



Improving foreign language writing anxiety and writing performance through Facebook: Evidence from Ecuadorian undergraduate students

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Abstract

Foreign language anxiety refers to the negative feelings that students experience when dealing with a writing assignment. This study aims to find whether the social networking site Facebook can reduce foreign language writing anxiety, thus improving students' assignments quality. The present research uses a mixed methods design to triangulate the data gathered. The quantitative section of the study uses the Second Language Writing Anxiety Inventory to identify writing anxiety levels and the most common type of anxiety experienced by learners. The participants in this study were 29 undergraduate students of the last level of English at a polytechnic university in Guayaquil, Ecuador. The Second Language Writing Anxiety Inventory was administered at the beginning and the end of the intervention to measure the differences. Results suggest that students could lower their anxiety levels. The qualitative section of the investigation relies on a semi-structured interview to get students' opinions on Facebook. It serves to support the results from the quantitative stage of the inquiry. This study is relevant as it shows current data reported from Latin America, which is very scarce. Thus, it bridges a gap in the literature. The study identifies several implications in the administrative area as well as in the practical domain.

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1 Introduction

Tran (2012) ascertains that the term academic anxiety, which was coined in 2010, has been used to unify the types of anxiety learners experience during their learning time. Academic anxiety is the type of anxiety related to the educational institutions' impending environmental danger, including teachers of certain subjects, such as Mathematics or English. Shakir (2014) explains that academic

anxiety is the uneasiness students experience due to a negatively perceived situation at school. Although scholars agree that academic anxiety is bad (Shakir, 2014), some anxiety levels help maintain students motivated. Thus, keeping students on track in their studies and inclining them to attain a better achievement (Levine, 2008). Pursuing this line of research, this article aims to investigate whether Facebook can help students reduce their writing anxiety and improve their writing performance.

2 Literature review

2.1 Foreign language anxiety

Foreign language anxiety is not a new matter. The research body is extensive on this issue, and the existing literature has determined that language anxiety is intimately related to acquiring a foreign language (Horwitz, Horwitz, & Cope, 1986). Thus, it can affect second language acquisition (Horowitz, 2001; Guo, Xu, & Liu, 2018). Foreign language anxiety relates to the perceptions and beliefs of the self, feelings, and behaviors concerning the language learning process (Horwitz, Horwitz, & Cope, 1986). For MacIntyre & Gardner (1994), foreign language anxiety (FLA) is a feeling of tension and apprehension associated with foreign language contexts. The authors reveal it affects speaking, listening, and learning another language; this adverse emotional reaction occurs when a student uses the foreign language during class time (MacIntyre, 1999).

Horwitz, Horwitz, & Cope (1986) proposed that FLA needs to be understood as a different kind of anxiety, a situation-specific anxiety resulting from the singularity of learning a foreign or second language. It is not just a case of transferring the academic anxiety to the foreign language classroom (Tran, 2012). Scholars (Horwitz, Horwitz, & Cope, 1986; MacIntyre & Gardner, 1991) ascertain that language anxiety experienced in a language course is a specific form of anxiety (Onwuegbuzie, Bailey, & Daley, 1999; Horowitz, 2001). These investigators also explained that when foreign language learners faced activities involving the use of the language, their anxiety levels are high (Zhen & Cheng, 2018).

Cheng, Horwitz, & Schallert (1999) identified three key components of FLA. The scholars explain they are communication apprehension, fear of negative social evaluation, and test anxiety. It can be said that communication apprehension makes it difficult for learners to express their thoughts and ideas using the L2. Thus, speaking and understanding messages in the target language becomes difficult (Levine, 2008; Aeni, Jabu, Rahman, & Strid, 2017). The fear of negative social evaluation is related to students' apprehension about their peers and teacher assessment, generating distress over the expectation that classmates would evaluate them negatively. It arises when there is the perceived need to make a positive impression on others and the fear of not being able to do it (Reichenberger, Smyth, & Blechert, 2018). Finally, Zheng & Cheng (2018) explain that test anxiety affects foreign language learners enrolled in a course and need to take exams. Thus, this kind of anxiety refers to the fear of academic assessment.

2.1.1 Relationship between anxiety and learner's language attainment

The literature has been extended to look at the relationship between anxiety and second language attainment. Horowitz (2001) says that several studies have found no negative relationship between anxiety and second language achievement. However, there is a positive relationship between anxiety and second language achievement. Horwitz, Horwitz, & Cope (1986) ascertain that FLA results in three different moments during the class, a) when learners evade conveying complicated messages in the foreign language, b) when students are not confident enough during role-play activities, and c) when pupils do not remember previously learned grammar or vocabulary during an assessment. In addition, students experiencing anxiety are not likely to answer questions or take part during oral activities (Ely as cited by Tran, 2012).

The uniqueness of foreign language classroom anxiety has led researchers to develop skill-specific scales to measure it. There is the Foreign Language Reading Anxiety Scale (FLRAS) (Saito, Horwitz, & Garza, 1999), the Foreign Language Listening Anxiety Scale (FLLAS) (Elkhafaifi, 2005), the Second Language Writing Anxiety Scale (Cheng, 2004a; Cheng, Horwitz, & Schallert, 1999), and Cheng's (2017) anxiety questionnaire, including all four language skills.

Empirical research has corroborated that anxiety deters students' achievement academically, cognitively, and personally (Tsiriatakis et al., 2017). It hinders academic performance as anxiety is directly related to poor academic achievement (Shakir, 2014). Anxiety impedes information, functioning as an affective filter, from entering the cognitive process, influencing speed and learning accuracy (MacIntyre & Gardner, 1994). Also, anxiety affects the personality since language learning can become an unpleasant experience a learner goes through (Horwitz, 2001)

2.1.2 *Writing anxiety*

According to Jennifer & Ponniah (2017), writing anxiety can be defined as a student's fear when faced with a writing task. For Wahyuni & Umam (2017), writing anxiety involves being worried about the teacher's reaction to their composition or their mind going blank when writing is done under time constraints; thus, affecting the learning processes. Writing anxiety refers to a competent student who can do the task; however, the writing process becomes difficult (Zheng & Cheng, 2018). For Tsiriatakis et al. (2017), foreign language writing anxiety is a negative feeling that disturbs the writing process, making learners have difficulties producing an effective piece.

