

RESEARCH ARTICLE

Motivation, self-efficacy beliefs, and speaking anxiety in language MOOCs

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Abstract

This paper examines the role of motivation, anxiety, and self-efficacy beliefs and their interplay with regard to speaking on beginners' Spanish LMOOCs. It answers three research questions: (1) what are learners' motivations and goals for joining these LMOOCs and how do these relate to foreign language speaking anxiety; (2) how do learners' self-efficacy beliefs and anxiety levels change as a result of course completion; and (3) is there a correlation between motivation, foreign language speaking anxiety, and self-efficacy beliefs in this context? A mixed-methods research design used quantitative and qualitative data gathered from self-reflective questionnaires and forum discussions. The results reveal that learners with intrinsic motivation are more likely to complete the courses than those who sign up to manage a personal situation or advance in their career or studies. No direct correlation was, however, found between motivation and the other variables under scrutiny. Learners present higher self-efficacy beliefs at the end of the courses than at the beginning, while anxiety levels are affected to a much smaller degree by course completion. Although spoken interactions in this learning environment are not synchronous, apprehension and anxiety prevent many learners from fully participating in the speaking activities.

Keywords: foreign language anxiety; LMOOC; oral interaction; self-efficacy beliefs; asynchronous speaking tools

1. Introduction

Effective oral communication is often viewed as the ultimate goal in foreign language (FL) education. Speaking a FL, however, can be a very exposing and intimidating task, and the importance of affective factors such as anxiety, self-esteem, and motivation has long been acknowledged (e.g. Dörnyei, 1990; Gardner & Lambert, 1972; Jung & McCroskey, 2004). Foreign language anxiety (FLA), a term coined by Horwitz, Horwitz and Cope (1986), has been described as a very common phenomenon among language learners, with speaking being the most anxiety-provoking language learning activity. Thus, it is not surprising that researchers and educators focus on tools and strategies to help students overcome these obstacles in order to improve their speaking skills.

In the past few decades, a number of studies have explored the use of computer-mediated communication (CMC) tools in language learning for the development of oral proficiency (see Lin, 2015, for a thorough quantitative meta-analysis of the field). Most studies focus on the affordances of synchronous CMC tools or compare the use of these in blended courses with traditional face-to-face (F2F) instruction. The application of asynchronous methods like voice recording tools are generally believed to promote oral proficiency when complementing other synchronous learning, but concerns have been raised about the value and feasibility of language learning at

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a distance, with the main worry being that interaction is limited in online environments (Nielson, Gonzalez-Lloret & Pinckney, 2009). Where there is a lack of interaction, the skill that is likely to suffer most is speaking. Oral proficiency is a complex skill involving pronunciation, fluency, accuracy, and lexical and syntactic skills (Lin, 2015), and although some studies show that online students' oral proficiency compares favourably to F2F and blended learners (Blake, Wilson, Cetto & Pardo-Ballester, 2008; Huang & Hung, 2010), other findings disagree (Lin, 2015).

There are fewer studies dealing with the impact of individual asynchronous speaking activities on affective factors. Poza (2011) investigated the influence of a computer voice conferencing environment on learners' foreign language speaking anxiety (FLSA) and concluded that there was a strong potential for the reduction of some aspects of anxiety in this context. However, research on FLSA in online settings still tends to focus on formal, structured learning, mostly as part of university language courses.

Thus, this paper sets out to contribute to the growing but still scarce body of research on informal, self-motivated language learning via massive open online courses (LMOOCs). Language learning "is mainly *skill-based*, in that it involves putting into practice an intricate array of receptive, productive and interactive verbal (and non-verbal) functional capabilities" (Bárcena & Martín-Monje, 2014: 2). This means that in order to learn a language a lot of practice and interaction is needed. These constitute challenges for LMOOC designers and instructors, on the one hand, because of the sheer number of students (hundreds or thousands on a typical LMOOC), and on the other, because of the lack of affordances for interaction on most MOOC platforms. Gimeno-Sanz (2017) provides a detailed description of the add-on tools she had to develop and implement to make a traditional MOOC platform suitable for FL learning by ensuring it could support speaking practice and real-time learner interaction.

The LMOOCs in the present study – six courses constituting the Spanish for Beginners programme offered by The Open University on FutureLearn¹ – with no F2F interaction and no synchronous speaking activities provide an interesting and unexplored environment to observe affective components such as anxiety and self-efficacy beliefs, especially related to oral skills. It is a plausible hypothesis that LMOOCs, being a non-formal learning environment, are less frightening and less anxiety provoking, and due to the lack of a real-time interlocutor, they are close to free from speaking anxiety. Thus, this article aims to explore learners' feelings and attitudes with regard to spoken language by answering three specific research questions:

1. What are learners' motivations and goals for joining these LMOOCs and how do they relate to FLSA?
2. How do learners' self-efficacy beliefs and FLSA levels change as a result of course completion?
3. Is there a correlation between motivation, FLSA, and self-efficacy beliefs in this context?

2. Literature review

2.1 Foreign language anxiety

Decades of research on FLA bear witness to the importance of affective variables in language learning. The term *anxiety* in psychology is defined as the "subjective feeling of tension, apprehension, nervousness and worry associated with an arousal of the autonomic nervous system" (Spielberger, 1983: 15). Spielberger (1983) distinguishes between "trait anxiety", which is defined as the individual's likelihood of becoming anxious in any situation, and "state anxiety", which is experienced by an individual as a reaction to a specific situation. In language learning, however, a third type of anxiety is defined: "a distinct complex of self-perceptions, beliefs, feelings, and behaviours related to classroom language learning arising from the uniqueness of the language learning

¹<https://www.futurelearn.com>

process” (Horwitz *et al.*, 1986: 128). Several instruments have been designed to measure FLA: Attitudes and Motivation Test Battery (Gardner, Clément, Smythe & Smythe, 1979) and Language Class Discomfort (Ely, 1986). Furthermore, MacIntyre and Gardner’s (1994) Input, Processing, and Output Anxiety scales aimed to measure anxiety at different phases of language learning. The most widely used instrument is Horwitz *et al.*’s (1986) Foreign Language Classroom Anxiety Scale (FLCAS); it has been used to investigate the reliability and validity of the measure, to successfully test various psychometric properties in the classroom, and to assess the effect of FLA on acquisition and performance. Most studies discussing FLA report on its negative effects on language learners in terms of the learning process (MacIntyre & Gardner, 1994; Steinberg & Horwitz, 1986) and assessment results (Zhang, 2013; Zhao, Guo & Dynia, 2013, just to mention a few).

