

Does CMC Reduce Foreign Language Classroom Anxiety?

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Abstract. Many researchers have proposed that anxiety related to second language learning, especially in the classroom, has a negative impact on the performance of learners. To reduce this anxiety, some authors propose to use computer-mediated communication (CMC) to realize oral tasks while others believe that the effects of this mode of communication is comparable to the effects of the face-to-face (FTF) communication. In order to provide an answer to this question, a systematic measurement of the performance of learners during oral interactions conducted through these two modalities must be obtained as the comparison cannot be made without this measurement. This paper is a preliminary study with 20 learners of L2 French in which the degree of anxiety beforehand was measured with [1] Foreign Language Classroom Anxiety Scale (FLCAS). These learners completed a communication task through Skype and also responded to a post-task questionnaire on their perceptions of anxiety, FTF and CMC. Performance during the CMC was measured in order to verify the effects of anxiety on their performance. The comparison was made with their performance in another FTF communication task. The results show that all the students performed better in FTF than in CMC and that even the most anxious learners obtained better results in the former.

Keywords: FLCAS, CMC, FTF, anxiety, French L2.

1 Introduction

Anxiety about second language learning (henceforth L2), especially in the context of the classroom, is the most studied individual difference that distinguishes L2 learners. Although the concept is psychological, the linguistic and educational implications are an object of study in their own right for both education and language teaching specialists. It is for this reason that the effects of this anxiety on L2 learning as well as the best ways to overcome these effects are part of the most discussed research topics in this area.

In this context, one of the most prevalent ideas among researchers in CALL is to associate computer-mediated communication (CMC) with a significant reduction of learners' anxiety and thus with a better performance in oral exchanges, either on an online platform or via a tool of synchronous communication [2-4]. This assumption is

however not unanimous and some studies tend to show that this mode of communication does not allow learners to perform better than within face-to-face (FTF) communication [5, 6].

I believe that one cannot opt for either of these hypotheses without measuring learner performance in these two types of communication, and especially learners who are subject to this particular type of anxiety. The means used to achieve this comparison is to conduct an empirical study with learners of different levels of competence by exposing them to the two communication modalities and thereby measuring their performance. A measure of the degree of anxiety of these learners is also required to focus on those learners who tend to be anxious in the specific context of L2 learning regardless of the type of communication.

The goal of this study is to measure the impact of foreign language anxiety on the quality of exchanges and to further probe the perception of learners about the potential role of computer-mediated communication in reducing this anxiety. To achieve this goal, I conducted an empirical study with a small group of 20 French L2 learners whose level is intermediate – to – advanced (B2¹). These learners were exposed to both modalities of communication and their performance was measured in these two contexts. The study is preliminary, but the results are generalizable to other learners.

In the second section of this paper, I will present the concept of foreign language anxiety. In the third section, I present the methodology for the data collection. The results are presented in the fourth section followed by the discussion in section five.

2 L2 Anxiety

In this section, the concept of foreign language anxiety, as defined in L2 acquisition studies, will be presented. The negative effects it can have on learning will be presented.

2.1 The Concept

Foreign language anxiety is not a psychological trait that can manifest itself in any learning process. It is only related to the specific process of L2 learning. Many experiences have shown that learners who do not experience anxiety in other types of learning become anxious while learning an L2 [7-9], which is explained by the fact that L2 learners feel helpless when deprived of the comfort given by their first language (L1) to express themselves or to undertake communication tasks.

According to [1], this is a specific anxiety reaction: “We conceive foreign language anxiety as a distinct complex of self-perceptions, beliefs, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language learning process.” (p. 128) The authors further explain this phenomenon by “the importance of the disparity between the ‘true’ self as known to the language learner

¹ According to the Common European Framework of Reference for Languages.

and the more limited self as can be presented at any given moment in the foreign language” (p. 128).

2.2 Effects of Anxiety on Language Learning

The importance of this psycho-educational phenomenon is explained by the negative effects of this particular anxiety on the performance of learners [1, 10-12]. In fact, many researchers have noted a significantly worse performance in anxious subjects when it comes to performing cognitive tasks, such as making a judgment, analyzing situations, making decisions, etc. [13]. Language learners' performance, for example, is affected, and we note the presence of more errors, the non-use of certain forms which are well assimilated, lack of cohesion and some deviation from the norm already learned (grammatical, sociolinguistic, pragmatic). These effects are also found among learners of all proficiency levels according to [13] : beginners, intermediate and advanced. However, it seems that beginners tend to be more affected by anxiety than the others according to [14].