Identifying second language writing anxiety sources can deem understanding this feeling, allowing teachers to encounter strategies to lower students' writing anxiety (Aloairdhi, 2019). Scholars have also contributed with research on the sources of foreign language writing anxiety. Cheng (2004b), in an investigation conducted on sixty-seven graduate and undergraduate English majors in Taiwan, reported four principal categories of sources of writing anxiety. These sources are i) instructional practices, related to teachers' practices, such as assigning topics or establishing time constraints to do the writing. The latter has been identified as one of the most significant sources of writing anxiety. ii) learners' personal beliefs about writing. This issue relates to the belief that writing suitable compositions has much to do with making no mistakes. Thus, the fear of making mistakes while writing becomes the source of their anxiety. iii) Self-perceived competencies, as explained by the researcher, have to do with upsetting emotions as boredom, frustration, or helplessness in the writing process. These emotions are rooted in low confidence in their competence, mainly in the use of vocabulary. Cheng (2004b) called the last category interpersonal threats, interpersonal or social evaluation fears. Learners dread being judged negatively on account of the mistakes they make while writing. These four categories have been corroborated by many other investigators (Zhang, 2011; Aslim Yetis, 2017; Ekmekçi, 2018; Altukruni, 2019; Kusumaningputri, Ningsih, & Wisasongko, 2018; Genç & Yayli, 2019; Hidayani, Husein, & Dirgeyasa, 2020; Ratnasari, 2020).

Cheng (2004a), in a study conducted on sixty-five Taiwanese EFL learners, identified, through factor analysis, a three-dimensional conceptualization of students' writing anxiety. The scholar defined these three factors as Cognitive and Somatic Anxiety and Avoidance Behavior. Cognitive anxiety has to do with the emotional issues of the anxiety experience, including negative expectations, preoccupation with the type of performance in the writing piece, and concern over the perceptions peers and teachers might have on the final writing product (Wahyuni & Umam, 2017). Meanwhile, Somatic anxiety deals with the perception one has of the psychological effects of anxiety (Rabadi & Rabadi, 2020). Finally, Avoidance behavior resources to the behavioral aspect of the anxiety experience (Zhang, 2011).

In an investigation performed on fifty English students in the fourth semester at an Indonesian state college, Wahyuni & Umam (2017) identified that Cognitive Anxiety was the dominant type of writing anxiety. Ekmekçi (2018) studied 126 prospective teachers of English in Turkey and recognized a statistically significant difference between the two groups researched regarding somatic

anxiety levels. However, no statistically significant difference was detected between the two groups concerning Avoidance Behavior and Cognitive Anxiety. Another investigation (Zhang, 2011), placed in China, looked at two groups of English majors. The results of the SLWAI discovered that the most common type of ESL writing anxiety among the participants was Cognitive Anxiety. In another study performed on 296 Saudi female undergraduate students in their prep-year at a university's English program, Altukruni (2019) developed the English Writing Anxiety Survey (EWAS). The researcher obtained high levels of cognitive anxiety in the participants of the study. Finally, Tsiriatakis et al. (2017) researched one-hundred seventy-seven Greek students from two primary schools. They discovered after employing the SLWAI that cognitive anxiety was the most common type of anxiety experienced by the investigation's participants. All these scholars have obtained very similar results, and they all corroborate Cheng's (2004a) findings.

2.2 Computer-mediated communication

Computer-mediated communication (CMC) encompasses forms of human communication employing networked computers. This communication can be synchronous (e-chat, instant messaging) or asynchronous (mailing lists, newsgroups, discussion boards), involving the exchange of text, audio, and video messages (Androutopoulos, 2006; Lee & Oh, 2015). One of the jumps of the use of CMC, as related by Aslan & Ciftci (2018), is that several technologies now mediate second language learning and teaching, and pupils now interact with different audiences on several CMC platforms. Incorporating into the L2 education the facilities leading the turning of teaching-learning processes into virtual learning environments. Abdullah, Hussin, & Shakir (2018) explain that CMC can allow students to practice critical reflection and in-depth analysis since e-mailing can be replied to more deliberately than synchronous messages. It also permits students to be communicated with the teacher or their peers even beyond the classroom setting. Godwin-Jones (2015) asserts that compared to traditional classroom writing, writing becomes a more collaborative, interactive, and multimodal activity that is also written for a wider audience when adding CMC to the equation.

In a study performed on 28 Master's program students in a computer application course in ESOL, Abdullah, Hussin, & Shakir (2018) examined the influence electronic feedback had on ESL writing anxiety levels and their writing performance. The data collected reported that participants deemed the e-feedback as critical to improve their writing performance. Jung et al. (2019) investigated 55 undergraduate students from three colleges in Korea, Japan, and Taiwan who interacted with their peers. The scholars found two variables that predicted positive attitudes towards CMC used in the classroom: students' attention to language and cultural issues during online discussion. Zheng & Warschauer (2015) examined the interaction in a microblogging environment on fifth graders through a whole school year. They used social networking analysis to reveal that interactions with classmates and teachers turned more dynamic with the pass of time. The participants experienced a shift from teacher to student-centered network. Hamad Aljumah (2011) carried out a study in Saudi Arabia with 35 English writing students. The research aimed to investigate students' attitudes toward blog use in learning writing and demonstrate the advantages and disadvantages of using blogs in language learning. The study found learners perceived that it was interesting and motivational to use blogs because of peer and teacher interactions. Finally, Hudson (2018) examined the use of collaborative writing tasks through wikis to develop L2 writing skills. The author collected data with a questionnaire, interviews, and the teacher's diary. Results suggest the usefulness of wikis to build learners' L2 writing skills and that students appreciated collaborative work on writing tasks.

2.2.1 Social networking sites

Griffiths, Kuss, & Demetrovics (2014) ascertain that social networking sites (SNS) are communities that exist on the world wide web. Its users interact with real-life friends and meet people who share their interests, attracting users worldwide. For Watermeyer (2012), SNS are socialization

spaces for communities of practice that have attained popularity as a medium through which people share their lives. SNS are powered by Web 2.0 technology and are participatory, colloquial, and fed by user content (Coundouris et al., 2021). Facebook, YouTube, and Twitter are portals that disseminate content, showcasing everyday life through multimedia, inviting comments, and discussing shared issues.

Huang (2018) highlights the usefulness of SNS for entertainment and attaining academic achievement. However, the empirical studies that explored SNS use in the classroom environment have obtained mixed results. Although papers report a negative association between SNS use and academic achievement (Bhardwaj, 2017; Tang & Koh, 2017), other studies have found a positive relation. In a quantitative study on 192 university students in Saudi Arabia, Alamri et al. (2020) also recognized the positive results of SNS use in education.

