1 Motivation and Informal Language Learning

ALICE CHIK

Introduction

Many readers of this chapter may be lifelong language learners, and some may be experienced language teachers or may have taught others a language at some point in their lives. Whether the reader is a language learner or teacher, it is fair to say that the motivation to learn a language is an elusive construct. A learner may have the motivation to learn the English lyrics from his/her favorite rap songs but may not apply the same drive to writing an English assignment (Benson 2015). Another learner may have excelled in written English assignments but may lack the motivation to extend his/her English learning in informal contexts. Language learners also share language-learning experiences outside of a language classroom. Dörnyei and Ushioda (2011) point out that there is no one definition of the term *motivation* and assert that it relates to "the *choice* of a particular action, the *persistence* with it, [and] the *effort* expended on it" (p. 4). Language learning is moving increasingly from formal to informal contexts, both at individual and societal levels. Learners are therefore more likely to choose a "particular action" from a wide range of options, which then impacts the "persistence" and "effort" they associate with the action. The proliferation of online language learning websites and social network sites could mean that learners increasingly extend or complement their formal language-learning practices using these technological platforms. It is likely that the learners act very differently in an informal learning environment than in the formal learning environment of the classroom (Boo et al. 2015). By extension, the language learner's motivation would have to be examined differently because of the differences in the learning contexts.

Second language motivation in the classroom

Early studies of learner motivation in second language learning contexts have gravitated toward a reductionist approach with the use of quantitative instruments to focus on cognitive measurements. The work of Gardner and Lambert (1972) focuses on the interplay between attitude, motivation, and second language achievement. The authors located their work in the bilingual context of Canada, reasoning that second language learning is relevant to intercultural communication. This focuses the discussion on integrative and instrumental motivation – whether the motivation to learn a language is to integrate with the members of the

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target language community, or to achieve other more pragmatic types of benefits. This line of reasoning is not without its criticism, especially in terms of measuring second language acquisition by learners against native-like competence (Coetzee-Van Rooy 2006). However, conceptualizing motivation as instrumental has foregrounded research on the use of motivational strategies in language teaching. Such strategies are defined as pedagogy used to "consciously generate and enhance student motivation, as well as maintain ongoing motivated behavior and protect it from distracting and/or competing action tendencies" (Dörnyei and Ushioda 2011, p. 103). Based on Dörnyei's (2001) taxonomy of teaching strategies to motivate learners, researchers have sought to identify the strategies which may or can work in a classroom setting, and how language teachers can shape the classroom context to motivate students (Cheng and Dörnyei 2007; Guilloteaux 2013). Even though teaching strategies to motivate learners can be "traditional" (changing teacher behavior) or "innovative" (using learner-centered pedagogy), the pointed focus on what happens in the classroom suggests that these strategies still primarily depend on what a teacher does to motivate the students (Bernaus and Gardner 2008). Nonetheless, research in this area continues to move the discussion beyond the teacher's role in the classrooms to also consider the institutional contexts for "spaces for maneuver" (Glas 2015, p. 2). Bernaus and Gardner (2008) have also reported, however, that students do not necessarily consider the strategies to be useful, and that teachers and students do not agree on what strategies are useful. It is only when students recognize and relate personally to these strategies that a positive effect on motivation and achievement can be obtained.

Motivation as L2 self and identity development

The point then is clear: language teachers do not have complete control over learner motivation. Learner perceptions and understandings of their own language-learning processes and outcomes have to be considered in L2 learning motivation. Thus, constructs of *self* and *identity* have become increasingly dominant in the field, and the theory of possible selves provides a future projection, development, and orientation (Markus and Nurius 1986). The possible selves reside in the imaginations of the learners; for instance, a teenage Japanese learner of English imagining herself using her newly learned English to chat with another coffee drinker while waiting for her order at a Starbucks outlet in an American city. The imagery may not be relevant to the school-aged teenager at present, but the imaginings around having a social conversation in a café are as real to her as her current everyday experience in Japan. In turn, the imaginings provide a future orientation for the teenager and thus motivate her to learn English.