Research on FLA has investigated its role in the development of different skills: reading (Lee, 1999; Zhao *et al.*, 2013), writing (Abdel Latif, 2015; Leki, 1999), listening (Elkhafaifi, 2005), and speaking (Çağatay, 2015; Koch & Terrell, 1991; Tsiplakides & Keramida, 2009). Any of these skills may trigger FLA. However, reading seems to be the least anxiety-provoking skill, whereas speaking is the most anxiety-provoking activity (Young, 1992). Factor analysis of FLCAS reveals that the most significant triggers of FLA are fear of making mistakes/fear of inadequate performance, fear of negative evaluation, general speech anxiety/fear of speaking spontaneously/understanding, and communication apprehension (Aida, 1994; Mak, 2011; Park, 2014; Tóth, 2008; Young, 1990).

Language practitioners for decades have been looking for ways to create a low-anxiety classroom where students can thrive. There is ample evidence that CMC tools decrease FLA levels when interactions occur in a written form via emails or written chats (Kissau, McCullough & Pyke, 2010; Satar & Özdener, 2008). Fewer studies demonstrate that CMC activities are perceived by students as low-anxiety environments even when speaking (e.g. Cooke-Plagwitz, 2008). Rosell-Aguilar (2005: 432) says, based on “anecdotal evidence”, that students of beginner Spanish might have chosen online audio-graphic tutorials over F2F ones because “they may feel more comfortable ‘shielded’ behind a PC and not making mistakes in the physical presence of others”. Melchor-Couto (2017) examined the evolution of FLA levels in a virtual world (Second Life) tandem learning environment between native speakers and language learners. The author showed that FLA levels were lower, and gradually decreased, in the virtual world group than in the control group. She argues that anonymity helps to reduce anxiety at the beginning of the course, and although it wears off as participants get to know each other better, it is beneficial for instigating oral interaction as it offers a gentle start. Anonymity gives learners more freedom to make mistakes, which reduces FLA. Other researchers, however, show that the lack of body language and visual information may in itself cause anxiety, which can be aggravated by anxiety related to the use of technology (Hampel, Felix, Hauck & Coleman, 2005). De los Arcos, Coleman and Hampel (2009) conclude that actually both a facilitating and a hindering effect are possible in CMC contexts.

2.2 Asynchronous speaking

There are few studies focusing on the affordances of asynchronous tools in relation to FLA and more specifically speaking anxiety, despite the fact that they are generally believed to promote oral skills and help learners, especially beginners, to prepare for F2F communication. Tecedor and Campos-Dintrans (2019: 117) cite two publishing houses in support of this: “Pearson Education advertised in its platform: ‘Oral Recording Activities enable students to increase oral proficiency without leaving the online environment.’ Vista Higher Learning similarly stated: ‘Language production can be intimidating for new students, but this initial step helps build confidence and better prepare students for face-to-face communication.’” A number of studies show that voice-based tools can indeed have a positive impact on second language (L2) speaking development, especially fluency (Sun, 2012; Yanguas, 2010). As asynchronous tools (audio recordings,

video blogs) are one-way communication without response or interaction in real time, they allow planning time and often multiple recordings. Information is transmitted in an intermittent manner. Thus, it is a genre that typically elicits presentational language, more complex syntax, but might hinder spontaneity. Tecedor and Campos-Dintrans (2019) explicitly compare the gains of synchronous and asynchronous modes of learning with regard to the improvement of oral proficiency in two tasks: presentational and interpersonal. After examining complexity, accuracy, and fluency, the authors conclude that different modes of learning have different gains in the two tasks, so the medium has important implications for learning outcomes. The study, however, does not deal with affective factors.

In a study on the use of Wimba Voice Board, a tool that allows users to create and post audio recordings directly in Moodle, McIntosh, Brail and Chao (2003) observed that using the medium was a positive experience for the majority of the students on an English for academic purposes university course, which primarily consisted of F2F classes. The online environment encouraged the development of communicative competency in a non-threatening setting. The medium was also a valuable tool for self-analysis: 17% of the students recorded their voices between four to six times before uploading their message. More than half of the participants felt more confident speaking in class after participating in asynchronous discussions. Some students, however, were not comfortable posting their voices online and overcoming this barrier remained a challenge.

Podcasts are also reported to reduce FLSA. Sze (2006: 122) claims that their use is beneficial for “less confident students as producing podcasts involves performing behind the scenes”. Hamzaoglu and Koçoğlu (2016), in a study with 30 highly anxious students, showed that by the end of the term students who produced podcasts significantly improved in their oral performance and had significantly lower FLSA levels compared to students in the control group.

Poza's (2011) findings are not so straightforward. She describes an in-depth study on students' FLSA levels when using the Wimba voice conferencing environment. The author found that the average levels of anxiety in the classroom and on Wimba were very similar (no statistically significant difference). Students were especially worried about speaking to native speakers in both contexts; they were anxious about making mistakes. Despite the lack of statistically significant differences in the two contexts, the author states that there is a strong potential for the reduction of anxiety within the asynchronous context, as learners in this context were less worried about the teacher correcting their mistakes and others being better. The asynchronous context coupled with anonymity on an LMOOC should be a language learning context with reduced levels of FLSA.

