accounts primarily focus on challenges language learners experience, supporting Schumann's (2001) claim that diary studies are "accounts of the learner's preferences and aversions, likes and dislikes concerning their language learning" (p. 104). In fact, Schumann (1997) refers to learner diaries as *chronicles of stimulus appraisal*, as they "report the learner's perceptions of novelty, pleasantness, goal/need significance, coping potential, and self and social image with respect to the language learning situation" (p. 104), revealing the reasons why a learner persists or withdraws from (autonomous) language study (p. 170). In the case of Jones (1994), as reported in Chik and Ho (2017), it was his "*endurance* to reach the threshold beyond the first 2000 words in vocabulary [that] enabled him to start *enjoying* reading authentic text" (p. 163, my emphasis). Language teachers and researchers engaging in informal language learning with apps also face the additional challenge of having to reassess established beliefs about language learning, impacting on their perceptions of self and social image. In their role as language learners, they experiment with learning practices afforded by the informal setting (e.g. digital learning environment, quality of app), developing an understanding of a different learning culture enabled by an

arguably disruptive technology (Godwin-Jones, 2017). In that sense, their trajectories are not just about themselves, but "about searching for understanding for others (culture/society) through self" (Chang, 2008, pp. 48–49), a core characteristic of autoethnographic research.

An autoethnographic approach to language learning with technology allows CALL researchers to explore the affordances and constraints of learning technologies for themselves and re-evaluate established language learning practices in light of their individual learning experiences. Their combined insights will help shape the emerging field of autonomous informal language learning. The next section presents the approach and findings of five autoethnographic studies. The first two examples report on the use of language learning social networking sites, which are, in the second case, also available as an app. The other three focus on one or several individual language apps used by the researchers.

1.4 Autoethnographic Studies on Language Apps

Clark and Gruba (2010) used an autoethnographic approach to examine the now defunct social networking site *Livemocha*. The two researchers focused on the learning experiences of one of them, Clark, who studied Korean for a period of 4 weeks. A learner diary and peer debriefing constituted the basis of their reflective interpretation of the experiment. They identified three themes of the analysis – motivation, frustration and demotivation – reflecting the authors' perspective as experienced language teachers. Altogether, frustrations about outdated teaching approaches outweighed positive communicative learning experiences. The authors give an evaluative account of the programme and provide suggestions for improving the pedagogy of the language learning site, such as providing a wider range of tasks, integrating a chatting component and contextualising vocabulary to minimise frustration.

Álvarez Valencia's (2016) study focuses on his experiences as a pre-intermediate learner of French on the social networking site for language learning Busuu. He used the site for 10 weeks and recorded his "reactions, feelings, and reflections" (p. 585). Álvarez Valencia's (2016) study was motivated by his personal experiences of the social networking site as a language learner. One of the reasons for conducting an autoethnography study was the difficulty of collecting data from other users. Like Clark and Gruba (2010), he criticises the pedagogical approach, which he describes as "audiolingualism with some elements of the Grammar Translation Method" (Álvarez Valencia, 2016, p. 860). His analysis of the site, drawing on methodological principles of multimodality, suggests that the underlying views of language used in Busuu (structural, interactional and ecological) are in conflict with each other. His pedagogical recommendations include the adoption of a functional and situational syllabus (Brown, 1995). More concretely, he suggests a stronger communicative orientation for the activities and test contents and a better alignment of activities within a learning unit.

Osborne (2013), an interactive materials designer and developer, was motivated to learn Italian with an app to inform his professional practice. His starting point was his iPhone, which he used to search for a suitable word card app. He explored the unnamed app for 2 weeks and recorded his experiences. The exploratory nature of his approach is reflected in his method of allowing themes to "emerge in as natural a way as possible" (Osborne, 2013, p. 298) instead of looking for predetermined ideas and expected outcomes. Similar to Clark and Gruba (2010), (de)motivation and non-intuitive interface design negatively affected his learning experiences. He also found that the materials, the content and the didactic approach of an individual app determined its quality. Shortcomings in app design and pedagogy, he suggests, can be compensated by applying appropriate learning strategies, which extend the developers' original intentions. Osborne (2013), who approached his experience from the perspective of a language learner, concludes with recommendations for app designers (greater variety of interaction types, reward system) and suggestions for strategy training for learners.