Informed by the possible selves theory, the L2 Motivational Self System (Dörnyei 2009) proposes three main constructs: the Ideal L2 self, the Ought-to L2 self, and the L2 learning experience. The Ideal L2 self refers to the learner's personal imaginary of having the attributes of a competent L2 user, which can be utilized for personal purposes in the future. These attributes need to be personally relevant (e.g. the social conversation in a café or an Australian Korean learner wanting to be able to sing a K-pop song in Korean). The Ought-to L2 self is similar to the Ideal L2 self except that it is directed toward meeting social or institutional expectations. The same Japanese English learner's idea of speaking spontaneously in a café and the attributes needed to fulfill this imaginary may not align with the requirements of the university entrance English examination for which she is preparing. Finally, the L2 learning experience is a situated learning experience that includes the learner's experience in a particular learning environment, both inside and beyond the classroom, as an individual or as a group member. This construct takes into the account both situated macro (e.g. curriculum, institution, school) and micro (e.g. teacher, classmates) structures. The two more salient constructs in the L2 Motivational Self System are the Ideal L2 self and the L2 learning

experience and are most likely to be predictive of motivation and achievement (Csizér and Kormos 2009; Taguchi et al. 2009).

When a learner's personal future imaginary is an integral part of the motivational system, the issue of identity requires further attention. Norton's work (Norton 2000) demonstrates that learners construct their desired identities in imagined L2 communities. Such identity constructions are in constant motion and flux, both dependent on, and in response to, situated contexts (Block 2007; Menard-Warwick 2009). An L2 identity has to consider globalization (Douglas Fir Group 2016) as it impacts learner motivation to learn a new language. This means that an increasing number of language learners are participating in English learning in institutional systems (Graddol 2006), as well as in informal settings (Reinders and Benson 2017; Richards 2015).

English learning beyond the classroom

To understand the extent of English language learning beyond the classroom and the importance and operation of motivation, this chapter draws on examples from and around the Duolingo learning platform. It is important to consider what learners are doing *outside* the classroom as not all English language learners have full access to formal English. Increasingly, learners are moving online to language learning social network sites (LLSNS) to access language learning resources and opportunities (Cole and Vanderplank 2016). Duolingo is an example of an LLSNS that combines language learning and features of social networking (e.g. the creation of a public personal profile, the option to find and meet other learners, etc.) (Lamy and Zourou 2013; Liu et al. 2015; Zourou 2012).

As a research site, Duolingo provides a special niche for research (Chik and Ho 2017). First, the site claims to have a high number of active language learners, and that English is the most popular language course. Second, Duolingo is the only free learning platform available in multiple languages. When examining the landscape of online language-learning platforms, there are several operating models. Some operate on a freemium model with the basic content (or the first lesson) free, but with premium content available at a set price (e.g. Memrise). Other models include monthly subscription (e.g. Babbel) or language exchange (e.g. italki). Duolingo is the only language learning platform or app to provide free access to all learning content. Duolingo learning materials are structured into mini-lessons according to content or grammatical topics (e.g. food, adjectives). Learners are required to translate from English into the target language (or from another language into English if English is the target language) and orally repeat a phrase or a sentence. Duolingo primarily adopts a translation model to teach a target language, so bilingual understanding and use is the norm. Users progress from simpler language-learning lessons (e.g. basic household vocabulary) to more topical learning (e.g. politics, religion). There is no immersion in the sense that almost all questions require translation into another language, and translation hints are provided in all target language writing. However, Duolingo users can choose to use the social learning spaces (e.g. general discussion forums and dedicated discussion threads) available on the platform. Unfortunately, discussion forums and threads are not available to users of the mobile app version (only for iOS). However, this is compensated for by the club function with which a user can find learning partners from an existing club or form a new club in the target language.

This present study of informal language learning on Duolingo is a longitudinal autoethnographical study (Holman Jones 2007). I have been an active Duolingo member since 2013, going through different beginner language courses, participating in online discussion forums and threads, and commenting on the official Facebook page and nonofficial fan pages and Twitter feeds. I have also been collecting responses from the official discussion forums since 2013. When using the web-based platform, each question comes with a localized discussion

forum, so users can discuss or comment on a particular sentence or phrase. However, a user must click the "Follow Discussion" link to be notified of further comments and discussion points. Over the years, I have collected more than 12,000 notifications on the further discussion comments from between 2000 and 3000 threads. It is difficult to estimate the exact number of threads as the more popular threads naturally send out multiple notifications. Also, threads from earlier lessons and threads on nonsensical (or weird) sentences (e.g. The cat sleeps near the penguin. / *El gato duerme cerca del pingüino*.) also attract more discussion, so it can be said that the discussion is skewed toward earlier lessons and playful sentences.