2.3 CMC and Anxiety

To mitigate the negative effects of this anxiety, some researchers have proposed that teachers work their personal attitudes and their teaching [15]. Others have proposed instead to work on another part of the learning environment: educational technologies. [2-4, 16-19] believe that CMC can help decrease of the apprehension to communicate (one facet of L2 learning anxiety), since according to them, the physical distance between the interlocutors and the use of a tool that prevents learners from feeling intimidated due to FTF meaning negotiation significantly reduces the anxiety of these learners. This point of view, however, is not shared by all. Indeed, [5, 6] have achieved results which tend to show the contrary; that this mode of communication does not reduce the anxiety of learners and thus, it is not different from FTF communication.

Researchers do not agree on the effect of CMC, whether synchronous or asynchronous, on the language anxiety of L2 learners. If the widespread idea was a correlation between the use of these technologies and the improvement of the performance of learners, especially in synchronous communication, the latest research seems to cast doubt on these claims. However, what is lacking is an empirical study of the performance of learners, measured in both FTF and CMC contexts, regardless of the degree of anxiety of these learners. The purpose of this study is to fill this gap.

3 Methodology

3.1 Participants

Participants in this study are French L2 learners enrolled in an oral communication course (B2 level) at Concordia University (Montreal, Canada) during the 2013 Fall semester.

Twenty ($n=20$) students participated in this study, 16 of which were women and 4 of which were male. The age of participants ranged from 19 to 40 years old. The students had various first languages, such as English, Romanian, Russian, Spanish, Mandarin, Arabic and Urdu.

3.2 Data Collection

To perform this study, I used three main sources to gather data: the FLCAS, a questionnaire and two tasks (one computer-mediated and one FTF).

FLCAS. [1] proposed the FLCAS (Foreign Language Classroom Anxiety Scale)² to measure the anxiety of learners related to foreign language classes and to the Support Group for Foreign Language Learning at Texas University back in 1983. This test is composed of 33 items which are evaluated on a Likert-like scale which allows respondents to indicate for each item whether they strongly agree, agree, are neutral, disagree or strongly disagree with the statement in the item in question.

CMC Task. This task was performed via Skype. To do this, I split the participants into pairs (10 in all). Both participants of each pair were shown two nearly identical images, on which there were 10 differences (a task adapted from [20]). The transmitted image was only visible to its receiver. The following instructions were given: "Each of you has received an almost identical image to the image received by the other participant. There are 10 differences between these two images. You have about 15 minutes to find the 10 differences. Ask questions to your partner to discover them. You may ask a lot of questions. For example: I see X on my image; do you see the same thing? Where is it exactly? What color is it? , Etc." I also specified to the participants that the purpose was to describe the images as precisely as possible to find as many differences as possible. The score shown in the results is related to the number of differences found by each participant.

Questionnaire³. The questionnaire was administered after the CMC task was performed and before the FTF task. The aim of this questionnaire is twofold: to determine respondents' perceptions about the task itself and to determine their digital profile. I asked them questions like "Are you at ease when you use the computer to communicate?" accompanied with a Likert-like scale and some open-ended questions about their daily use of ICT.

FTF Task. This task was designed to test the performance of the participants FTF to compare it to their performance in a mediated context. The task was to discuss a topical subject in Montreal, Quebec and Canadian news and it was the "Charte de la laïcité" (Charter of secularism) at that time. To start this discussion, I posted a short video found on YouTube (a debate between Minister Bernard Drainville and

² See Appendix 1.

³ See Appendix 2.

sociologist Gérard Bouchard in the Radio-Canada show "Tout le monde en parle"). The debate was taped to verify the performance of each participant afterwards. The score shown in the results is related to the language performance of each participant during this debate.

4 Results

Data from all these measurement instruments were encoded in Excel then in SPSS (version 21, for Windows).

4.1 Participants' Profile

The goal of the questionnaire was to define the "digital profile" of the participants through their use of computers in everyday life (video games, chat, email, work, or school, social networks). 17 of them (85%) said they are comfortable or very comfortable when using the computer to communicate. One respondent expressed being uncomfortable in this context, two said they were neither comfortable nor uncomfortable. With respect to other activities through computer or other media, very few respondents spend time on video games (0 hours / week for 90%). On the other hand, work related to studies monopolizes 20 or more hours per week for 40% of them. Emails occupy, meanwhile, between 1 hour and 10 hours per week for the vast majority of learners. Finally, social networks monopolize between 1 and 20 hours weekly and one respondent indicated "a lot" as an answer. In all, the use of computers to communicate (on social networks, through the tools of synchronous communication or by email) monopolizes at least 10 hours per week, for the vast majority of respondents (95%). One respondent seemed to have a different profile: less than one hour for email, one hour for CMC, 0 for social networking, 0 for video games and 3 hours only for work related to studies. This person is also one of the respondents who indicated that they are neither comfortable nor uncomfortable performing communication tasks by computer. The respondent who expressed being uncomfortable in this context spent 10 hours for email, 0 for synchronous communication, 10 for social networks, 0 for video games and 10-15 hours on computer tasks related to studies.