The study of Isbell, Rawal, Oh, and Loewen (2017) involved three student researchers and their professor in a 12-week long experience of learning Turkish with Duolingo. This timeframe allowed them to replicate the learning conditions of the study by Vesselinov and Grego (2012), which claimed that 34 hours of language study with Duolingo was equivalent to one semester of an in-person university language course. From a learner perspective, the participants were interested in finding out if their experience of Duolingo would bear similar results on "learner persistence, motivation, and program efficacy" (Isbell et al., 2017, p. 1). Drawing on the methods of researcher narrative, they recorded their individual learning experiences, which they then discussed and analysed as a group. As in the previous studies, (de)motivation was an emerging theme. The researcher-participants felt that their Turkish learning outcomes were limited, and their interest in studying with the app waned over time. Recommended measures to overcome demotivation are the establishment of a social support system for learners, and the creation of a learning environment which provides meaningful feedback to learners. As a stand-alone resource, Duolingo was only perceived to be "helpful for establishing basic form-meaning connections in vocabulary learning" (Isbell et al., 2017, p. 18). In relation to language learning strategies, the study found that organised note-taking in particular led to better learning results.

The study of Chik and Ho (2017) similarly involved a small group of researcher-participants. The three participants had a personal interest in recreational online language learning and formally recorded their experiences in 2010 and 2015. Drawing on this data, they examined how language learners learn a language on their own for free and how learning choices change over time. The three learners chose different languages to each other in both time periods. To document their learning progress and to comment on each other's experiences, blogs were used in 2010, and a closed Facebook group in 2015, which was perceived as preferable as it facilitated easier and faster communication. Other more efficient recording tools included the use of screenshots instead of handwritten notes. The participants found that changes in learning choices depended on language level, changes in the digital

environment and personal time commitments (which had increased by 2015). In 2015, they also showed a preference for structured, non-formal materials (as language learning social networking sites) over informal authentic resources (as for examples L2 websites and YouTube videos), which were more extensively used in the earlier period. The preference for the learning space also changed over time. They relied less on mobile learning opportunities in the later period, preferring quiet spaces (at home) and personal times (after work). The authors relate the differences of the two periods to the change in life-style of the participants, yet it should also be noted that the observed practices (e.g. use of Facebook groups over blogs, screenshots) reflect common social practices in 2015. The strength of this study lies in its focus on a learner perspective. They were described as creative in the way they optimised learning opportunities. Interestingly, the use of Duolingo influenced one participant in her attitude towards the role of grammar in language learning, preferring a more naturalistic approach after the learning experience.

The five autoethnographies illustrate individual learning stories, leading to different outcomes and conclusions. While the starting points might have been similar, an interest in a new learning tool, the purpose of their investigations differs. Clark and Gruba (2010) and Álvarez Valencia (2016) position themselves as experienced language teachers and CALL researchers. They focus on one specific app (a language learning social networking site), which they criticise for their pedagogical shortcomings. Consequently, their interest wanes (the co-author of the first study quits Livemocha after a short period of time). From a teacher's perspective, they provide recommendations to improve the learning tool. The authors of the last three studies, on the other hand, assume a learner's perspective. Rather than seeking to improve the app, they suggest and employ strategies to overcome its shortcomings (Osborne, 2013; Isbell et al., 2017) or describe how they optimised the learning experience for themselves (Chik & Ho, 2017).

2 Methodology

2.1 The Aim of the Study

The aim of my study is to explore the affordances of apps for language learning from a learner's perspective. Rather than evaluating individual apps for their educational merit, I was interested in finding out how individual apps met my learning needs and how affordances unfolded as I progressed through my learning journey. To reflect this dynamic process, I drew on Schumann's (1997, 2001) Stimulus Appraisal model and investigated (1) the process of establishing an informal learning environment and (2) my response to specific apps at different stages of my learning trajectory.

2.2 The Resources

I used my iPhone 5, which enabled me to use general (non-language) apps in Spanish and to download language apps from the App Store. In my analysis, I focus on the following four apps:

- Memrise is a free vocabulary learning app, using spaced repetition. It has both official and learner-generated courses with different testing modes. In 2016, users were able to create mnemonics, or mems, for items. The premium version has additional learning features.
- Busuu is a language learning social networking site. The free version allows users to do vocabulary sections and dialogues, written or oral, with native speaker correction. For the paid version, users have access to grammar sections, including explanations and exercises.
- Duolingo is a free app, using gamification for translation activities.
- HelloTalk is a tandem learning platform. Translation and correction tools help learners support each other's learning.

I chose to report on these four apps as they illustrate my developing and evolving learning needs.

To record my learning experiences, I used the journaling app Day One.

2.3 Method

I drew on Canagarajah (2012), Chang (2008), and Ellis, Adams, and Bochner (2011) to inform my methodological approach. According to these authors, autoethnographical research is defined by its focus on self, its cultural orientation, or as Chang (2008) phrased it, the search "for understanding for others (culture/society) through self" (p. 49), and its narrative, which is shaped by the analysis of the experience. In an autoethnography, issues of reliability, validity and generalisability refer to the narrator's credibility, the verisimilitude of their described experiences and their effect on the readers who ultimately validate (and generalise) the narrative as they are drawn into making comparisons between their own and the narrator's experiences (Ellis et al., 2011, pp. 282–283).