As a dedicated user, observer, and ethnographer, I also followed the occasional postings about research surveys and interview requests, but I resisted the urge to add postings personally. This research approach to Duolingo reflects an autobiographical naturalistic observation design (Jorgensen 2015). This is not without limitations given that I have taken, or am taking, only a small number of the courses (Italian, German, Hebrew, Hindi, Welsh, Korean, and Chinese) from the 32 language courses available to English speakers. My observation stemmed from learning an additional language as an English speaker. With the high number of threads and comments, selected comments were analyzed for the discussion on the factors impacting language learning in informal contexts.

Informal language learning: A theoretical framework

The framework used in this current study is based on Benson (2011) and Chik (2014, 2018). It includes five main dimensions: location, formality, pedagogy, locus of control, and trajectory. In the following sections, examples taken from various discussion threads and posts are examined to support an understanding the ecology of English learning beyond the Duolingo lessons. This does not necessarily mean that all language learners using Duolingo will construct the same or similar ecology. As suggested by Lai (2017), and Reinders and Benson (2017), the language-learning landscape beyond the classroom is messy and idiosyncratic. As such, the following discussion aims to illustrate how researchers may approach such a seemingly messy, and unorganized learning landscape.

Location

A recent documentary on Duolingo, *Something Like Home* (Duolingo 2018), explored how Syrian refugees used Duolingo to learn a target language (English and Turkish). The documentary is a good starting point to consider the motivational element underpinning language learning as well as the locations of language learning. Location refers to the place in which a learning activity takes place and can be physical or virtual. *Something Like Home* was produced in various locations in Turkey and Jordan, documenting the life stories of four Syrian refugees and how language learning made a difference in their new lives abroad. The short documentary highlights current global issues: transnational displacement, access to language education and formal education, and integration into host countries (Narli 2018; Simas et al. 2017). At times, a smartphone is the only learning tool available to the language learners. With Duolingo, or any other online language-learning platform and app, learning can occur in any location with access to the internet and other technology. In *Something Like Home*, Mahmoud, a 15-year-old Syrian refugee currently living in Azraq Refugee Camp, Jordan, was filmed learning English at the camp. The vision also showed other refugees being awarded certificates for completing Duolingo language courses.

Across the globe, English is currently the most popular language course on Duolingo, with the biggest single language group of the 27.4 million active learners being Spanish-speaking users. Contrary to the common assumption that Spanish-speaking learners are

most likely to be living in predominantly Spanish-speaking countries, close to one-third of the Spanish-speaking Duolingo learners are located in the United States (US). The publicly available data from Duolingo on the number of users in the US show that 7.8 million Spanish-speaking users are currently learning English, the most popular language course (Sonnad 2017). The English–Spanish course is most popular in Miami, Houston, San Francisco, Los Angeles, and Baltimore. It is possible that the free online platform provides additional language support to new migrants of Spanish-speaking backgrounds who may otherwise not have access to formal English language learning courses in their cities.

The concept of location may also be important for consideration in relation to language-learning motivation in informal contexts. Duolingo provides German courses for Arabic and Turkish speakers, with both courses proving popular with 381,000 and 480,000 active learners, respectively. The Arabic and Turkish language courses were reportedly designed in response to the recent large number of refugees entering into Germany. Many refugees may not have long-term access to formal German as second language education.

Something Like Home also makes a comment on location and language learning for those who are displaced between two homes. Marwa, a Syrian refugee now living in a refugee camp in Jordan, uses the internet available to her in the Norwegian Refugee Council Youth Center to access the English learning app. In a post on Duolingo's Facebook page (June 21, 2017) Marwa told of her informal learning of English in different locations and spaces: "I used to learn English by watching movies when I was in Syria, and always wanted to learn to speak it properly. I can speak and read English much better since I started Duolingo." The short personal narrative shows that motivation to learn may not be hindered by a shift in physical location when there is online space available. It shows that location, especially for learners in the digital era, can be a very fluid dimension.