Therefore, the vast majority of the participants in this study use communication technologies (computers, tablets, cellular phones) to perform various communication tasks on a daily basis. This finding is of great importance for this type of research, since it proves that subjects have a great ease in the use of communication technologies and also perceive their utility.

4.2 Language Anxiety

The results from the FLCAS (see table 1) show that language anxiety is not widespread in the group. Items indicating a moderate or high degree of anxiety received a high percentage of responses "Disagree" and "Strongly disagree". This is

the case, for example, of item 17 (*I often feel like not going to my language class*) with 75% of respondents who did not agree with its content compared to only 15% who did agree. This is the case of item 19 also (*I am afraid that my language teacher is ready to correct every mistake I make*) with 75% of respondents who disagree and only 10% agree.

On the other hand, item 5 (*It wouldn't bother me at all to take more foreign language classes*) received more favorable responses from 90% of participants while only 5% disagreed. This clearly shows that respondents were comfortable or very comfortable with French as a second language and feel very little anxiety in the classroom or even when communicating with native speakers.

Table 1. FLCAS, Results of selected items

Item	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
2	25%	20%	0%	35%	20%
5	15%	75%	5%	5%	0%
10	5%	50%	20%	20%	5%
13	0%	20%	30%	35%	15%
17	0%	15%	10%	45%	30%
18	5%	50%	20%	25%	0%
19	0%	10%	15%	65%	10%
21	10%	5%	15%	50%	20%
25	5%	10%	15%	55%	15%
26	5%	25%	20%	30%	20%
27	0%	15%	30%	45%	10%
29	5%	10%	20%	55%	10%
31	5%	5%	25%	50%	15%

A one-way ANOVA shows that in the group in general, anxiety score has no effect on the CMC performance: $F(15, 4) = 3.093$ $p = ns$. This is also the case for the performance of learners in FTF context: $F(15, 4) = 1.261$ $p = ns$. It is for this reason that we need to verify the performance of the most and the least anxious learners in these two contexts.

The most anxious learners in my corpus are identified as subjects 12, 15, 18 and 20. The anxiety score is measured by the responses to the FLCAS items. The maximum score is 66 (always strongly agree or strongly disagree); a score of 33 still means a high degree of anxiety (always agree or disagree). The most anxious subjects obtained a score ranging from 25 to 35. The least anxious had scores of 0 (not anxious at all) in some cases, and 16 in the worst case.

Concerning the four most anxious learners, I found that their performance in FTF communication task is better than their performance on Skype.

Table 2. Overall performance of the most anxious learners

Subject	Anxiety score	Skype	FTF
12	25	60%	90%
15	29	40%	85%
18	33	30%	85%
20	35	0%	80%

The least anxious learners show comparable results. However, surprisingly enough, subject 6, whose anxiety score is 0, obtained 0% on Skype and 85% in FTF.

Table 3. Overall performance for the least anxious learners

Subject	Anxiety score	Skype	FTF
6	0	0%	85%
2	2	50%	90%
10	2	50%	90%
19	2	30%	80%
4	3	40%	70%
7	4	50%	85%
3	5	30%	95%
9	5	30%	85%
17	5	50%	95%
13	8	50%	85%
14	9	60%	90%
5	10	40%	100%
11	11	70%	90%
8	14	50%	85%
16	15	40%	85%
1	16	70%	85%

Therefore, it seems that the communication modality has an effect on the performance of learners, but not the effect expected by many CALL studies. In fact, the performance of the participants was better in FTF than on Skype. This is the case for both the more anxious and the least anxious subjects.

5 Discussion

Learners in this group are intermediate-to-advanced (B2 level). My experiment seems to show that learners who have reached this level of proficiency in the target language (French) have little anxiety even if some of them had high scores. They generally performed well in tasks, which seems to demonstrate that they have learned to manage anxiety and its effects are well controlled at this stage of L2 acquisition. This confirms the assumptions made by [14], according to whom "a clear relationship exists between foreign-language anxiety and foreign-language

proficiency." (p. 272-273): beginners tend to be more anxious and their performance is more severely affected by foreign language anxiety.

If learners of French L2 in this study perform better in FTF than on Skype, this demonstrates that the hypothesis of [5, 6] is verifiable. However, two variables should be considered and taken into account: the type of tasks assigned to learners and the number of participants.