My study is an autoethnographic account of my experiences as a novice learner of Spanish exploring the affordances of apps in an informal autonomous learning environment. A native speaker of German, I started learning English and French in high school and gained proficiency in both languages when I later lived in France, the United States, in Australia and New Zealand, pursuing first language study and later a career in language education. After 25 years of language teaching, I decided to learn Spanish with the dual purpose of acquiring a new skill and exploring the conditions for language learning in a digital environment. A researcher-participant, I went 'native' by becoming a digital language learner, trying to put behind me

assumptions about language learning and the role of technology in this process. In other words, I adopted an attitude of *epistemological humility*, that is, "an acknowledgment that my own perspective on the world [and the way languages are learned] is not the only, or even necessarily the best, one" (Pegrum, 2011, p. 24), opening me up to new experiences which I might not have anticipated, and leading to different, possibly transformative ways of using technologies for language learning. My personal learning experiences, which I have elaborated through the thorough analysis of my journal might resonate with readers who have had similar experiences or encourage them to engage in their own learning journey. Just as my experiences shape the culture of informal autonomous language learning, theirs will contribute to this growing field of research.

2.4 Data Collection and Analysis

2.4.1 Journal

To better understand and to be able to reflect on my digital learning practices critically, I kept a journal to record my activities, observations and reflections about my learning experiences. I started off using Word on my laptop but switched after 3 weeks to a journaling app, Day One, that I could access from my phone. The app gave me the flexibility to write my entries either straight after a learning episode or as I thought about my experiences during the day. I started taking screenshots to record and illustrate my learning. The tagging feature encouraged me to think about tags for my entries as I wrote them, establishing initial categories for the analysis. The data could be sorted by time, place, favourite or tags, and be exported as pdfs. It also synced automatically to my other devices, which allowed me to process my data later on the larger screen of my computer.

2.4.2 Data Analysis

For the analysis procedures, I drew on Mackey and Gass (2015). To process the data from my journal, I imported my earlier notes from Word into Day One, resulting in 183 entries from December 2015 to December 2016. Once combined, I reiterated the coding process to ensure consistent labelling of the categories. The tagging feature on the app enabled me to display all entries with a specific tag, which helped me to look for variations between individual categories. As I became increasingly familiar with the data, I was also able to see connections between categories. A year later, in January 2018, I reassessed the categories. The last round of coding allowed me to approach the data with more distance towards my learning experiences and my preconceived ideas about language learning with apps and reconsider immediate reflections on learning behaviours. I kept the unambiguous categories, such as 'apps', which included any mention of an app (e.g. searching, discovery, special

feature, learning, problem), 'grammar', which I divided in sub-categorised for individual grammar points, or 'useful phrases' of which I kept a large collection, taken from readings on Facebook, practice on Duolingo or conversations I had on Hello Talk. The category 'reflecting about learning', on the other hand, included a wide range of themes that I reassessed as I reiterated the coding process. Some themes include 'planning', 'goal setting', 'strategy use', 'problem solving', 'grammaring', 'making progress'. The category 'reflecting about apps' included 'enjoying app', 'optimising app', and 'changing view'.

I prepared my narrative by selecting examples from themes that illustrate the process I went through to create my learning environment. Direct quotes and reference to my journal are indicated with the date of the entry in brackets (day/month). In the first part of my narrative, I describe how I adapted my phone and my digital routines to make language learning part of my everyday life. In the second part, I discuss my use of the language apps which I used over time, using Schumann's (2001) Stimulus Appraisal model as an analytical framework for my experiences.

3 Findings

3.1 Adapting My Phone for Language Learning

During my one-year Spanish learning journey, my phone played a central role in my life. I used it to expose myself to Spanish, to study and to record my learning experiences. As I became increasingly familiar with its customizable features, I developed new routines and engaged in new learning practices.

Firstly, I changed the phone language settings to Spanish. This seemed to be an easy transition since the layout of my phone remained the same. However, I was surprised to see as many new words, *reloj*, *calendario*, *notas*, *mapas* (clock, calendar, notes, maps) (11/3). I checked the forecast more often than usual to learn the terms on my weather app. I enjoyed getting street directions on Google Maps in Spanish and decided to routinely use these, even when I knew my way (25/3). I also started using Facebook in Spanish. I was "surprised how foreign the page looks" (6/1), and I felt limited in my ability to navigate the site but found it increasingly useful as my language skills increased.

Adding the Spanish keyboard enabled me to use Spanish voice recognition and the voice assistant on my phone. I could now speak out words and phrases instead of typing them. For example, setting up Siri allowed me to ask her about the weather or street directions and also to set my alarm, "*Siri, despiértame manana a las 7.30*" (Siri, wake me up tomorrow at 7.30) (11/4).