A limited number of studies deal with the acquisition of speaking skills on an LMOOC. Rubio (2014) compares the gains in comprehensibility of students enrolled in a traditional F2F pronunciation course with those enrolled in an LMOOC. He concludes that there was significant improvement in both course formats, but larger effect sizes on the LMOOC. However, LMOOC students in his study received a larger quantity and variety of individualised feedback than students in the F2F group, which makes it difficult to compare the two groups. Furthermore, such individualised feedback is rarely possible on LMOOCs. The focus of Rubio's study is not on the affective factors related to pronunciation.

Apart from two short conference proceedings – Bárkányi and Melchor-Couto (2017) and Bárkányi (2018) – no studies focusing on FLSA on LMOOCs have been published so far. Both proceedings show that respondents have positive attitudes towards language learning on LMOOCs, and FLSA levels are quite stable throughout the courses. Conclusions on the relationship of self-efficacy beliefs and FLSA are based on a limited and unbalanced set of data, and neither study included motivation as a potential factor. The present research intends to fill this gap in the literature by analysing the impact of motivation and anxiety on speaking on LMOOCs, thus illuminating the affordances of this learning context in L2 and FL acquisition.

3. Methods

3.1 Background and course design

The Spanish for Beginners programme consists of six four-week courses that together cover level A1 of the Common European Framework of Reference for Languages. Weeks consist of 23–32 steps; that is, activities that involve articles (written texts), quizzes (gap-fill, simple choice, and true or false), audios and videos (often followed by a quiz or discussion), and discussions. Discussions are the only collaborative tool offered by FutureLearn. They are embedded in the learning content and are mainly of two types: they require students to practice their production skills (writing or speaking) in Spanish or offer the opportunity for students to reflect on cultural aspects of the Spanish-speaking societies. Discussions are elicited by an activity or an article produced by the course designers. This is where students can connect to each other, share knowledge and support each other, where feedback and encouragement are provided, and questions are answered. The only way to carry out speaking activities on these LMOOCs is for learners to record their speech on third-party sites and post a link to their recordings. Speaking activities are either of the “listen-and-repeat” type or learners are prompted by a task to use the language content of the previous steps (e.g. “describe a friend or family member”). Instructors and peers can comment on these recordings, ideally in another recording, but most often in a written form. As the number of participants in some courses might be extremely high, it is challenging for instructors to respond to all queries. However, the course team paid special attention to giving feedback on all oral productions.

3.2 Data collection

A mixed-methods approach was applied and both quantitative and qualitative data were collected concurrently. There have been five iterations of the programme to date. The first course started in August 2016 and had 49,120 registered learners, from which 4,903 completed at least 50% of the activities. The last course of the last iteration started in November 2019; it had 7,332 registered learners, only 218 of whom completed at least 50% of the activities. Data in this paper are gathered from courses 2, 3, 5 and 6 of the third iteration; that is, between February 2018 and August 2018. The pre-course questionnaire was not in place for the first course, and due to a technical error, the collector did not register data at the beginning of the fourth course, thus these courses were removed from the analysis. This leaves 978 responses altogether.

Data were collected via pre-course and post-course self-reflective questionnaires (which were voluntary) and from discussion forums. Demographic data were obtained from FutureLearn’s statistical dashboard. FutureLearn allows course owners to add five questions to their surveys. Thus, information referring to learners’ motivations and goals was obtained from FutureLearn’s non-course-specific questions, while self-efficacy ratings and information on FLSA were obtained from the five extra questions (the full list of questions can be accessed from the IRIS database²). As a starting point for designing the FLSA questions, the FLCAS (Horwitz *et al.*, 1986) was considered and adapted to the LMOOC context. Eight Likert-type questions refer to various aspects of speaking apprehension, six of which are analysed in the present study (Table 1).

Five Likert-type questions address self-efficacy ratings. An example is shown as follows:

For my current level of study in Spanish, I think that my Spanish fluency is . . .

<i>Very poor</i>	<i>Fairly poor</i>	<i>Neither poor nor</i>	<i>Fairly good</i>	<i>Very good</i>
		<i>good</i>		

²<https://www.iris-database.org/iris/app/home/detail?id=york%3a938888&ref=search>

Table 1. Statements on foreign language speaking anxiety administered in Likert-type test

Please rate the following statements regarding your speaking in Spanish.	
Statement A	I never feel quite sure about myself when I have to record my voice
Statement B	I don't worry about making mistakes in Spanish
Statement C	I get nervous when I don't understand every word in the audios and videos in course material
Statement D	I feel self-conscious when speaking Spanish with native speakers
Statement E	I feel confident when I speak Spanish with other learners
Statement F	I always feel that other learners on a course speak better Spanish than I do

Two yes-or-no questions inquire about attitudes towards speaking activities. An example is reproduced as follows:

Do you intend to record yourself in at least some of the speaking activities in this course?
Did you record yourself in at least some of the speaking activities?
Yes No

Qualitative data were obtained from open-ended questions on the questionnaires and comments in the discussion forums of speaking activities.

3.3 Challenge to data analysis

Ideally, in order to find out how speaking anxiety levels and self-efficacy beliefs change as a result of participation in the courses, learners' matched answers should be compared from before and after the courses. There are several factors that impede the analysis of such repeated measures in the present study. First, respondents sometimes skipped a question, but completed most of the questionnaire. Second, post-course surveys have considerably fewer responses as compared to pre-course surveys – in our data, 10.3–25.8%. We could have chosen to match up post-course respondents with their pre-course responses only. However, it turns out that from the 978 responses on the four courses only 28 matched pairs were found. For this reason, all pre-course data were compiled to form a pre-course data set and all post-course data formed a post-course set. In this way, individual idiosyncrasies cannot be taken into account, but as a compensation, large participant numbers could be preserved for analysis. Both sets have been treated as two groups, and, following Boone and Boone's (2012) recommendations on how to analyse Likert-type data, Pearson's chi-square test was applied to contrast pre-course and post-course answers.