With respect to the type of tasks, it would be more appropriate if the assigned FTF and CMC tasks had similar degrees of difficulty, even though these tasks should be different. With respect to the number of participants, more participants from the same level (B2), but also participants from the lower levels (A1, A2 and B1) should be recruited.

6 Conclusion

The results of this study seem to indicate that language anxiety does not affect the performance of intermediate - advanced learners, as no significant relationship was found between the levels of anxiety and the performance of learners in FTF and CMC contexts. In addition, it seems that learners, whether the most or the least anxious, performed better in face-to-face communication than in computer-mediated communication using Skype.

It should be noted that this study is preliminary and exploratory in nature. To settle the question of whether computer-mediated communication improves the performance of learners, by reducing their language anxiety, a larger scale study needs to be conducted, including participants with varying levels of proficiency in the L2.

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Appendix 1: Foreign Language Classroom Anxiety Scale (FLCAS)

1. I never feel quite sure of myself when I am speaking in my foreign language class.
2. I don't worry about making mistakes in language class.
3. I tremble when I know that I'm going to be called on in language class.
4. It frightens me when I don't understand what the teacher is saying in the foreign language.
5. It wouldn't bother me at all to take more foreign language classes.
6. During language class, I find myself thinking about things that have nothing to do with the course.
7. I keep thinking that the other students are better at languages than I am.
8. I am usually at ease during tests in my language class.
9. I start to panic when I have to speak without preparation in language class.

10. I worry about the consequences of failing my foreign language class.
11. I don't understand why some people get so upset over foreign language classes.
12. In language class, I can get so nervous I forget things I know.
13. It embarrasses me to volunteer answers in my language class.
14. I would not be nervous speaking the foreign language with native speakers.
15. I get upset when I don't understand what the teacher is correcting.
16. Even If I am well prepared for language class, I feel anxious about it.
17. I often feel like not going to my language class.
18. I feel confident when I speak in foreign language class.
19. I am afraid that my language teacher is ready to correct every mistake I make.
20. I can feel my heart pounding when I'm going to be called on in language class.
21. The more I study for a language test, the more confused I get.
22. I don't feel pressure to prepare very well for language class.
23. I always feel that the other students speak the foreign language better than I do.
24. I feel very self-conscious about speaking the foreign language in front of other students.
25. Language class moves so quickly I worry about getting left behind.
26. I feel more tense and nervous in my language class than in my other classes.
27. I get nervous and confused when I am speaking in my language class.
28. When I'm on my way to language class, I feel very sure and relaxed.
29. I get nervous when I don't understand every word the language teacher says.
30. I feel overwhelmed by the number of rules you have to learn to speak a foreign language.
31. I am afraid that the other students will laugh at me when I speak the foreign language.
32. I would probably feel comfortable around native speakers of the foreign language.
33. I get nervous when the language teacher asks questions which I haven't prepared in advance.

Appendix 2: Questionnaire (in French)

1) L'ordinateur

- Êtes-vous à l'aise lorsque vous utilisez l'ordinateur pour communiquer?
Très à l'aise À l'aise Neutre Mal à l'aise Très mal à l'aise

- Dans le cadre de ce cours, est-ce que la communication par Skype était plaisante?
Beaucoup aimé Aimé Neutre Pas aimé Pas du tout aimé

- Prière d'indiquer le nombre d'heures que vous passez en utilisant un ordinateur/une tablette/un téléphone intelligent

- a) Pour les courriels : environ ___ heures par semaine
 b) Messagerie instantanée (Skype, Messenger, etc.) : environ ___ heures par semaine
 c) Réseaux sociaux (Facebook, Twitter, Tumblr, etc.) : environ ___ heures par semaine
 d) Travaux pour vos cours : environ ___ heures par semaine
 e) Pour jouer : environ ___ heures par semaine

2) L'expérience de communiquer via Skype en français

- Cette expérience était stressante.

Tout à fait d'accord D'accord Neutre En désaccord Tout à fait en désaccord

- Cette conversation a fait baisser mes sentiments de nervosité quand je parle français.

Tout à fait d'accord D'accord Neutre En désaccord Tout à fait en désaccord

- Je pense que j'aurais mieux parlé si cette conversation était face à face.

Tout à fait d'accord D'accord Neutre En désaccord Tout à fait en désaccord

- Utiliser Skype m'a permis de bien comprendre ce que disait mon partenaire de conversation.

Tout à fait d'accord D'accord Neutre En désaccord Tout à fait en désaccord

- Cette activité ajoute quelque chose de positif à ce cours.

Tout à fait d'accord D'accord Neutre En désaccord Tout à fait en désaccord