According to Alvino (2021), there are more than 10 million Internet users in Ecuador, which is 57% of the population. From January 2020 to 2021, there was an increase of over 140 thousand new users. The author explains that 98% of Ecuadorians access social networking sites through their mobiles and 79% through other electronic devices. Meanwhile, Del Alcázar Ponce (2020) ascertains Ecuador's top five social networking sites: Facebook, YouTube, Instagram, Twitter, and WhatsApp. The same report also illustrates that Ecuadorians spend a total of 18 minutes per day on Facebook, revising about eight pages per visit. In addition, Ecuadorians take 12 minutes daily on YouTube

2.2.2 Facebook and its uses for educational purposes

Facebook is a social networking site where users share photographs, post comments, post links to web content, and watch short videos (Nations, 2020). It began in February 2004 as an on-campus social network at Harvard University. Mark Zuckerberg, its creator, opened it to the public by 2006, becoming the most popular social network in the world. Facebook is a platform for people to consume all sorts of information, including news from mainstream media providers and alternative news sites that might adhere to basic journalistic principles (Hiaeshutter-Rice & Weeks, 2021).

Moghavvemi et al. (2017) developed a study in Malaysia testing 170 undergraduate students using a structural equation model. The researchers understood learners use Facebook to disseminate their knowledge because it gives them, among other things, a perceived status. In another study, Awidi et al. (2019) investigated 108 architecture students in Australia. Students used Facebook to post images and videos related to the course content and comment on their peers' posts. Several activities were designed for students to feel the enthusiasm to use the SNS to support their learning. The authors' results exhibited the support learners felt with their interaction with their classmates on Facebook. Ultimately, the participants felt encouraged to learn and engage with their course content.

There are benefits of using Facebook in learning environments, as the literature has reported. Ryberg & Davidsen (2017) designed a mixed-methods study that employed 55 participants who took part in a survey and focus groups. Results showed that students seemed positive about sharing information and found inspiration in each other's work. However, the authors could not connect the said behavior to the achievement of students' projects. Estrella (2018) performed a mixed-methods analysis on undergraduate English students in Ecuador. After the intervention was concluded during the interviews, learners shared that Facebook had helped them practice their writing abilities. Also, during the pre and post-test analysis, it was found that there was an improvement in the grading scores obtained. Aubry (2013) looked at the effect of instructors' self-disclosure on students' motivation types in a French online class. The study's participants were 104 beginning French students. The researcher used the Academic Motivation Scale to determine if participants were intrinsically or extrinsically motivated. Results demonstrated that participants using the Facebook group shifted their motivation type. Thus, the experiment resulted being beneficial for language learning.

However, the literature has also depicted the drawbacks of this SNS when used in education. Voivonta & Avraamidou (2018) conducted research in Greece, concluding that since Facebook is a tool for socialization, it is mainly used to keep in touch with friends and family rather than for

learning. Hossain (2017) analyzed 95 students from six faculties of the Comilla University in Bangladesh. The scholar used a qualitative design and surveyed the participants who referred to the three main disadvantages of using Facebook in their classes. Firstly, they believe they lost privacy because everyone could see their responses. Secondly, Facebook could become addictive because of the time spent on the SNS. Finally, it creates a barrier to communication as emotions, feelings and facial expressions are not present during communication on Facebook.

2.2.3 Using Facebook for teaching writing skills

Research has focused on finding the best teaching methods and the most efficient approaches to develop L2 students' writing abilities. Coffin et al., as cited by Altakhaineh & Al-Jallad (2018), contend that academic writing is deemed necessary in the teaching-learning process because it will improve learners' communicative skills and a better chance for a future job. To attain this objective, English teachers have resourced to adopting the use of Facebook groups to teach writing (Estrella, 2018).

Barrot (2020) conducted a quasi-experimental mixed-methods study in The Philippines to investigate the effects of Facebook-based e-portfolio on students' writing performance. The research implicated 89 students divided into two groups, the experimental and the control group. The scholar proved that students under the e-portfolio scheme obtained better grades than those who were not. The results are attributed to the interactive features, flexibility, and accessibility Facebook has. Estrella (2018), in a mixed-methods study performed on 35 Ecuadorian undergraduate students, identified that the continuous use of SNS to aid them in their writing assignments yielded a positive result. Data was gathered employing in-depth interviews, which were carried out on all the participants. The results obtained from the paired t-tests revealed that the intervention had yielded positive results, and students' writing performance had increased by 4%. This information was triangulated with in-depth interviews where participants acknowledged having learned issues that helped them write better. Finally, Al-Tamimi et al. (2018) aimed to investigate the effects of using Facebook to improve English writing skills and vocabulary enrichment. The data were collected from thirty undergraduate students at the University of Jordan. The researcher used MANCOVA to check differences on pre and post-test for the test dimensions and ANCOVA to check differences on pre and post-test for the total score. Results showed that students in the experimental group had improved writing skills and vocabulary compared to the control group.

2.4 Problem statement and research questions

The development of the writing skill has long been deemed very difficult by learners (Jennifer & Ponniah, 2017), given its association with the notion of self-expression, flow of ideas, confidence, and enjoyment of L2 writing, and learners are known to have problems coping with a blank paper. Onwuegbuzie, Bailey, & Daley (1999) explain that writing can make learners feel unwary due to their abilities to develop the assignment utilizing their prior knowledge of writing conventions. This is the moment writing anxiety kicks in, and learners tend to fail in their assignments.

This paper aims to identify whether Facebook can help students reduce their writing anxiety and practice such writing conventions. The following research questions have been proposed to serve as a guiding light for the present investigation.

RQ1: What is the effect of using Facebook on Ecuadorian undergraduate polytechnic students' writing anxiety levels? As mentioned, this article seeks to examine whether Facebook can help students reduce their writing anxiety and improve their performance in written assignments, a normal part of every English class.

RQ2: What is the most common type of writing anxiety Ecuadorian undergraduate polytechnic students experience?

RQ:3 How is student performance affected by the Facebook intervention?

3 Methods

3.1 *Philosophical assumptions*

The philosophical assumptions in a mixed methods investigation consist of the core beliefs that guide the inquiry (Guba & Lincoln, 2005). Therefore, mixed methods researchers ought to bring to the examination a worldview composed of the beliefs and assumptions about knowledge that will feed the study, explain Creswell & Plano Clark (2017).

According to Doyle et al. (2009), a paradigm consists of assumptions and proceedings that guide research and summarize the researcher's beliefs. Among the different paradigms available to researchers, Denzin & Lincoln (2011) ascertain that a constructivist paradigm aids the inquirer in seeking to understand how the individuals under the scope make sense of their everyday lives. A researcher who chooses to focus an investigation with this paradigm aims at understanding the attitudes of the subjects of a distinct community (Creswell, 2002; Adom, Yeboah & Ankrah, 2016) and who constructs the reality by putting forward their meanings and values, thus, putting ahead their realities through communications with others. Finally, both the subject and the researcher cannot be separated under this paradigm as the subject is the source of reality (Johnson and Onwuegbuzie, 2004). Therefore, this paper aims to look at how reality and the truth of the participants' perceptions intertwine with the social context and meaning of the problem at hand, with the final objective of illuminating the reality of the participants by describing their experiences during the intervention.