From this time onwards, I kept my phone physically closer to me and developed the habit of going over a few Spanish apps in the morning before I got up and in the evenings before I went to sleep. Over the day, I also carried my phone with me to take advantage of planned and unexpected waiting periods such as in the doctor's

office, while waiting in a queue, at the supermarket, at the coffee shop or at the bank. Initially, I turned the volume off and only did the written parts of the activities. After a while, I started using headphones, which also helped me with close listening practice. I liked the idea of using dead time; however, I also felt self-conscious about it, "I feel a bit awkward, pressure not to use phone in public" (6/1). Finally, I also created some new habits to give myself some quiet space to do some app practice. For example, I started staying a little bit longer in my car. After I turned the engine off, I reached for my phone and did a few activities before I carried on with my non-Spanish daily routines.

3.2 Foraging for Apps

Over the period of 12 months, I used over 20 apps (Fig. 1). My search for new apps continued throughout my learning journey. I looked for apps on the App Store (a lot!), found app recommendations in online learning communities, I checked out top-ten lists on Google, and I talked to language learners and language teachers around me. On the one hand, I wanted to be open and aware of any new options and

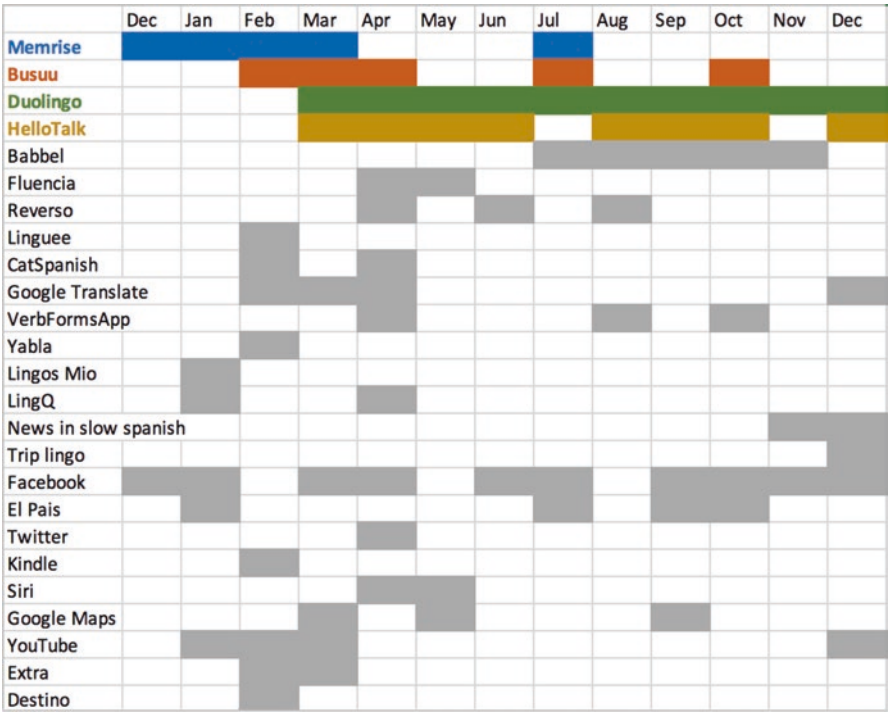

Fig. 1 Timeline of apps used from December 2015 until December 2016

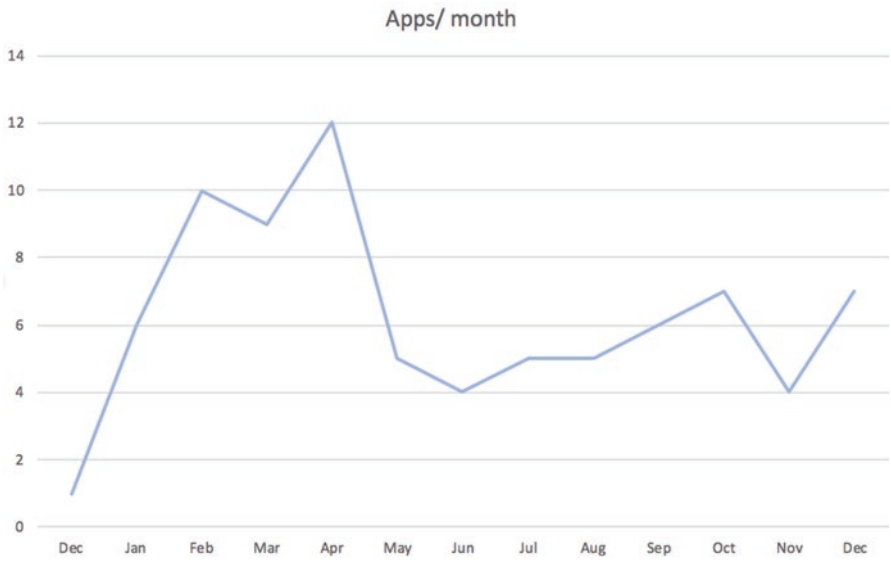

Fig. 2 Overview of number of apps used each month

developments, while on the other hand I secretly looked for the magical app that in some intuitive way responded perfectly to my language learning needs, giving me an optimal return for my efforts. Over time I realised that I required several apps to address my learning needs. These changed over time, and the composition of these apps shifted accordingly. I used Memrise, Busuu, Duolingo and HelloTalk sequentially and concurrently as they responded to my developing learning needs/goals (Fig. 2).