3.4 Data coding and analysis

All quantitative data were transferred to Excel and additional codes were added (e.g. "pre" and "post" and the number of the course) in order to carry out initial calculations. Then data were uploaded to the software SPSS and statistical analyses, including Kendall's Tau-*b* test (where relevant) and the χ^2 test, were carried out, and, in the case of small sample sizes (not enough items in a given cell), Fisher's exact test was employed. When handling the data, the 5-point scale used in the questionnaire was maintained; that is, data from various categories were not merged (e.g. "agree" and "strongly agree"). For the correlational analysis, we opted for Kendall's Tau-*b* test as it is widely used in similar experiments, although partly because it is suitable for small sample sizes, which is not the case here, but also because it is a more conservative measure than, for example, Pearson's correlation test. The following variables were included in the correlation analysis: motivation, FLSA, computer-mediated speaking (CMS), and self-efficacy ratings.

Table 2. Categories used for qualitative analysis

Categories	Occurrences
Study tips	38
Listening (understanding)	37
Pronunciation (enquiry, general reflection)	31
Compared to (English, English dialects, other languages)	29
Speaking difficult	25
Building self-confidence	24
Frustration (frustrated, annoyed, annoying)	24
Happy	21
Pronouncing “r”	20
Peer support	15
Technical problem (recording, uploading)	14
Fast (speech/listening activity too fast)	12
Apologise (for speech/pronunciation)	10
Irony (self-irony, humour)	10
Orthography (in relation to pronunciation)	9
Pronunciation difficult	9
Pronunciation easy	9
Anxiety (scared, fear of . . . , panic, nervous)	8
Not confident	8
Native speakers (speak to, understand)	7
Spanish dialects (in relation to pronunciation)	7
Learning difficulty	2
Vowels	2
Own voice	1

Motivational data were assigned into three categories: (1) career related, (2) managing or fixing a personal situation, and (3) leisure and pleasure. In order to determine a learner’s FLSA level, the answers were converted into points and each learner’s mean score was calculated. Responses on the negatively worded items were changed accordingly. The same procedure was applied for CMS and self-efficacy responses, although there were no negatively worded questions in these categories.

Data collected were anonymised by FutureLearn and a unique encrypted key was assigned to each participant. Although anonymisation would have allowed us to match pre-course and post-course responses, this was not possible because of the lack of data, as explained in section 3.3. Due to the anonymisation, it is impossible to match survey data with discourse in the forum. The responses to the open-ended questions and from forum discussions made up the qualitative data. A total of 22,081 comments (over 620,000 words) were produced in the comment area of the courses. These include solutions to the tasks and tutor feedback. Comments in which learners reflect on their listening and speaking skills, language learning, and self-efficacy have been selected for analysis; this includes 273 comments resulting in 8,084 words. Thematic analysis was used for

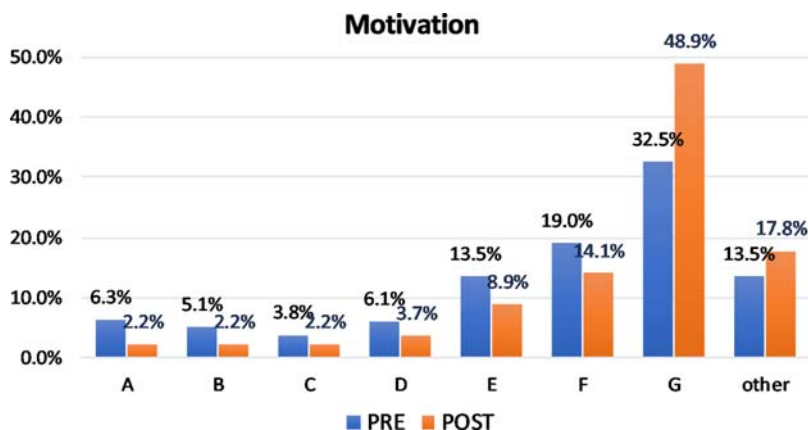


Figure 1. Reasons for joining the course (PRE: pre-course survey; POST: post-course survey)

analysing qualitative data. However, in the first examination of the data, no categories were predetermined. Therefore, categorisation was carried out by the author in an inductive and recursive manner, based on the phases established by Braun and Clarke (2012). The software NVivo 12 was used for this purpose in order to make the process simpler and the analysis of the results easier. Table 2 shows the categories that emerged in the coding process and their frequency.

3.5 Participants

There were 35,644 joiners on the third iteration of the Spanish for Beginners 2, 3, 5, and 6 courses. The majority of learners (43–46%) were registered in the United Kingdom, followed by 6–7% from the United States, and 4–6% from Spain, although there were joiners from 156–174 countries. Out of these, 2,271 learners completed at least 50% of the activities in the courses. Participants were evenly distributed across the age ranges with two small peaks: 26–35 years old (19–23%) and 65+ (14–18%), although on all courses approximately 15% of learners were 56–65 years old.

4. Results

4.1 Motivation and goals

Respondents could choose from the following options to describe why they took the course. The options appeared as part of FutureLearn's general motivation questionnaire to which our five questions (described in section 3.2) were added in the pre-course and post-course modes. "Other" was an open question where learners could describe their motivation for taking the course (if not covered by one of the options that follow).

- A. explore future career or study options
- B. prepare for or support a specific work or study goal (e.g. a job interview, exam, assignment, or objective)
- C. advance, develop, or stay up to date in my profession or field
- D. understand, fix, or manage an event or situation in my personal life
- E. flourish personally and improve my well-being
- F. complement my personal hobbies or voluntary activities
- G. vitalise my mind, learn for pleasure, or satisfy intellectual curiosity

Table 3. Kendall's Tau-*b* correlation coefficients (*n* = 729) PRE

Motivation	Self-efficacy	CMS	FLSA
Correlation coefficient	.012	−.021	−.031
Significance	.694	.509	.310

Note. CMS = computer-mediated speaking; FLSA = foreign language speaking anxiety.

Table 4. Kendall's Tau-*b* correlation coefficients (*n* = 124) POST

Motivation	Self-efficacy	CMS	FLSA
Correlation coefficient	−.211	.152	.203
Significance	.005*	.053	.007*

Note. CMS = computer-mediated speaking; FLSA = foreign language speaking anxiety.