The concept of location is linked to the creation of a learning environment. While informal language learning may occur naturally in some contexts, some other contexts may have to be created through serious effort to facilitate such informal learning. Duolingo is a good starting point for considering the issues relevant to motivation and the creation of a learning environment as it is the only free language-learning app (or platform, depending on the access point). A disconnect between physical and virtual spaces, however, can be a stark reality for language learners, especially refugee learners. The millions of Spanish-speaking learners located in the US may be physically unable to access formal language-learning classes. Similar findings observe that online LLSNS provide greater access to learning opportunities for underprivileged learners than traditional institutionalized language classrooms (Lamy and Zourou 2013; Valencia 2016). The flexibility can give additional push to motivate learners to continue with the course, especially if these learners are only doing the courses part-time.

Formality

Concerns around the formality of the language-learning process often relate to whether the learning process is intended for a formal qualification or for personal interest only (Livingstone 2006). When language learners use online language-learning platforms or apps such as Duolingo, it is usually assumed that users are learning the language informally. This is very likely to be true for most Duolingo users, especially for learners of languages other than English. When I completed the Italian course for English speakers, I received a screenshot of a completion notification reading, "You've conquered the Italian skill tree!" with a golden Duo owl trophy. Two small share buttons were also apparent to indicate that I can share my achievement on Facebook and Twitter. Of course, my employer and prospective employers would not have taken much notice of this "achievement" because it is not aligned with an accrediting body in the field of language education. The completion "certificate" appears only as a screenshot and in the formal academic and corporate context, my learning

on Duolingo would be considered a personal leisure pursuit. Even the Duo owl on the completion certificate is too cute to be taken seriously.

However, there is additional room for the accreditation of Duolingo English learners. In *Something Like Home*, refugees were shown being awarded a certificate of completion for the English course at the refugee camp in Jordan. The certificate may provide a starting point from which to continue their second language education when they eventually migrate to their new host countries. A course completion certificate does not, of course, indicate the level of learner competence in using the target language. This is where the Duolingo English Test becomes a motivating factor for English learners. At USD$49, the Duolingo English Test is priced much lower than other international English tests. For instance, the current International English Language Testing System (IELTS) costs between USD$215 and USD$240, and Test of English as a Foreign Language (TOEFL) costs between USD$180 (e.g. in Guatemala) and USD$300 (e.g. in Australia), depending on location. It should be noted however that the Duolingo English Test is not recognized or accepted as an indication of proficiency in English (Wagner and Kunnan 2015).

Although the Duolingo English Test may not necessarily qualify for use on a university admission application, the test and course completion certificate can be used in other contexts. A number of motivational stories posted by Duolingo users on its forum page detail how using Duolingo to learn a language has assisted them to find employment. The humble story told by one Duolingo user, Soolrak in 2014, is one such example. He writes that as a waiter working in Santiago, Chile, he is able to earn more money serving English-speaking diners as a result of learning English on Duolingo since 2013. The thread had received 243 comments, with many readers commenting on the motivational aspect of the story.

Eey91: Congratulations, this really motivates to keep studying. Btw, I love how we mix languages in the posts hehe it's hilarious.
Green_Duo: You're right. His story was really motivating!
Lindseymarina: That is so awesome!! I just started using Duolingo, and I'm trying to learn Spanish. Your story is very motivating – good to hear that using the site really can go a long way helping a person learn new language skills. Congrats on your new job!

Of the 243 comments, not counting the comments just stating "congratulations," 54 included the notions of motivation and inspiration. Soolrak's success story is not the only one. A number of user-generated threads shared similar stories about accessing new jobs as a result of the new language learned. Duolingo also posted a success story on its official Facebook page to motivate its users: Edilson Garcia Vargas has now started teaching English at a security firm in Medellín, Colombia (December 15, 2017). His story was also picked up by a number of Spanish-language newspapers, and these papers praised the use of online tools to learn autonomously. These stories may be motivational for many learners who are hoping to use their newly learned language skills for career advancement. And certainly the lower examination fee is motivating as well.

Another perspective of formal language learning worth exploring is the blurring of classroom boundaries. The "school" mode of Duolingo (Duolingo for Schools) is specially designed for integration as a complementary or additional learning resource into existing school curricula. Using this mode, the teacher can set up a "Duolingo classroom" for the students to complete a specified language skill tree and to track their language-learning progress. Teachers have reported that the gamified learning mode helps to motivate students to maintain interest in their regular classroom language-learning activities (Shapiro 2015). So while Duolingo may not be awarding formal certificate for language courses other than English, part of its curriculum structure has been absorbed into the mainstream education system.