3.2.1 Memrise

Goal/need significance: My first goal was to build up my Spanish vocabulary. I was familiar with the web version of Memrise and decided to download the app. I selected a user-generated *1500-word* list. While I was not sure if the words on this list were high frequency words, I was confident that a knowledge of 1500 words would give me a good base to get me started. I worked quickly through the list and received a 50% discount as an incentive to purchase the full version of the app.

Novelty: I took up the promotional offer and had now access to a wider range of features, such as special units to revise "difficult words". I also received regular updates about my progress, which encouraged me to increase my daily goal from 15 to 45 minutes, aiming to "learn 100 words a day" (17/12). I noticed my name on top of the leader board and caught myself checking my status. I was surprised that I enjoyed this competitive element. I continuously worked on my 1500-word

list, as well as on a few additional shorter lists, partly because I doubted the relevance of the words on the list, but also because I needed some variation to keep my interest up.

Pleasantness: I liked the design, the layout and the colours of the app and found it intuitive to use. The only feature I had to get used to was the letter-reduced keyboard (to fit the small screen). I enjoyed the ease of drag and drop (thus avoiding keyboard use), but I realised that my retention improved if I typed out words. As various input options came up, I was happy to be able to do both. Also, I enjoyed the subtle sound that played when a word was deemed to be memorised.

Coping challenges: The short learning units of Memrise worked well for me, and I made quick progress. I took advantage of the *mems* (mnemonics added by users) and the audio (added by list creators). I felt that mems, from others and my own, helped me memorise new words, "[s]ome are really helpful and I feel how I first focus on the image and then let go of the keyword" (4/1). However, the unevenness of the sound quality and the randomness of the accents (recorded by native speakers of different regions) created some problems for me and were one of the reasons I moved on to another app.

Impact on self-image: The 45 minutes I spent every day on the app gave me some time to myself and it felt like I was engaging in a new hobby. I enjoyed my progress at learning new words but also learning new things about myself, namely that I liked games and that I had a competitive nature.

By mid-February, 2 months into my Spanish learning journey, I felt that I needed more context and more consistent instruction to progress. I had completed my 1500-word list and decided it was time to move on. Still, I hung onto Memrise for another month for daily revisions of my lists. When it came to cancelling my subscription, I felt "a bit guilty for abandoning it. Like betraying a loyal friend" (11/3).

3.2.2 Busuu

Goal/need significance: After I built up my core vocabulary, I felt the need to get a structural grounding to actively use Spanish. I decided to subscribe to Busuu, which offered grammar explanations and exercises in its premium section (13/2). I also hoped that the contextualised vocabulary (with sample sentences and dialogues) would help me with my own ability to produce sentences.

Novelty: I enjoyed discovering the features of Busuu and finding the grammar explanations I was looking for. Initially, I was stimulated by the structural progression of the activities, gradually increasing in difficulty. In particular, I liked the final writing sections as they gave me the opportunity to use the language I had learned.

Pleasantness: Before I subscribed to Busuu, I checked out *Babbel* and *Fluencia*, but I decided on Busuu because I preferred the layout. In addition, I was impressed by the sound quality, and I liked the voices and the consistent pronunciation.

Coping challenges: I started from the beginner's level but could have started at a higher level if I had taken the placement test. The units seemed initially well structured; however, by the time I reached the B1-level, I felt that the units progressed too fast and that "the writing sections are getting too hard" (11/4). I persevered but also found that the structure required me to spend "more time to get into the units" (30/5). At that stage, I had discovered Duolingo and preferred the shorter units, which enabled me to fit in some language practice during the day.

Impact on self-image: I particularly enjoyed the writing section because it allowed me to express myself in Spanish and, as texts were corrected by other members, to receive helpful and positive feedback. I was amazed at how quickly these corrections were made, usually in a few minutes. This immediacy also had a positive impact, as it gave me the impression of being attended to. I also liked helping others by correcting their texts in English, German or French, and displaying my own language skills. Altogether I valued the sense of community and mutual support.