As expected, the majority of joiners overall were leisure learners (Figure 1). However, among those who completed the course, there were significantly more who did it for pleasure and intellectual satisfaction. That is, those who took the course for pleasure were more likely to persist. The difference between the pre-course survey cohort (PRE) and the post-course survey cohort (POST) is statistically significant, $\chi^2(7) = 21.4$, $p = 0.003$; $n = 971$.

For the correlational analysis, groups A, B, and C were assigned into the “career related” category; group D formed “managing or fixing a personal situation”; and E, F, and G formed “leisure and pleasure”. Answers given as “other” were categorised accordingly. For example, answers like “I will go to live in Spain and want to be able to speak to the locals” or “I want to speak to my grandchildren in Madrid” were regarded as managing a personal situation. If an answer was too vague (e.g. “I want to learn Spanish”), it was omitted from the analysis. Similarly, if an answer corresponded to more groups (e.g. “I love the language and I also want to understand my Mexican business partner”), it was also left out. For the latter reason, four answers were excluded from PRE and one from POST; for the former, 11 were excluded from PRE and two from POST. For the reasons explained in section 3.3, the correlational analysis was applied to PRE and POST groups independently (Table 3 and Table 4 respectively).

As we can see, the nature of motivation for joining the course does not correlate in any significant way with the other variables under scrutiny (FLSA, CMS, self-efficacy) in PRE.

The post-course cohort showed different characteristics as self-efficacy ratings and FLSA do correlate with motivation. It must be noted, though, that 104 out of 124 respondents studied the courses for “leisure and pleasure”. The comparison of these learners with the rest of the POST cohort gave a surprising result: leisure learners were significantly more anxious than learners studying for other reasons (Fisher's exact test, $p = 0.001$): on average 3.1 versus 2.8 (1 = “not anxious at all” to 5 = “very anxious”). Similarly, they rated their proficiency in Spanish significantly lower (Fisher's exact test, $p < 0.001$) but appreciated the affordances of CMS in a similar way. It would be interesting to further explore these results on more balanced data sets.

4.2 Self-efficacy beliefs

At the beginning of the courses, most respondents rated their overall speaking ability, grammatical accuracy in spoken Spanish, fluency, pronunciation, and vocabulary as very poor or fairly poor.

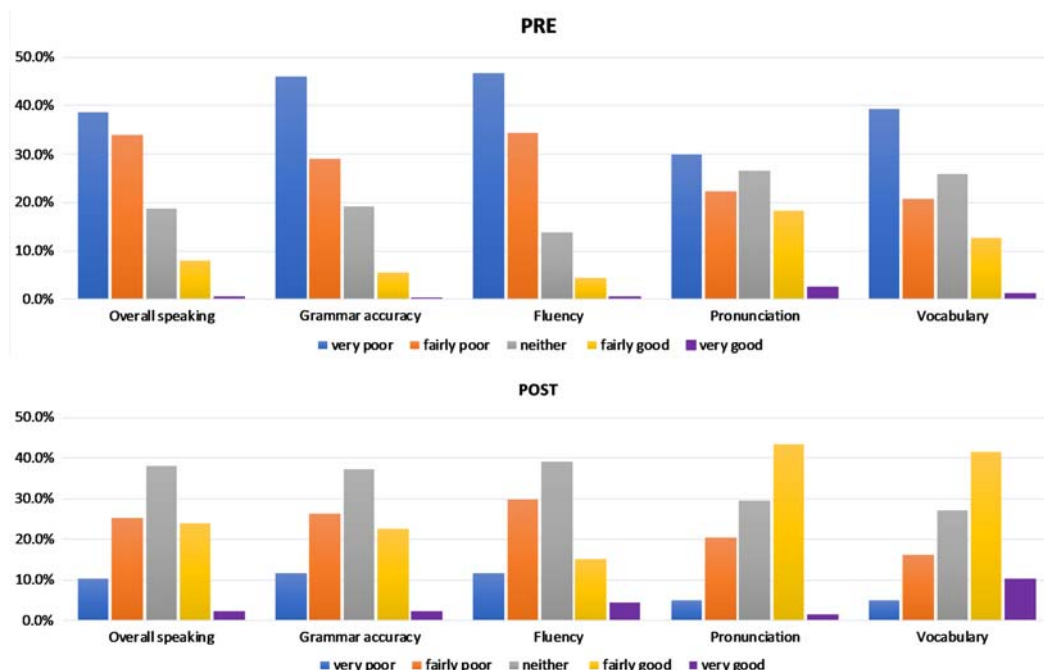


Figure 2. Self-efficacy ratings at the beginning ($n = 780$) and at the end ($n = 134$) of the courses

This was also reflected in comments like “My recording is too tragic for words ...; I still have problems remembering the clothes vocabulary”. However, when compared with the results collected at the end of the courses, there is a tangible shift towards the positive end of the spectrum across all the parameters, particularly in pronunciation and vocabulary (Figure 2).

Pearson’s chi-square tests and Fisher’s exact tests indicate that the differences between the data recorded at the start of the courses and at the end were significant across all skills (Table 5). This means that those learners who actually complete the courses believe they have improved their language skills.

Qualitative data also reflected this sense of progress:

... heard several people speaking Spanish. I became quite an “earwig” and found I could follow several strands of conversation.

Estoy disfrutando mucho del curso y siento que estoy progresando, poco a poco. [I’m really enjoying the course and I feel that I’m making progress, little by little.]