Pedagogy

Pedagogy refers to teaching practices including methods of instructions, the structured progression of learning materials, forms of explicit explanation, and assessment practices. The concept of public pedagogy (Giroux 2004) in particular, in which a community adopts the teaching roles, is essential. On its official Facebook page, Duolingo has posted a new message to encourage users to visit the forum; stating, "Duolingo is more than just an app – it's also a super helpful community. Use our Forum to connect with other learners and find answers to all your language questions" (Duolingo 2018). This post has attracted the usual complaints about the app (which appear in almost all Duolingo Facebook posts). For instance, they refer to the lack of grammar teaching or the loss of "life" during a lesson. The post has also attracted numerous advertisements for language clubs, which are a feature of the app inviting users to form smaller learning communities.

Going back to the previous thread by Soolrak about his new job, he wrote a half-page narrative to detail his English learning experience since 2013. It was a well-written narrative, but there were also comments that demonstrate public pedagogy:

Kristinemc: Why don't you edit this line in your post to clarify? "So what happened? Tonight I will start working in the foreigns section", which means conversations only in English and of course, that means, that manes much more money." **You can say**: "Tonight I'll start working in a restaurant where 80% of the restaurant goers speak English only, which means conversations mostly in English and much more money." Just an edit suggestion :)

Soolrak: Thanks a lot. I didn't know how to explain that. Sorry about my English, I'm still learning.

dj63010: Instead of "restaurant goers" perhaps "80% of the restaurant's clientele". Just sounds better.

This interaction shows that some Duolingo users pay attention to what is being discussed and how it is being written. As such they provide additional teaching and information to improve the overall quality. It is interesting that dj63010 introduced the more formal vocabulary "clientele." In fact, it is not unusual for users to introduce new vocabulary that may not be covered in the course.

In another thread on "My English is getting better" (alexlunac), the Spanish-speaking learner shared how he was preparing to participate in English at an international conference:

Clemente-Pablo: …We need to think about what we are saying and when we come to the end of a complete thought there has to be a punctuation mark stronger than a comma. If you don't use a period at the end of a complete thought, the reader will get confused. If you have something that still relates to what the first part of a sentence says, you can use a semicolon which is this mark; It is kind of like a comma and a period together. For example, I could say: I am going to the store; I am wondering if anyone wants to go with me. With this sentence you have a choice of either ending the first part with a period and having two complete thoughts like this: I am going to the store. I am wondering if anyone wants to go with me. Or you could leave it the way it is with the semicolon between the two complete thoughts. One additional way to write this idea is to use the conjunction "and." So, then you would have this: I am going to the store and I am wondering if anyone wants to go with me. This last one is the one I prefer.

alexlunac: Thank you! Your comment is like gold for me, I'll follow your advices and you are the first person who mentioned it, thank you again for read and comment my post.

MetroWestJP: This was something that surprised me about written Spanish; there is no such thing as a "run-on sentence" in Spanish. One correction: You forgot to put a comma before the conjunction ("and") in your example of a compound sentence. It should look like this: "I am going to the store, and I am wondering if anyone wants to go with me." :)

This is a very detailed explanation of using punctuation marks to express one's idea in a sentence. While alexlunac (the thread initiator) took the time to read and respond to the comment, the second thread by MetroWestJP shows that other Duolingo learners also pay attention to the pedagogical threads. MetroWestJP quoted from the sample sentence, "I am going to the store…" to introduce the use of a conjunction as an alternative. As a Duolingo user, I found this thread especially interesting as the discussion develops from the use of punctuation marks. This is one aspect of grammar that is not covered in Duolingo lessons as they frequently focus on syntactic and semantic translation. There is no penalty, for instance, for not capitalizing at the beginning of the sentence, or not putting in a comma and full stop in the answer. To a certain extent, if a learner only uses Duolingo, s/he will have acquired limited knowledge and understanding of the functions and subtlety of punctuation marks. It is almost assumed that because a Duolingo user is literate in one language, the use of punctuation marks is shared across languages.