3.2.3 Duolingo

Goal/need significance: I had briefly used Duolingo in 2013. Back then, I was confused by the design and not inclined to use it again. I shared the view of many of my CALL colleagues who considered Duolingo as an inferior language resource, based on outdated language learning methodology (Heringer, 2015; Lotherington, 2018; Vetromille Castro & Berres Hartmann, 2018). However, I changed my mind after a conversation with another language learner. "I met a friend at the airport last week who happens to learn Spanish as well to prepare for a trip to Argentina. […] We exchanged our ideas on learning Spanish and he showed me his Duolingo". (4/3). I was intrigued by his interest and willing to check it out again. A few days later, I admitted to myself, "[a]gainst my expectations I really like *Duolingo*. I like that it is bite-sized and that I have to produce sentences, even if they are sometimes a bit awkward" (25/3). Also, I liked that I had to translate whole sentences, "Duolingo has some useful phrases, I like it that I can review vocab with a context, *Mi perfil no es public*" (19/5). Duolingo fitted well into my daily routine of several apps (including Memrise and Busuu) and gave me the extra practice I needed to consolidate my knowledge. I set up a daily 10-minute practice goal, and I steadily progressed from unit to unit until I completed the Duolingo tree on 25 April.

Novelty: I enjoyed discovering new features, such as the grammar information that could be accessed by hovering over a link. I was particularly impressed with the bots when they were introduced in early October 2016, "I like the new bots in Duolingo! The dialogues are well chosen, take the direction of your answers and provide help with chunks" (19/10). In addition, I liked using the voice recognition of my Spanish keyboard with bots (a strategy I used previously with Google

translate and for the English to Spanish translations in Duolingo) to mimic a spoken conversation. Duolingo added this feature later on.

Pleasantness: Apart from its appealing design, I enjoyed the sense of humour, the funny drawings and, at times, awkward sentences, which kept me interested (25/3). The existence of the Twitter account "Shit Duolingo says: Linguistic gold provided by Duolingo" (followed by over 46,000 people) shows that I am not the only one enjoying this linguistic creativity. Also, Duolingo accepted a wider variety of responses, and small errors, such as typos or missing accents which were corrected but not marked as wrong. Another feature that reinforced this encouraging and non-punitive approach to language learning was the predictive text activated through the Spanish keyboard. I compared the auto-completion function to an "interlocutor finishing words for you … the kind of feedback you would get in an oral conversation" (25/4).

Coping challenges: It took me a while to get my head around the structural organisation of Duolingo and the translation of verbs in different tenses (instead of the infinitive). I was initially irritated that 'to be' should be translated with '*será*', until I noticed that I was in the future tense unit. Once I figured it out, I happily accepted the way the information was presented. When I was confused, I resorted to my *Spanish verb forms app* or Google if I wanted a quick response. I increasingly used other apps to complement Duolingo. For example, I looked up phrases on Reverso to check their idiomaticity before I wrote them down in my diary.

Impact on self-image: I found learning with Duolingo rewarding because it gave me a sense of achievement and entertained me at the same time. I liked the non-punitive approach. Again, it made me feel good about learning Spanish and about myself. I surprised myself taking this U-turn on my view of Duolingo to a point where I became defensive of the app when talking to more critical colleagues at conferences, especially when they had just explored the first few units which they criticised for the simple translation matching exercises.

3.2.4 HelloTalk

Goal/need significance: The idea of using my phone for chatting in Spanish appealed from the beginning of my journey. I had occasional text conversations with friends who also learned Spanish. I also liked the idea of chatting with an app and was excited when I discovered the chat feature in CatSpanish, and later the chatbot in Duolingo. I hoped to get some practice, preparing me with the appropriate phrases for real conversations. So when I came across a recommendation for HelloTalk on Facebook I downloaded the app straight away.

Novelty: While I liked the idea of chatting with Spanish native speakers, I felt too self-conscious to initiate a conversation and made up excuses for not using the app, "[t]oday I have downloaded HelloTalk. […] I didn't go online, thinking midday/midnight might be a bit awkward, but mainly I didn't feel confident enough. At least it's on my phone now and I can use it when I am ready" (25/3).

However, I was contacted by two Spanish speakers, "[s]ince yesterday I have had two conversations on HelloTalk, yeah. The chat with G was very short, but I noticed him using the present continuous '*Estoy terminando una maestria*'. This came up again in my other conversation with O" (26/3). Having experienced real conversations, I lost interest in the more prescriptive writing activity in Busuu (10/4).

Pleasantness: After the initial excitement and anxiety, I started enjoying my chats. The free version gave me all the features I needed; translations, the ability to save sentences, corrections, and access to the transcript (26/3). This latter feature allowed me to go over my chats which I found varied significantly from partner to partner (25/6). Overall, I perceived HelloTalk as pleasant because it provided efficient support features, but mainly because I enjoyed interacting with Spanish speakers.