As explained by different authors (Ansari et al., 2016; Creswell & Creswell, 2018; Doyle et al., 2009), ontology is how the researcher perceives the nature of reality. For Denzin and Lincoln (2011), the relativist ontological stance entails the belief of multiple realities, so different interpretations can come up due to an investigation. Furthermore, as Ansari et al. (2016) explained, the subjects' realities are constructed, and as these constructions are multiple, so are the realities the researcher seeks to understand. These numerous realities are constructed by the different points of view and perceptions of this study's participants Creswell & Creswell (2018). Also, the researcher needs to have the capacity to look at the world with fresh eyes from the outside of the issue being investigated, although not forgetting that there is an inside question posed by the study participants that must be understood.

In the words of Bowleg (2017), epistemology is the justification of knowledge. According to Creswell & Creswell (2018), the researcher's epistemological stance can be recognized by identifying the relationship between the researcher and the researched issue. Thus, the researcher's epistemological perspective shapes the method and the tools used in a query, no matter whether it is a qualitative, quantitative, or mixed-methods design. Additionally, Guba (1990) ascertains that the researcher's epistemological positioning explores the relationship between the investigator and the respondent as they co-create an understanding of the reality. Figure 1 summarizes the Theoretical assumptions as adopted in this paper.

Figure 1

Theoretical assumptions of the study

Paradigm:	Constructivism
Ontology:	Students' perceptions
Epistemology:	Understanding of the reality
Research design:	Mixed methods triangulation

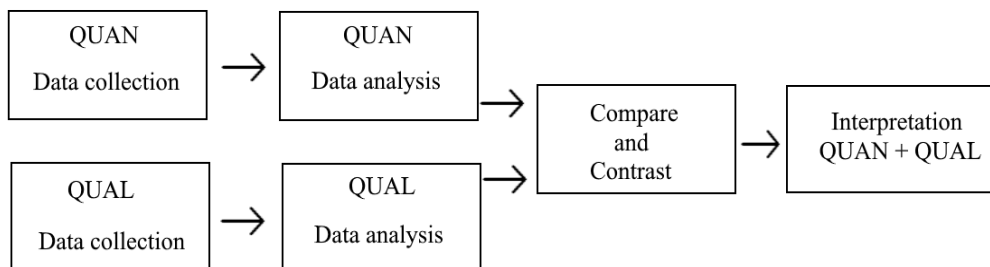
As Ansari et al. (2016) presented, this researcher has adopted an intermediate viewpoint between phenomenologists and positivists, acknowledging the usefulness of both approaches to attain a complete understanding of the issue being researched. Creswell and Plano Clark (2017) explain the dif-

ferent issues considered when designing mixed methods research. They highlight that in a triangulation design, the results are merged to compare, interrelate, or validate the results (Creswell & Creswell, 2018).

As a result of the above, the present study uses a mixed methods research design since gathering qualitative and quantitative data will contribute to a comprehensive and complete understanding of the results obtained. Furthermore, the implementation of the stages follows a sequential design as the quantitative section of the data collection was done in the first phase, and the semi-structured interviews came at the end of the semester after the intervention had finished. Therefore, this study integrates the quantitative stage and the qualitative phase in the results and discussion headings. The research design of this investigation has been illustrated in figure 2 below.

Figure 2

Mixed methods triangulation design: Convergence model (Creswell & Plano Clark, 2017).



3.2 Participants

The present study participants are undergraduate students from different degrees at a polytechnic university in Guayaquil, Ecuador. They were all enrolled in their last English course, which they must take as part of their curriculum. English is a transversal subject, so every student enrolled in the university must take the subjects during their university career. Thus, participants come from the different study programs offered at the university, such as Economics, Tourism, Mechatronics, Electricity, or Mechanical Engineering.

The languages department at the university offers one introductory English course (A1 according to the Common European Framework of Reference) in the form of a MOOC, which learners must take before starting their face-to-face English courses. Then, there are four courses that students ought to take after their second semester. After that, they go from an upper A1 to B2. The study participants are registered in the last English subject, so their language level is between B1 and B2.

Twenty-nine learners took part in the study. They were all part of one of the teacher-researcher's courses during the second semester of the 2020–2021 academic year. Of the total, 62% of them are men, and 38% are women. Most of the students are aged in the 19 to 21 years range, standing at 55%. Meanwhile, they are followed by those aged 22 to 24 years which is 38% of the sample. Most of the participants, 66%, come from private high schools in the city. Finally, 75% of the respondents were enrolled in their third and sixth semester in the university. Table 1 contains the data obtained from the demographic survey.

Table 1

Participants' demographics

	N	%
Participants	29	100

Gender	Male	18	62
	Female	11	38
Age group	19–21	16	55
	22–24	11	38
	25–27	2	7
Schools of origin	Public school	10	34
	Private school	19	66
Stage of their studies	1–2 semester	1	3
	3–4 semester	12	41
	5–6 semester	10	34
	7–8 semester	5	17
	9–10 semester	1	3

3.3 *Sampling design*

Sampling in mixed methods research should comprise designing the sample scheme and size (Onwuegbuzie and Collins, 2007). This paper's sampling scheme was convenience sampling, which is when the researcher chooses individuals who are both conveniently available and willing to participate in the study. Collins et al. (2007) constructed a Two-Dimensional sampling matrix indicating designs that can yield statistical generalizations that are interpretive consistent. The authors explained that the sample size should be small in mixed methods research to produce a justified interpretative consistency. As this is the case of this investigation, it can be inferred that the statistical generalizations obtained can represent interpretive consistency.

The model produced by Collins et al. (2007) considers three pillars, time orientation, the relationship of samples, and sampling schemes. While following Onwuegbuzie and Collins (2007) and Schoonenboom & Johnson (2017), this researcher refined the frame's position and decided on using the sixth design, which means a mixed sequential equal status design that involves conducting the two phases of the research at different times.

3.4 *Data collection instruments*

During the data collection stage of this research, several instruments were utilized. First, a survey was given to participants to obtain their demographic information, used for the participant heading above. Second, a semi-structured interview was performed with respondents to get data to triangulate with the quantitative stage of the investigation. Third, a writing test was used as pre and post-test to verify the intervention had been successful. Finally, we used the second language writing anxiety inventory as devised by Cheng (2004a) to identify the levels of anxiety pre and post-intervention and the types of anxiety students were going through.

3.4.1 *Survey*

The first item used was the demographic survey which was given to all the study participants. This survey contained four questions that yielded the information presented on the participants heading. The items in the survey were translated into Spanish to avoid participants having problems understanding what they needed to answer. A colleague at the languages department looked at the questions before the survey was uploaded into the cloud using MS Forms to confirm that it was an accurate account of the original English questionnaire. This bit was done to account for face validity.