Duolingo relies on the use of one language to teach English. It is therefore not uncommon for users from various language backgrounds to join a discussion in another language. When MetroWestJP wrote, "This was something that surprised me about written Spanish; there is no such thing as a 'run-on sentence' in Spanish." S/he uses knowledge of Spanish to understand new learning in English. There are more examples of teaching vocabulary and grammatical rules in target languages. Threads on teaching irregular verbs (in English) and verb conjugation (in Romance and Germanic languages) are particularly popular. For many English-speaking learners, verb conjugation is a defeating moment; whereas, irregular verbs can drive novice English learners crazy. So, almost all relevant threads have grateful responses for selfless teaching contributions. It can also be said that a user-generated learning and teaching community motivates users to both ask and teach, which in turn creates authentic opportunities for language learning.

Locus of control

Locus of control relates to the degree to which learners direct their learning compared to others directing the learning. Many online language courses are structured and inflexible, meaning a learner has to complete the course via a pathway specified by the course provider. When we hear about learners taking a structured and inflexible online language course it does not sound particularly appealing or come across as especially motivating. However, there are other ways to rethink the role of motivation in this process. First, it is the user's autonomous decision to download and use the app for English learning (as in the testimonials by Soolrak, alexlunac, and others). In addition, there are a number of encouraging stories from users about how they take control in their use of the app (and the learning process) to make something better of their lives. This may mean getting a better job in a restaurant (Soolrak in Chile) or as a taxi driver or security guard (Edilson Garcia Vargas in Colombia). In this understanding, it is possible to say that the learners are in complete control of the extent to which they engage in learning.

However, once a learner has made the decision, then the locus of control is redistributed back to the course provider. Taking Duolingo as an example, the user's motivation to learn a language might be stifled by constraints around their ability to exercise learner autonomy. To start with, Duolingo uses bilingual translation as a method of language instruction, assuming that everyone is becoming bilingual. The catch is that not all combinations of bilingualism

are supported. The limitation of the program means that a learner has to identify with one language as the main language of communication. An Arabic speaker can choose to learn English, French, German, Spanish, and Swedish. The options are designed for Arabic-speaking refugees resettling in Europe. An Indonesian speaker can only learn English, as is the case for a Japanese speaker. A Chinese speaker can only choose from the English and Spanish courses, but some courses are in the development stage (French, German, Italian, Japanese, and Korean). An English speaker, however, can choose from 32 language courses, including two courses of fictional language (both from TV series: High Valyrian from *Game of Thrones*, and Klingon from *Star Trek*). Hence, the broad language choice options for English speakers is arguably a motivating factor toward language learning. The same cannot be said for Indonesian or Japanese speakers who have only one option available to them.

Duolingo offers only one set of learning material for each language combination. This means for instance that there is only one Italian skills tree for English-speaking learners. This may arguably limit their motivation as language learners because they have no control over the learning materials. Also, there are no additional learning materials made available upon completion of the course. When I completed the Italian skills tree in early 2015, I contemplated starting another language course, but the term *reverse tree* started popping up in the discussion forum. To put it simply, "The reverse tree is the opposite of what you're learning. So, I'm doing German for English speakers. The reverse is English for German speakers". This reverse learning method works for some, but not all, language combinations. As previously said, an Arabic speaker can choose to learn English, but the Arabic course for English speakers is not available yet. As I started to assume a new linguistic identity as an Italian speaker learning English, I felt that I had a new level of control over a restrictive learning platform. Notably, I am not the only learner to find the reverse tree learning concept motivating, as revealed in the following blog posts:

Carolyn250: I am finding it a good review, and I am really enjoying the challenge of trying to translate from English into my target language, even though I know I can never be very good at it.

Yammarin: It's useful because it treats you as a native speaker of your target language, so it's harder and also broadens your vocabulary a bit.

Sheldolina: You will come across a few new words, and you will have to produce Italian sentences much more often. I recommend you to go through the reverse course *and* use native materials / practice speaking with natives. :)

Swntzu: From what I've read, a good reason for doing it is that it offers more opportunities to translate into Italian.

Many more users have posted similar threads praising the way that a reverse tree can be used as an additional strategy to brush up their language skills and to have additional opportunities to produce sentences in the target language. Of course, the decision to do a reverse tree also means taking on a new linguistic identity; namely, becoming a "native" speaker of one's target language on Duolingo. To be motivated in language learning, maybe it is important to imagine a new linguistic self. The reverse tree provides possible space for learners to practice (not just imagine) their Ideal L2 self, and actually be officially treated as members of the target language.