Coping challenges: The inbuilt translation feature helped check for meaning, but to compose my own sentences I preferred using the translation app Reverso. This involved going back and forth between apps, but I felt that the app allowed me to produce more idiomatic sentences. I also used Reverso to work out phrases from my interlocutors (19/4). With this support, I enjoyed writing about my daily activities in Spanish and helped my partners with their German. This made me feel less limited in my ability to express myself (19/5). At times, however, I felt reluctant to initiate conversations, "I went on HelloTalk in the morning but none of my friends were there and I didn't feel like approaching somebody new" (9/4), hoping for others to contact me. Once contacts were established, I could be frustrated by the lack of interaction, doubting my ability to maintain contacts, "I emailed myself the transcripts of the conversations to review phrases but also to have a closer look at the nature of the interactions. Some stopped after a short while and I don't really know why" (25/6). I was not able to work out why some interactions stopped, and others continued, other than an incompatibility in expectations and interests. Different communication styles and modes might also have been the reason for discomfort. One interlocutor, S, irritated me with her excessive use of emojis. However, I warmed to her after a while when I found that it expressed her way of establishing an emotional connection with me. Something I did not warm to, however, were voice messages. S sent these in both German (very slowly) and in Spanish (very fast), and I only reluctantly responded (30/10).

Self-image: The HelloTalk experience affected my self-image most since it involved communication with people. On the one hand, I felt vulnerable by exposing my imperfect Spanish, and on the other, I felt empowered by being able to communicate in my native language. I dreaded using voice messages, not only because I was afraid of making mistakes, but also because I felt it would give away my age. Most of the people on HelloTalk were younger than me, which made me feel self-conscious about my age and the appropriateness of being a member of this group.

4 Discussion

I first explored the adaptability of my phone for informal language study. I wanted to find out to what extent I could use my phone to learn Spanish and how this would shape my learning practices. During the one-year period of my Spanish learning journey, my 'relationship' with my phone changed significantly. Not only did I use it more extensively, but I also kept it physically closer to me to take advantage of spontaneous learning opportunities. This led me to adopt new learning practices, firmly anchored in my daily routines. The assessments of the learning situations I experienced were strongly guided by emotional reactions. I embraced using general apps in Spanish, such as the weather app, as they gave me a taste of my aspired identity as a speaker of Spanish. My motivation to engage in specific practices increased when I perceived an activity as emotionally pleasant and worthy of my time and efforts. The L2 settings, L2 apps and voice recognition enabled me to focus on language use. I actively sought to acquire language skills that helped me interact initially with my apps and later with Spanish native speakers.

I have presented my experiences of learning Spanish with apps through the lens of Schumann's (1997, 2001) Stimulus Appraisal theory. This framework has helped me better understand how my choices of apps were triggered by specific learning needs and goals and how apps shaped these goals. For example, my initial goal of building up a large core vocabulary with Memrise might have partly been motivated by my assumption that apps are best for vocabulary learning. Once I started using the app, I revised my goals, following the incentives provided by the app. My initial goals for using Busuu, context and grammar, also shifted when I realised that I was most interested in applying my written language skills. This was supported by the feedback I received from other learners and the positive feeling of belonging to a learning community. The influential role of others was also highlighted in my decision to take up Duolingo. There was no particular goal associated with this app other than curiosity after having talked to a friend who enjoyed using it. In the case of Duolingo, this app helped me set concrete goals and ensured 10 minutes of language practice every day. This goal suited my overarching goal of effectively incorporating language practice into my daily routines and my need for variation. With HelloTalk, I had a clearer goal in mind, interaction with Spanish native speakers. While the app provided me with contacts and writing tools, it provided no incentives to follow up on my goal and interact regularly with my partners.

My descriptions of the dimensions of novelty and pleasantness showed that I was stimulated by new experiences, which either related to specific apps or app features or my intervention of using additional external features, such as voice recognition. The chatting experience of HelloTalk was entirely new to me and initially put me out of my comfort zone. It was only after I had a positive experience that I started looking for learning partners. With growing familiarity, I was able to enjoy my chatting episodes. Pleasant experiences included both design features of the app (intuitive use of features, good sound quality) and positive reactions towards the learning situation (such as good learning support).

Regarding coping challenges, I have been able to adapt both my phone and the apps to my evolving learning needs. I developed learning routines that took external influences into consideration and thus managed to overcome learning barriers. I optimised learning situations by exploiting options offered by apps, and additionally applied my own strategies (such as voice repetition, note-taking, screenshots for revision). I also resorted to other apps for problem-solving, and for a more varied exposure to vocabulary.