However, this was not the only measure for validity used. Content validity was also measured with the survey. Content validity provides evidence about the validity of an instrument by assessing

the degree to which the tool measures the targeted construct (Creswell & Miller, 2000; Almasreh et al., 2019). The content validity ratio proposed by Lawshe and augmented by Ayre & Scally (2014) was used. The scholars proposed a table with the minimum number of experts to perform a content validity test with a panel of experts. This researcher used five experts and a dichotomous decision of "essential" or "not essential." Lawshe, explain Ayre & Scally (2014) proposed that a level of 50% agreement assures a degree of content validity. Five colleagues at the Faculty of Natural Sciences and Mathematics were kind enough to lend us their time to perform as experts and rated each question. In the end, the content validity ratio came to 0.81, which according to Almasreh et al. (2019), can be considered a good ratio, making the survey valid.

3.4.2 *Semi-structured interview*

This researcher used semi-structured interviews because the goal is to gather information about the feelings of anxiety students experience when they must do a writing assignment. By using a semi-structured protocol, the researcher can have specific questions to ask the informants while allowing the option for exploring new issues or topics that emerge from the questionnaire used (Creswell, 2002; Thomas, 2006; and Wilson, 2014).

The interview protocol included six open-ended questions. Two colleagues at the university's Academic Writing Center helped read and check the protocol to account for face validity. Kennedy et al. (2019) explain that face validity tests if the tool's content is relevant to the person taking the test, evaluating the feasibility, readability, consistency of style, and clarity of the language of the questionnaire (Creswell & Miller, 2000). Cohen's kappa index (CKI) test was performed on the questions after the professors had assessed the questions. This test results in a statistical coefficient representing the degree of accuracy and reliability in the questionnaire. The agreement index reached was 88.3%, and k 0.6, which is a moderate agreement according to Landins and Koch (1977). Thus, the questionnaire used accounts for face validity.

Next, the researcher aimed to assess the content validity of the protocol used in the interviews. Gunning's Fog Index was used to evaluate the readability of the questions following the recommendations from Bolarinwa (2015). The calculation result was 12.23, which according to the author, was a challenging text to read. Therefore, changes were made to the wording of the questions and obtain a second score of 9.36, which means the language used in the questionnaire is in the conversational English range. This second result accounts for the content validity of the questionnaire. The readability indices and text statistics can be seen in table 2.

Table 2

Readability indices and text statistics

Readability indices		Text statistics	
Flesch Kincaid reading ease	75.9	No. of sentences	14
Flesch Kincaid grade level	4.8	No. of words	119
Gunning fog score	9.36	No. of complex words	16
SMOG index	6.4	Percent of complex words	13.45%
Coleman Liau index	9.9	Average words per sentence	8.50
Automated readability index	3.4	Average syllables per word	1.45

Finally, this researcher executed the content validity ratio test (CRV). (Baghestani et al., 2017) explain that this test, initially devised by Lawshe, serves to validate the content of an instrument. Daud et al. (2018) explain that it consists of a proportional level transformation of agreement on how many "experts" within a panel rate an item "essential." The researcher recruited the help of five teachers from the languages center who took on the role of experts. They revised the interview protocol's six questions and decided if they were essential for attaining the interview's aim. The

researcher explained the professors' role and that they had to rate each question according to a format supplied for this activity. Taylor (2019) explains that CVR can result in between -1.0 and 1.0. The closer to 1.0, the more essential the object is considered to be. After the calculations were done, the CVR resulted in being 0,57. Therefore, the questions in the instrument are necessary, and the content validity has been corroborated.

Each interview took between five to seven minutes, and at the beginning, the researcher explained to respondents what the study was for and their role in it. Also, participants were reminded the signed the informed consent form and that they could still withdraw from the questioning. Additionally, they were assured their Facebook profiles were never looked at to obtain any information. And that they would remain anonymous as when reporting findings, they would be identified only by numbers. Before the actual questioning began, the researcher enquired if participants did not feel hindered by recording their answers, to which they were receptive to allowing the recording. Finally, participants were given the option to do the interview in English or Spanish. Twenty-seven of them decided to do it in Spanish, and two opted for the English version.

3.4.3 *Writing test*

The pre-test-post-test design is widely used to compare groups or measure change resulting from an educational intervention (Creswell & Plano Clark 2017). The measurement of change, continue the authors, supplies a vehicle to assess the positive impact in the group that received the intervention. For example, the researcher used this tool to learn whether the participants had improved their writing skills because of the intervention.

Initially, the plan was to use different topics for each writing test. Nonetheless, it was decided to use the same topic to make the differences or improvements clear. The topic for the writing assignments was obtained from the Preliminary English Test furnished by the Cambridge TESOL department. Using the test from the PET was decided because this is an official international exam offered by an internationally recognized internationally organization. Therefore, it is pretty confident that the test topics had been piloted and used in actual exams before. This reasoning led the researcher to believe in the validity and reliability of the test. Furthermore, these results would add to the trustworthiness of the outcomes, as a whole, from the study.

3.4.4 *Second language writing anxiety inventory*

The second language writing anxiety inventory (SLWAI) was devised by Cheng (2004a), and it is the tool used to measure the levels and types of writing anxiety. This inventory consists of a 22-item questionnaire which is divided into three subscales. i) Cognitive anxiety, which comes from negative expectations, and worries about self-performance. ii) Somatic anxiety, which is reflected by negative feelings like tension or nervousness. iii) Avoidance behavior, which can be related to restraint in writing. The researcher chose this tool to measure writing anxiety because it has been proven to have high reliability and validity scores (Cheng, 2004a; Jennifer & Ponniah, 2017; Abdullah, Hussin, & Shakir, 2018; Aloairdhi, 2019).

The SLWAI uses a five-point Likert scale ranging from 1, strongly disagree, to 5, which represents strongly agree. As previously mentioned, the 22 questions are divided into three categories. Questions 2,6,8,11,13,15, and 19 return data for somatic anxiety. Questions 1,3,7,9,14,17,20, and 21 supply data for cognitive anxiety, while questions 4,5,10,12,16,18, and 22 refer to avoidance behavior. Five items are negatively worded, but they were re-worded, so no reverse scoring was required. Total scores of sixty-five points and up indicate a high level of writing anxiety, whereas a score of fifty and less signifies a low level of anxiety. Scores in between yield a moderate level of writing anxiety (Cheng, 2004a). In terms of reliability, Cheng (2004a), in his study on Taiwanese EFL students, revealed that Cronbach's alpha of the SLWAI was established at .91 (Cheng, 2004a). Two sets of SLWAI were obtained from the participants. One at the beginning of the intervention

and the second by its end, before the post-test. Written authorization from the author was obtained for the use of the SLWAI in this research.