Trajectory

Trajectory provides a temporal dimension to understanding how learners manage their learning activities over time (Chik 2014). This dimension is an extension of Benson's (2011) four-dimensional model (location, formality, pedagogy, and locus of control). Trajectory can

be a challenging dimension to track as it requires longitudinal observations of the learners or retrospective reports by the learners that focus on the change in motivation over time. On Duolingo, an explicit sign that tracks temporal engagement is the daily streak; the function that shows how consistently a learner engages to fulfill the daily goal. The daily goal can be as minimal as finishing one lesson, or it can be more ambitious as set by the user. For instance, Soolrak had an 84-day streak at the time of writing this chapter. This means he has logged into Duolingo for 84 continuous days to complete his daily learning goal. Of course, he could also have purchased the streak freeze, but this is only valid for one day, so Soolrak would still have to log into Duolingo to purchase another streak freeze. If he misses a day, the streak will reset to zero. The daily streak may show an individual learner's daily engagement with the lesson, but it does not indicate how the courses are managed.

Duolingo may not include icons or badges to show learning trajectories, but users came up with the Golden Owl Hall of Fame. As mentioned in the formality section, a user receives a course completion "certificate" with a golden Duo owl on it. So, users started a discussion thread on the "Golden Owl Hall of Fame" to complete a list of users with a golden owl. Since 2015, there have been several renditions of the Hall of Fame. At the time of writing, duonks and Olja are the proud tied winners on the leader board, with 77 golden owls each. Duonks's page shows his progress in all courses and the time spent on these courses. The progression timeline certainly shows a learning trajectory, and this could be motivating factor for many other users.

Stories of learning may provide retrospective data on learning management. Many Duolingo users share stories about why and how they learn, how long they have used Duolingo, and most importantly, their next steps. The thread from alexlunac (discussed earlier in the "Pedagogy" section) on how he improved his English continued and attracted other responses:

alexlunac: … I spent more or less 6 months to finish my tree, after that I was really motivated to go out from my comfort zone and I decided to join an English academy, because as you know Duolingo only gives us an excellent bases in grammar, but we have to practice our speaking a listening skills in which Duolingo isn't good enough yet…

winter.morning: …I'm still learning English at school, but I see you have improved your English very fast and I would love to try some of the things you've done to get it…

While a school-age student projecting into the future, an "older gal" hebell celebrated the completion of her Spanish tree, "Now to keep the tree gold, and the reverse tree. I live in S Florida, so I plan to go to some local Meetups to practice."

Although Duolingo learners represent numerous language-learning histories, it is somewhat surprising that the more popular blog posts have been contributed by self-proclaimed "more mature" or "older" learners. One story about learning German by williamfcashman shows that the management of activities motivated him as a language learner:

> I enrolled in a language school and had one-on-one tuition from a native German teacher, one hour weekly for forty weeks. Simultaneously I worked on a variety of internet German language offerings. My progress was brutally slow and after one year I felt that my task was impossible. I enrolled at University as a mature student to further my project. I attended four(4) formal lectures each of an hours duration weekly for twenty-four weeks yearly for three years.

This detailed description of four years of learning management shows that persistence is most important to maintain the motivation to learn a language.

Conclusion

This study explores the English language-learning practices by Duolingo users beyond the prescribed lessons; whether it is learning English by Chinese speakers or by Spanish or Arabic speakers. By applying the different dimensions of informal language-learning framework to the learning process, it is possible to identify the motivational spaces. The findings should not be viewed as evidence of how one individual user uses Duolingo and other methods for English language learning. Rather, they present a case study for thinking about the learning affordances created by Duolingo users and the website design, and how the affordances can motivate the users as language learners. Similar analysis may be applicable to other online LLSNS. The limitation is that not all users will use the social network functions, especially in environments in which the learner may be the only person using the LLSNS and may not know of any offline friends doing so. If the users do not engage in other form of online social media activities, they may be less likely to go beyond the basic Duolingo lessons. As William James (1890, p. 402) famously put it, "my experience is what I agree to attend to." Opportunities for self-motivation or other-motivation in informal language learning can depend on learners' attention, and this is still a relatively uncharted research area.

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