The fifth dimension of the stimulus appraisal model allowed me to establish how my learning experiences affected my self-concept as a language learner, and to an extent my sense of self. Memrise and Duolingo increased my confidence as a language learner. I strongly felt that Memrise enhanced my ability to memorise new words. Encouraged by my progress I increased my daily study sessions. This feeling of success affected my self-esteem positively. With Duolingo, I was able to use vocabulary, especially verb forms, in context and learned to produce sentences. The positive reinforcements I received made me feel good about my learning and about myself. The correlation between self-confidence and language learning is well documented in the L2 literature (Arnold, 1999; Horwitz & Young, 1991; Rubio, 2007). The gamification strategy of Duolingo manages to attract and keep users because it makes them feel better about themselves, as Jorge Mazal, vice president of product at Duolingo, explained in an interview. "That's really what people are going for. That's what we try to give them" (in Wise, 2019). Duolingo remained a principal ingredient in my daily app diet throughout my Spanish learning journey, providing me with stimulating language practice, including moments when I needed an emotional lift.

Busuu and HelloTalk touched my self-image at a deeper level. I used both apps to communicate (in writing) with native speakers of Spanish. I felt valued by the personal corrections I received (as opposed to the automated responses I encountered in Memrise and Duolingo) and empowered by helping others in their learning journey. This heightened self-image stands in contrast with the feeling of anxiety that many language learners experience (Rubio, 2007). According to Horwitz and Young (1991), language anxiety is caused by the experienced disparity between the learner's 'true' L1 self and the more limited L2. The ability to take on a dual position as both L2 learner and native speaker might have helped me overcome language anxiety, and also increase my willingness to communicate/write in Spanish (MacIntyre et al., 1998). My experiences with HelloTalk, which is also based on this exchange basis, were similar. However, my difficulties in using HelloTalk were of a different nature. To some extent, I felt self-conscious about my non-proficiency, but more importantly, I felt uncomfortable contacting other people on the site. Even once a contact was established (when I was contacted), I had the feeling of not belonging due to my age. I felt cognitively ready, yet I struggled with an emotional barrier that reduced my ability to engage fully in the HelloTalk experience. I expect that I would have been just as reluctant to initiate contacts in my native language, highlighting the extent to which individual differences impact on self-selected learning choices.

5 Conclusion

My Spanish journey has been a highly satisfying experience. Not only am I now able to hold a conversation in Spanish, but I have also gained new insights into language learning and feel confirmed in some prior assumptions. Clearly, with a background in language learning, teaching and research, assuming *epistemological humility* (Pegrum, 2011) is a challenge, and my approach will have undoubtedly been influenced and shaped by previous life and learning experiences. My exposure to a new learning experience (taking the role of the learner, in a new learning environment) has heightened my awareness of my own learning preferences and dislikes, my strengths and my weaknesses. This has increased my empathy for other language learners (in particular my students) but also reminded me of the need to consider individual differences in learners. I understand that my story is one of many, and while others might learn from it, their learning trajectories will be shaped by their preferences and dislikes.

Language apps can help learners to initiate and maintain language study in an informal learning context. Apps can support the human impulse to learn, but it is up to the learner to draw on the affordances of apps to learn effectively. In that sense, there is no perfect app and no best practice. It is up to learners to adjust the learning potential of apps to their own context, which changes over time as language skills progress and personal situations take new shapes.

My experience has shown the benefit of using multiple apps. Instead of focusing on one app, and expecting that it would address all my learning needs, I combined apps horizontally by using several apps concurrently to get a more varied practice with wider context and problem-solving, and vertically by changing the composition of my app bundles over time to adjust to new learning needs. The parallel use of apps is a practice that has been observed amongst informal language learners and labelled as 'app-smashing' (Rosell-Aguilar, 2017). These experiences indicate that, to take charge of one's learning, autonomous learners have to be able to make a range of learning choices and assess their individual learning needs. To prepare students for this flexibility Sockett and Toffoli (2012) suggest that training students in their development of communication and media skills is more beneficial than guidance on specific tools. Similarly, Rosell-Aguilar (2017) underlines the importance of developing capabilities for critical evaluation of resources in both teachers and students. Preparing language learners with these skills will equip them to make use of apps for their personal language study and any resources that the future might bring.

Finally, I would like to encourage both language teachers and learners to engage in their own autoethnographic study of informal autonomous language learning to increase their awareness of their personal learning potential to enrich this fascinating field of inquiry further. For me, there has never been a better time to learn a language – and I am curious to find out about the experiences of others.

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Apps

Day One. https://dayoneapp.com/features/

Duolingo, Babbel, Busuu, Fluencia, Bliubliu, LingQ, Yabla, LingosMios, Flash Academy, HelloTalk, Italki, HiNative, Memrise, CatSpanish, Lingvist, Destinos, Buen Entonces, Trip Lingo, MosaLingua, Slow Spanish News, Mindsnack, StudySpanish, Google Translate, Linguee, Reverso Context, Kindle, Netflix, Facebook, Instagram, Twitter, YouTube (Extra Spanish).