4.3 Asynchronous speaking

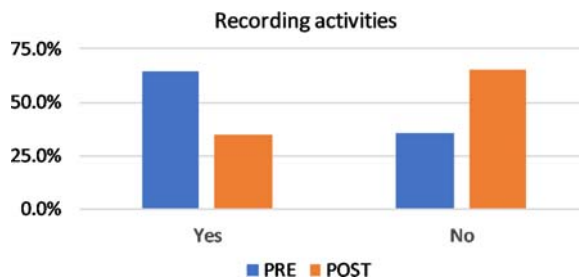
Over one third of learners felt shielded by their computer when having to accomplish speaking activities. The difference between PRE and POST cohorts was not statistically significant (Table 6). It is interesting to note that at the beginning of the courses, learners showed slightly more appreciation for CMS than at the end. Note that many respondents did not have a clear view on the advantages of CMS (neither agree nor disagree: 35.1–44.9%), which is understandable because F2F communication in this learning context is not possible, so for some of the informants these were hypothetical statements to rate. No forum comments addressed this aspect of participants’ learning journey.

Table 5. Self-efficacy beliefs χ^2 tests

Overall speaking ability	Fisher's exact test, $p < 0.001$
Grammatical accuracy	Fisher's exact test, $p < 0.001$
Fluency	Fisher's exact test, $p < 0.001$
Pronunciation	$\chi^2(4) = 78.580, p < 0.001$
Vocabulary	$\chi^2(4) = 136.406, p < 0.001$

Table 6. Computer-mediated speaking χ^2 tests

"It's easier to speak into a computer than face to face"	$\chi^2(4) = 7.206, p = 0.125$
"The lack of physical presence makes me feel more comfortable"	$\chi^2(4) = 3.31, p = 0.507$

**Figure 3.** Learners intending to do at least some of the recording activities (PRE) versus doing them (POST)

4.4 Speaking anxiety

The only opportunity to practise speaking skills and interact with fellow learners in these LMOOCs is via doing the recording activities and posting a link to these in the discussion forums. Although 64.5% of our respondents intended to do at least some of the recording activities, only 35% actually did so (Figure 3), $\chi^2(1) = 40.551, p < 0.001$; PRE $n = 767$, POST $n = 129$.

Of the PRE cohort, 44.5% intended to share their recordings with fellow learners; 34% of the POST cohort claimed that they actually did so. There were two main reasons reported for not uploading recordings. On the one hand, respondents encountered a technical difficulty: "I don't have a mic"; "I couldn't get the app"; "I was unable to upload the recording", etc. On the other hand, learners felt anxious to make their voice "public":

I'm still feeling self-conscious

I was too nervous to upload them!!

I did not upload any recordings but I played them back to myself to listen to how I spoke Spanish.

In a number of cases, a certain degree of anxiety was observed in the comments of those learners who did upload their recordings. They often apologised in advance about their pronunciation:

I wanted to hear how bad I sounded.

I'll never speak as quickly as the examples!

Quality isn't great ... but here it is

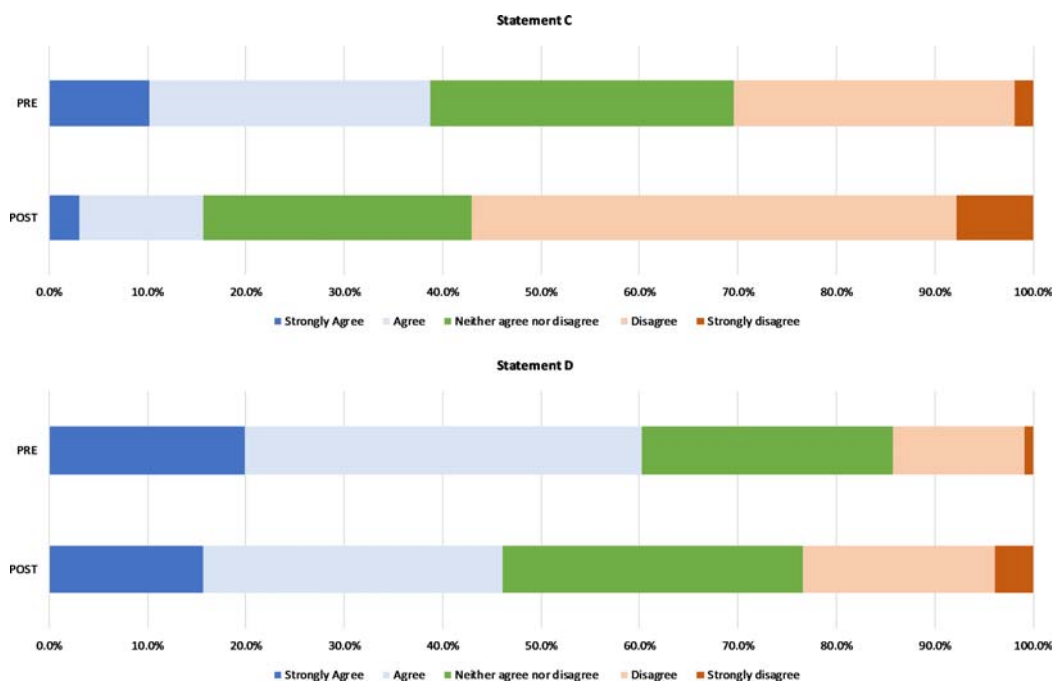


Figure 4. Statement **C**: “I get nervous when I don’t understand every word in the audios and videos in course material” and Statement **D**: “I feel self-conscious when speaking Spanish with native speakers”

Unlike their self-efficacy beliefs, learners’ FLSEA showed similar levels at the beginning and at the end of the courses. Statements **A** and **B** (Table 1) inquired how learners felt about their own speech in Spanish in general, in completely asynchronous tasks, without expecting interaction. The POST cohorts declared slightly lower levels of anxiety, but the differences are not statistically significant (Statement **A**: “I never feel quite sure about myself when I have to record my voice”: $p = 0.127$, Fisher’s exact test, PRE $n = 742$, POST $n = 125$; Statement **B**: “I don’t worry about making mistakes in Spanish”: $\chi^2(4) = 1.523$, $p = 0.823$, PRE $n = 748$, POST $n = 127$).

As expected, apprehension was reflected in qualitative data as well, which at times was lessened by self-irony. Students also often acknowledged their own effort and that of their peers:

I can’t stand hearing my own voice and my sarf London accent!
 Embarrassed
 I will keep trying though.
 Remember everyone is a beginner when they start [...] We can only get better.