4 Data analysis

The data obtained through the mixed methods will here be analyzed in two separate subsections. First, the researcher analyzes the data obtained from the qualitative tool and then explores the data from the quantitative tools.

4.1 Qualitative data

As expressed before, the qualitative data serves as supplementary for the data obtained through the quantitative stage of the research. Therefore, the data was obtained using a semi-structured interview, and it was analyzed following a general inductive approach (Creswell, 2002; Thomas, 2006).

The analysis of the data obtained was done following the recommendations from Thomas (2006), Denzin & Lincoln (2011), Creswell & Creswell (2018). The scholars explain that the qualitative data needs to be coded, categorized, and interpreted to respond to the research questions. Thus, the researcher started reading the data transcribed using the REV voice recording app. After a few reading rounds, twenty themes were identified, organized, and some could be merged to reduce the overlap and redundancy among the initial categories identified. One of such initial themes that emerged was labeled as "using Facebook." Many of the informants mentioned that using Facebook to post the tutorials was good for them. Thus, the theme "Facebook tutorials" emerged and then evolved to "Opinions of the Facebook tutorials." In the end, five themes were finally obtained, which will be depicted in the following subheadings.

4.1.1 The overall experience

In general, participants said they enjoyed using Facebook to practice their writing skills as they could do it in any place and time, they decided to use it. There is no stress in how much time they spend on doing homework, and they value the opportunity to see what their peers had written before they input their responses. Receiving feedback from the teacher and their classmates was highly appreciated.

Student ten offered the following comment: "Well, I think that it is a good experience to write on Facebook because I can practice and also if you send me a tutorial, I can learn more fast. I have some problems with writing, and for this reason, I think it is a little difficult. But if I practice every day many times, I think I can improve my writing, and I think that it is a good option for all the English but more in writing." Student one said that it is a good, easy, and modern method to teach. Going to the platform, everything is there: the recordings, the tutorials, the exercises, and the comments of what had to be changed.

4.1.2 Opinions about the Facebook tutorials

In general terms, participants thought the tutorials covered interesting and useful topics. The guidance sessions were good because they helped students clear their doubts about issues that, even though their teachers have presented these items previously, they had forgotten about them. The tutorials served as support for the moment they had to study for tests and supplemented the information they were taught in the face-to-face classes.

Student eleven explained, "The best is that everything is always on Facebook, and I can go back and check whenever I need." Another participant, student five, said, "Yes, I write because it gave me a chance, and as I said, it was really cool. It was very interactive, and I like it because we learned

even better ways, better forms to write correctly, even punctuation, and how to express using the terms that have to use in paragraphs."

"I wrote what in some, I wrote more and less in others I really tried to write what you asked us to do if I didn't write sometimes is because of time," asserted student seven.

4.1.3 Improvement perceived by the participants

The comment on this theme was that learners feel they can write much better after the intervention than when the course started. Informants also stated they feel their writing abilities had improved because of using Facebook. For example, student seventeen said, "Yes, it helped me a lot in grammar. I liked it very much because it is something to learn English for me, it was very complicated to write then, but it was for that moment. Still, now I recorded it in my brain because one way or another associating it with Facebook makes me keep it longer in my mind."

Additionally, respondent three asserted, "Yes, of course. In the first term, we can say I wrote very little, but now I have been writing for all our activities. Then, I have noticed a big difference between the beginning of the course and now at the end of the course. Participating in his project has been very beneficial to me."

4.1.4 The feedback sessions

This subheading deals with learners' feelings about the feedback given to them. For example, every time a participant posted something on Facebook, whether it was part of homework, a question, or a comment, they received an immediate response from the teacher. This feedback always started by praising the good things done in the writing piece, then the mistakes were highlighted, and finally, the researcher asked the participants to make the corrections. The general comment was that they preferred to have their errors pointed out as it was a way to learn from them and not make them again.

Student nine said, "I think the feedback was good. It was fabulous because one thing is what we wrote but not having the certainty that it was good or wrong. So we have it there; you said it was good, but if it was wrong, you posted remarks, and then I could see where I was wrong. So I could identify it." While on the same subject, student fifteen explained, "I really like the feedback because I get corrections, and I can avoid repeating the mistakes so that I can improve my English in this way, and we can make a good relationship between teacher and students."

4.1.5 A motivational tool

The last theme regards to how motivated or motivational students believed Facebook was for them. The general comment was that Facebook allowed them to work more freely and without stress as they did not have anybody to watch over them when writing. Respondents also stated that they had enough time to look at their peer's answers which moved them to write without restrictions as they felt they were following the general path in which everyone was moving.

Student seven confided, "for me, it was very complicated to write then. I remember in level 4, I used to get really nervous thinking that I had to write in class, but it was for that moment. But now I recorded it in my brain because one way or another associating it with Facebook makes me keep it longer in my mind." Also, respondent three asserted, "Yes, of course. We can say I wrote very little in the first term, but now I have been writing for all the activities. Then I have noticed a big difference between the beginning of the course and now at the end of the course. Participating in his project has been very beneficial to me." Student eighteen said, "As I was saying, what helped me the most was not only the homework you sent, but it was actually using Facebook on my own time, and I think it was great to work at my own pace. I felt more motivated to write when, before posting my assignment, I looked at what my classmates had written, and they had similar things to mine."

Additionally, student seven explained that "it is a dynamic method. Facebook is a tool that tries to get the student's attention, and then it motivates us to write something related to the English language." Student twenty-one explained that "Facebook is a very dynamic tool that helps students. I felt more relaxed when writing on the platform, and I was motivated to write even more. At the beginning of the class, I wrote a little, but I was writing more by the end, and you were giving me more positive feedback than corrections."

4.2 *Quantitative data*

The quantitative data were obtained from the application of the SLAWI before and after the intervention and from the pre and post-test. All data were analyzed using the Statistical Package for Social Sciences (SPSS) version 20 software. The analysis carried out is detailed in the following subheadings.