Statements focusing on aspects of oral interaction showed a more pronounced difference between the two cohorts. Statement **C**, namely listening to and understanding every word in Spanish audios, is obviously an unrealistic goal for beginner learners even if the teaching material is adapted to their level, and thus should cause little anxiety, which is far from what our results reflect (Figure 4 top). It is unlikely that by the time learners finish a beginners’ course they understand every single word, but they seemed to have developed realistic goals. The difference is significant: $p < 0.001$, Fisher’s exact test, PRE $n = 743$, POST $n = 128$. Given the LMOOC context, speaking with native speakers (Statement **D**) might have been a hypothetical situation for some of our respondents, but even this caused a fair amount of anxiety (Figure 4 bottom), which was significantly lower in the POST group: $\chi^2(4) = 14.615$, $p = 0.006$, PRE $n = 735$, POST $n = 128$).

A recurring topic in forum discussions was the frustration with regard to listening comprehension. Learners found the recordings (and speakers) too fast. In some cases, frustration was eased by humour:

when spoken I find Spanish currently much more difficult to understand
I also found this challenging, played the recording many times!
at.5 they sound drunk.
When I listen to its pronunciation the “U” seems to disappear as 1 word runs in to the other.
A couple of the listening sections were impossible to understand, no matter what I tried.

Speaking in general is also regarded as difficult and often anxiety provoking. A recurring worry was learners not being able to roll their r’s. However, they were encouraging and supportive of each other and also gave feedback and study tips to reassure their peers:

I get tongue tied when trying to speak it [the “r”]
I am not at all confident when I speak.
The most important thing is to speak and not to be afraid of mistakes.
I find I can listen and understand this, and can read the transcript, but speaking is not happening!!!
... I am well impressed with your accent.
I find it helps to listen about 3 times to a video before I read the text.

Learners experienced moderate anxiety in relation to their peers (Statements E and F). Their self-confidence was not affected by course completion (Statement E: $p = 0.306$, Fisher’s exact test, PRE $n = 731$, POST $n = 127$), while their assumed relative level of competence in Spanish improved (Statement F: $p < 0.001$, Fisher’s exact test, PRE $n = 732$, POST $n = 129$) (Figure 5). This is in line with the higher ratings observed in self-efficacy beliefs after the courses (Figure 2) and reduced anxiety towards peers in asynchronous activities as described in other studies (e.g. Poza, 2011). Comments of low self-esteem in relation to peers were rare: “I am unable to write like others ... :”(

The results clearly show that FLSA was present in non-formal courses and for leisure learners similar to traditional F2F classrooms. In order to find out whether there was a correlation between FLSA and the other variables (i.e. participants’ appreciation towards CMS and their self-efficacy beliefs), Kendall’s Tau- b test was administered, the results of which are presented in Tables 7 and 8.

The analysis reveals a strong negative correlation between self-efficacy beliefs and FLSA; that is, the higher self-efficacy beliefs are, the lower the level of FLSA is. However, there is a positive correlation between speaking anxiety and computer-mediated speech; that is, participants with high anxiety levels show more appreciation for being shielded by technology.

5. Discussion

One characteristic that MOOC participants share, independently of age, ethnicity, and circumstances, is motivation. As Downes (2012) puts it, “One *big* difference between a MOOC and a traditional course is that a MOOC is completely voluntary. You decide that you want to participate, you decide how to participate, then you participate. If you’re not motivated, then *you’re not in the MOOC*.” This also explains the high numbers of non-completion; once you lose motivation for whichever reason, you are out of the MOOC. Beaven, Codreanu and Creuzé (2014) found that those who persevered found the LMOOC very useful. Success on MOOCs correlates with the ability and willingness to learn independently. Hauck and Hurd (2005) demonstrate that the

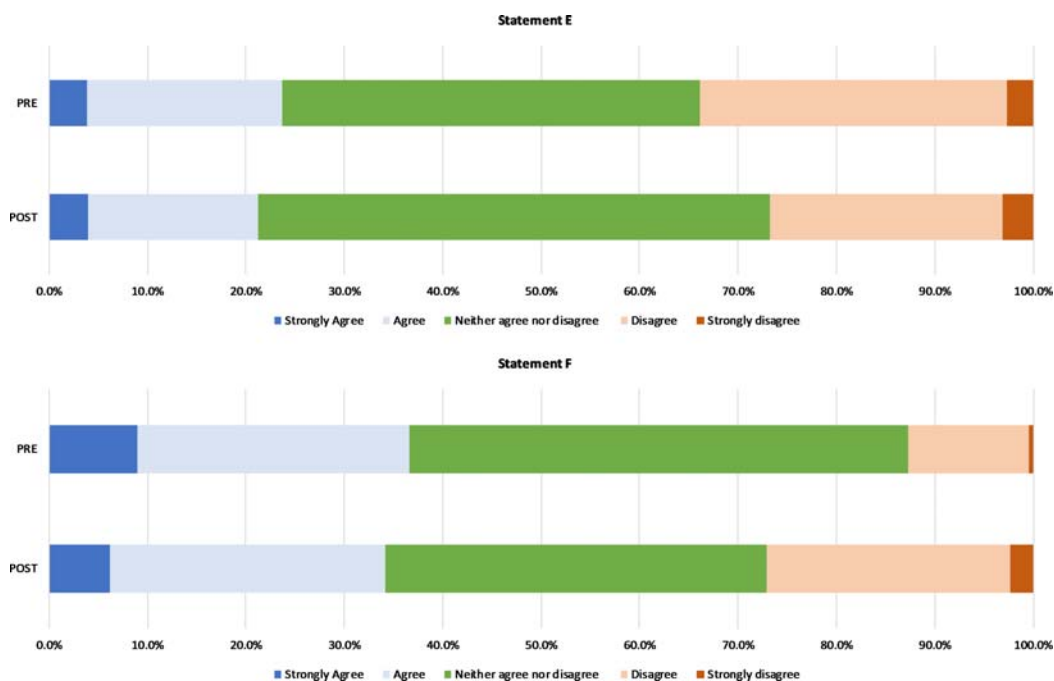


Figure 5. Statement E: “I feel confident when I speak Spanish with other learners” and Statement F: “I always feel that other learners on a course speak better Spanish than I do”