4.2.1 *The SLWAI*

All the statistical analyses to respond to the research questions posed previously were done utilizing the Statistical Package for Social Sciences (SPSS) v20 for Windows. As mentioned before, the SLWAI (Second Language Writing Anxiety Inventory) was constructed by Cheng (2004a). This researcher carried out two administrations of the SLWAI, one before the intervention and one at the end. For the first one, the reliability estimate result was a Cronbach's alpha of .924, and for the second administration of the SLWAI, Cronbach's alpha resulted in .932. Meanwhile, the reliability estimates obtained for the Somatic anxiety subscale were set at .881. For the Cognitive Anxiety subscale, Cronbach's alpha came to .833, and .875 for the Avoidance Behavior subscale. The researcher then carried out the Kaiser-Meyer-Olkin (KMO) test to identify the proportion of variance in the variables. The test resulted in .896, which by being closer to 1,0 it means the factor analysis is a correct choice. These results suggest that the SLWAI and the three subscales can be understood as tools with satisfactory internal consistency and test-retest reliability. Bartlett's sphericity test was also processed, resulting in .000 of the significance level, indicating that the factor analysis is useful with the data obtained.

4.2.2 *The writing pre and post-tests*

When grading these two tests, the researcher thought about doing the grading by himself using the EFL Composition Profile (Jacobs et al., 1981). Nevertheless, after pondering the potential ethical implications of doing it in such a way, this decision was changed. As a result, and to gain validity, one of the colleagues at the University was requested for assistance with the test marking, which was done blindly to avoid any bias. Also, the teacher did not know which lot he was grading first, the pre or the post-test. Therefore, besides this colleague's grading, the researcher decided to take a few tests from both groups and graded them himself to see if the grading teacher was marking similarly as he was.

Those results were then taken to SPSS to do the calculations. First, ANOVA was used to check if the difference between the pre-and post-test averages is significant. The p-value of the observations was 0.00329809, [$p(x \leq F) = 0.996702$]. This means that the chance of type I error (rejecting a correct H₀) is small: 0.003298 (0.33%), leading to understanding that both tests' averages are not equal. At the same time, the F statistics were set at 8.810584. This figure is not in the 95% critical value accepted range: $[-\infty : 3.8805]$, meaning that there is a high probability that not all the groups' averages are equal. Thus, confirming the p-value. The observed effect size of *f* is medium (0.19), which shows that the magnitude of the difference between the averages is medium. The η^2 equals 0.035, meaning that the group explains 3.5% of the variance from the average. The tool used Levene's test to assess the equality of variances. The population's variances are not equal as they

have a p -value=0.00000109. Levene's test power result is strong at 0.97. The groups' size is similar to the ratio between the bigger and smaller groups set at 1.00. Therefore, the ANOVA test is robust to the homogeneity of variances assumption. The normality assumption was checked based on the Shapiro-Wilk Test with $\alpha=0.05$. Therefore, it is assumed that all the groups distribute normally. Then, a Paired T-test was carried out using a T distribution ($df=120$). The significance level was $\alpha=0.05$, and the effect size was established at 0.5. The average of differences measured was $\bar{x}d=0.942149$, and the standard deviation of the sample differences resulted in 3.474424. First, the null hypothesis was checked, and since the p -value $< \alpha$, rejecting the H_0 . Then, the average of the Post-test minus Pre-test population is considered to be not equal to the μ_0 . In other words, the difference between the average of the Posttest minus the Pre-test and the μ_0 is big enough to be statistically significant.

The p -value equals 0.00346, ($p(x \leq T) = 0.9983$). It means that the chance of type I error, thus rejecting a correct H_0 , is small: 0.00346 (0.35%) as the smaller the p -value, the more it supports the H_1 . The test statistics $T = 2.9828$ are not in the 95% acceptance region: $[-1.9799 : 1.9799]$. $x=0.94$, is not in the 95% region of acceptance: $[-0.6254 : 0.6254]$. The standard deviation of the difference, $S' = 0.316$, is used to calculate the statistic. Meanwhile, the observed effect size d is small, 0.27. This result indicates that the magnitude of the difference between the average and μ_0 is small.

5 Results and discussion

For a more comprehensive look at the results and the discussion of this investigation, this section will address the research questions previously posed.

5.1 RQ1

The first question the researcher proposed to guide this inquiry aimed to identify Ecuadorian undergraduate polytechnic students' writing anxiety levels. The answer to this question lies in Table 3, which illustrates the descriptive statistics of the first administration of the SLWAI at the beginning of the experiment. It shows a high level of anxiety, mean=66 (>65) among Ecuadorian polytechnic undergraduate students. The possible scores on the SLWAI range from 29 to 103. The total mean anxiety level score was 66, which is considered a high level of anxiety. In addition, 51,7% of participants were found to have a high level of anxiety.

Table 3

Anxiety levels before the intervention

	No. of subjects	Percentage	Minimum level score	Maximum level score	Mean anxiety level score
Low	1	3.4	29	45	37.0
Moderate	13	44.8	53	63	58.0
High	15	51.7	68	103	85.5
Total	29	100.0	29	103	66.0

Students' comments corroborate these results during the interviews. For example, student twenty-seven explained, "Writing is really difficult to me; when I had to write an essay in class, I really felt nervous. I didn't know what to write, and my head usually went blank. It was very stressful." Learner eighteen had the following to add to the issue, "It is not that I don't like to write, I hate it. Mainly because when we write in class, we have a maximum time to write, which makes me nervous. It is very stressful to hear the teacher say; you now have ten minutes to finish, and so on. I don't like that."

Table 4 shows the statistics of the participants' anxiety levels after the intervention was done. As can be seen, the total means anxiety level scores were established at 60 (Mean=60<65), which in

comparison to the first result has been reduced from a high to a moderate level of anxiety. The highest percentage of students, 58.6%, were identified as having a moderate level of anxiety. In contrast, the low level of anxiety changed from 3.4% in the first administration of the SLWAI to 10.3% in the second take, which in absolute terms means that two students lowered their levels to the low level.

Table 4

Anxiety levels after the intervention

	No. of subjects	Percentage	Minimum level score	Maximum level score	Mean anxiety level score
Low	3	10.3	25	49	39.5
Moderate	17	58.6	53	62	57.5
High	9	31.0	73	95	87.5
Total	29	100.0	25	95	60.0

These results are supported by the comments learners made during the semi-structured interviews. For example, student seven confided, "for me, it was very complicated to write then, but it was for that moment, but now I recorded it in my brain because one way or another associating it with Facebook makes me keep it longer in my mind." Also, respondent three asserted, "Yes, of course. We can say I wrote very little in the first term, but now I have been writing for all the activities. Then I have noticed a big difference between the beginning of the course and now at the end of the course. Participating in his project has been very beneficial to me." Similar results can be found in the literature (Atay & Kurt, 2006; Rezaei & Jafari, 2014; Huerta et al., 2017; Balta, 2018).

5.2 RQ2

The second question focused on finding out which was the most common type of writing anxiety Ecuadorian undergraduate polytechnic students experienced. To answer this question, the researcher used the results from the SLWAI, as can be seen in Table 5. This table presents the results of the SLWAI questionnaire determining the students' anxiety level in English writing. As it can be seen, the dominant type of anxiety in the group is cognitive anxiety ($M=3,6992$) which is 42% of the total means. According to Cheng (2004a), cognitive anxiety is related to the mental aspect of the experience. It includes negative expectations, worries about performance, and their peers' and teachers' perceptions. It is followed by Avoidance behavior ($M=3,6829$) with amounts to 32% of the total means. And finally, Somatic anxiety occupies third place with $M=3,4553$ and 26% of the total means. The variance analysis showed that cognitive anxiety is statistically significant at a 5% level with a $p=0,052$.

Table 5

Types of anxiety

	N	Mean	SD	Percentage
Cognitive anxiety	29	3.6992	1.22096	42
Somatic anxiety	29	3.4553	1.05000	26
Avoidance behavior	29	3.6829	1.26308	32

Since cognitive anxiety (3,6992) was the dominant anxiety, it is safe to say that this type of anxiety represents a serious problem experienced by the study participants. Based on the results obtained from the survey, students are mainly worried that they get nervous when writing, which was represented by the highest mean (3,45), as shown in Table 6. This result is corroborated by student seven, who confided, "for me, it was very complicated to write then. I remember in level

four, I used to get really nervous thinking that I had to write in class, but it was for that moment. But, now I recorded it in my brain because one way or another associating it with Facebook makes me keep it longer in my mind."

Table 6 also presents the means for the next question that signifies a significant worry for the study's participants. Question 8, which has a mean of 3.28, refers to how bad they perceive their writing assignments compared with their classmates' work. Also, student ten explained, "I am not very good at writing, and I usually get regular grades, and I think my grades are not as good as my friends'. I mean, their grades are usually higher than mine. So I guess I have to work harder." Finally, questions 10 and 21 are tied with a mean of 3.07. These two items reflect learners' issues with being worried about the grades on their writing tasks and judgment from peers and teachers over their essays. Student sixteen, on this matter, explained that she felt really worried every time she had to write her essays in the previous level because she always felt like she would get a bad grade in her assignment. These results are corroborated by Huerta (2017), Wahyuni & Umam (2017), Balta (2018), Aunurrahman (2019).

Table 6

Cognitive anxiety descriptive statistics

Item	N	Min.	Max.	Mean	SD
Question 1	29	2	5	3.45	.870
Question 3	29	1	5	2.76	1.123
Question 8	29	1	5	3.28	1.099
Question 10	29	1	5	3.07	1.334
Question 17	29	1	5	3.00	1.195
Question 21	29	1	5	3.07	1.412
Valid N	29				

5.3 RQ3

The next question's goal was to pinpoint the difference in students' performance after the intervention. To attain the response to this question, we can refer to the results from the ANOVA. The researcher could identify that the p-value of the observations was 0.00329809, and the F statistics were set at 8.810584. These results mean that the averages of both tests are not equal. Additionally, using the paired t-test, it was clear that there is a difference between the two tests of 9.42% increase during the post-test. These results compare to those presented by Ekmekçi (2018), Karlina & Pancoro (2018), Kusumaningputri et al., (2018), and Al-Tamimi et al. (2018).

6. Conclusion

The literature supports the existence of foreign language writing anxiety, and it considers it an affective variable that debilitates the learning of foreign language writing (Rabadi & Rabadi, 2020). Furthermore, research has confirmed that writing anxiety negatively affects the quality of students' writing (Aloairdhi, 2019; Genç & Yaylı, 2019). Foreign language writing is a challenging exercise that requires applying several language and metacognitive abilities.

Before the intervention started, learners were administered the second language writing anxiety inventory as Cheng (2004a) devised. On this first take, it could be recognized that most learners (51.7%) had high writing anxiety levels; however, after using Facebook to transmit the knowledge and practice their writing skills. The second administration of the SLWAI resulted in 31% of students still reporting high levels of anxiety, which is a twenty-point difference. However, in this second take, the majority (58.6%) reported a moderate level, and 10% reported a low level of writing anxiety, which changed from 3.4% in the first administration of the SLWAI to 10.3% on the second

one. These findings concur with the results reported by other scholars (Abdullah, Hussin, & Shakir, 2018; Jennifer & Ponniah, 2017; Altukruni, 2019; Rabadi & Rabadi, 2020). Also, using the SLWAI, the writing anxiety that most Ecuadorian polytechnic students are experiencing is cognitive anxiety. This type of anxiety is related to students worrying about their grades and others' perceptions. This result is also supported by the findings from Zhang (2011), Tsiriotakis et al. (2017), Wahyuni & Umam (2017), and Altukruni (2019). Finally, through ANOVA and the paired T-test of the pre and post-test of the writing tasks, it was understood that learners improved their writing skills as there was a difference in the mean scores of 9.42%. Thus, it is fair to say that Facebook helps students reduce their level of anxiety, enhance their writing skills and improve their writing performance. These results confirm what was reported by Estrella (2018), Al-Tamimi et al. (2018), and Barrot (2020).

This study has some practical implications. First, it will improve teachers' practice as implementing a Facebook group can be a feasible tool to integrate computing technologies into the foreign language classroom, influencing students' anxiety levels and help improve their writing quality. Second, the integration of the SNS focuses on the learning style of today's learners whose attention span in traditional approaches is low. Teachers need to adapt their mindset towards using technology to attract learners to their classes by making learning more accessible and more enjoyable. Although Facebook will not replace a traditional classroom, incorporating it could create a stress-free learning environment which will, in turn, strengthen learners' motivations, reducing their anxiety levels and perform better. Continuing with the advancements in technology, policymakers, and university administrators should ensure that teachers have a basic level of computer literacy and social media. Therefore, the results from this inquiry can aid them in organizing teacher training that takes them to acceptable levels of knowledge of IT.

One of the limitations of the present study lies in the fact that it aimed to obtain only students' perceptions of the use of Facebook. However, no teachers' opinions were utilized here. Therefore, it is a good idea for a future line of research to look at teachers' perceptions of the usefulness of Facebook, including tech-savvy teachers and those who are not. Also, teacher input is required to obtain their ideas and suggestions on using Facebook in an English class. Teachers' experiences and suggestions can be a source of feedback on the issue and new practical data.

Another limitation to the study is the number of participants who took part in it. Only one of the courses from the teacher/researcher was used, so the sample size was relatively small. So, it is suggested that for future research, a larger group of informants is used. Utilizing two or three courses would be much better as that would give a better chance to generalize the findings. Also, to obtain a larger group, the cooperation of other teachers could be secured; this could yield better and more transferable results.

One final limitation that needs to be mentioned is that the experiment never included a control group. This imitation makes it difficult for the results presented to be categorical. Thus, it is necessary to carry out another study in which a control group is used to make objective comparisons.

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