stronger the learners’ self-efficacy beliefs are in distance language learning, the more intense their search is to overcome obstacles encountered in the process of learning. This might imply that learners who persevere on LMOOCs are better at regulating their emotions (i.e. maintaining motivation, coping with FLSA). Our data clearly demonstrate that learners with intrinsic motivation who study for enjoyment and personal growth are more likely to complete the course than those joiners whose motivation is extrinsic, like career or study goals. However, the nature of motivation does not directly seem to influence anxiety levels and self-efficacy beliefs, although our data are somewhat inconclusive in this respect. It has also been observed that there is a significant increase in self-efficacy beliefs between the pre-course and post-course cohorts, but this awaits further research to find out whether learners who persevere do so because of higher self-esteem – in line with Hauck and Hurd (2005) – or those learners who actually manage to complete the course think they have improved in Spanish.

It is interesting to note that learners are quite indecisive about the advantages of CMS. They show slightly less appreciation for it at the end as compared to the beginning of the course; this is in line with Melchor-Couto’s (2017) position that anonymity has a positive impact on self-confidence but wears off later in the course. This “shielding” seems to be more beneficial for respondents with higher anxiety levels, supporting Hampel *et al.*’s (2005) conclusion that the feeling of disembodiment caused by CMS may be liberating for some users and restricting for others.

While respondents at the end of the courses claim less apprehension with regard to listening and speaking tasks, and also improve in their confidence while interacting with native speakers, their fear of making mistakes when recoding their voice and speaking with peers maintains a similar level at the beginning and at the end of the courses. Although it might be lower in this asynchronous speaking context than it would be F2F, as learners can work at their own pace and practise and make mistakes in private, course completion is not sufficient to reduce or eliminate

Table 7. Kendall's Tau-*b* correlations PRE set *n* = 729 (correlation coefficient; significance)

	FLSA	CMS	Self-efficacy beliefs
FLSA	n.a.	.194; .000*	–.211; .000*
CMS	.194; .000*	n.a.	–.125; .000*
Self-efficacy beliefs	–.211; .000*	–.211; .000*	n.a.

Note. FLSA = foreign language speaking anxiety; CMS = computer-mediated speaking.

* Indicates that the results are statistically significant.

Table 8. Kendall's Tau-*b* correlations POST set *n* = 124 (correlation coefficient; significance)

	FLSA	CMS	Self-efficacy beliefs
FLSA	n.a.	.198; .004*	–.317; .000*
CMS	.198; .004*	n.a.	–.213; .002*
Self-efficacy beliefs	–.317; .000*	–.213; .002*	n.a.

Note. FLSA = foreign language speaking anxiety; CMS = computer-mediated speaking.

* Indicates that the results are statistically significant.

their fears. Contrary to expectations, FLSA is very much present in this non-formal, non-real-time learning context, so much so that learners on LMOOCs can also experience inhibitory effects (i.e., not doing the speaking activities or not sharing their recordings), just like in classroom settings where anxiety prevents learners from participating in oral communication activities (Horwitz, 2002; McCroskey, 1984). The analysis above reveals that many learners, although carrying out the speaking activities, do not share their recordings for fear of making mistakes or sounding ridiculous. Even when they do share them, the close analysis of qualitative data indicates varying degrees of anxiety. A number of strategies were observed to cope with FLSA, like humour and self-irony, acknowledgements of effort, and peer support.

Humour is often helpful in difficult situations; it helps the speaker to distance themselves from embarrassment. Demjén (2016) shows that seriously ill people often use humorous discourse to talk about frightening, sensitive, and taboo experiences, thereby alleviating the psychological impact of their condition. The opportunity to laugh together also gives a feeling of collective empowerment in a situation where, in the present case, the language learner feels less confident. Interaction and engagement are keys to success in an LMOOC (Sokolik, 2014) and the feeling of a supportive learning community is essential to achieve this. Acknowledging one's own and others' efforts contributes to creating such a learning community and thus helps learners to build self-confidence. Furthermore, encouraging comments from peers and instructors and reflections on learning strategies efficiently contributed to knowledge creation on the beginners' Spanish LMOOCs examined in the present study.

6. Conclusion

The data analysed in the present study reveal a strong negative correlation between self-efficacy beliefs and FLSA. Learners with higher self-efficacy beliefs show less anxiety and learners with lower self-efficacy ratings show more speaking anxiety. It was assumed at the beginning of this article that LMOOCs, being a non-formal asynchronous learning environment, were likely to be less anxiety provoking than F2F learning. The findings presented suggest that this is not the case. Although self-efficacy ratings significantly improved by the end of the courses, anxiety levels were more likely to stay stable. This is important because it means that increasing self-efficacy through successful study does not necessarily diminish anxiety levels. Therefore, anxiety seems to be a

feature that teachers and course makers need to take into account in all learning contexts, irrespective of whether these are formal or informal, and plan it into their teaching.

Participants with higher anxiety levels showed more appreciation for the affordances of CMC than their peers with lower anxiety levels. This implies that a computer-mediated environment might be suitable for those learners who are more anxious; it might reassure them (although once they have the experience of learning in that environment, there is no significant reduction of anxiety). This does not mean that the CMS environment is not helpful; some learners need this initial reassurance to undertake language learning at all, which they might not attempt in a F2F model.

Our findings demonstrate that intrinsic motivation is linked to successful completion of the LMOOC. However, it does not seem to be a factor in determining how or whether learners experience anxiety, have or grow stronger self-efficacy beliefs through studying, or their opinions on the value of CMS. It would be fruitful to pursue further research about the relationship between perseverance and self-esteem using matched-pair data between pre-course and post-course surveys.

Ethical statement. Please see 3. *Methods*. The author is not aware of any conflicts of interest.

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