Research paper

Variations in motivation, anxiety and boredom in learning English in Second Life

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Abstract

The article presents the results of a study whose main aim was to investigate the changes in motivation, language anxiety and boredom in learning English in *Second Life*. The sample consisted of 16 second year students of English philology. The study was conducted over the period of a summer semester. During that time the participants of the study were asked to use *Second Life* and practice English there in their own time. The data were obtained by means of a background questionnaire and session logs and subjected to quantitative and qualitative analysis. The results show that the students declared quite high level of motivation to learn English in *Second Lif*e, low level of anxiety and relatively low level of boredom. In addition, the findings of the study revealed that both the reported motivation as well as the experience of boredom fluctuated over time. In contrast, the levels of foreign language anxiety declared by the subjects remained almost unchanged. Possible causes of such fluctuations are offered.

Keywords: Changes in motivation, anxiety and boredom, virtual worlds, learning English in *Second Life*.

1. Introduction

In recent times there has been a growing interest in virtual worlds (e.g. *Second Life* or *Active Worlds*). This is because they offer a range of opportunities for supporting learning and cost-effective collaboration (Smart, Cascio & Paffendorf, 2007) as well as a space to meet, share and collaborate (de Freitas, 2008). In addition, virtual worlds offer, among other things, the feeling of presence (Peterson, 2006), the possibility of experiencing simulations of real world (Topol, 2011), motivation for using the target language in communication (Kruk, 2015), communication through avatar movement and gestures (Robbins, 2007) and anonymity (van Deusen-Scholl, Frei & Dixon, 2005). It has to be noted, however, that there is not much empirical research on using virtual worlds and their impact on changes in motivation, language anxiety and boredom while learning a foreign language. The rationale behind this study comes from the assumption that deeper comprehension of how motivation, anxiety and boredom changes during learning a foreign language in a virtual world and what causes such fluctuations may assist in creating better conditions and occasions that facilitate the process of learning the target language in virtual worlds. At the outset, a brief overview of the literature related to the concept of motivation, language anxiety and boredom will be presented. This will be followed by the description of the research project, including its aims, subjects, data collection instruments and analysis, as well as the presentation of the results. The article will close with a discussion of the findings and a short conclusion.

2. Literature review

2.1. Motivation, anxiety and boredom

Motivation in language learning is generally understood to denote "the desire to initiate L2 learning and the effort employed to sustain it" (Ortega, 2009: 168). Motivation has been "responsible for *why* people decide to do something, *how long* they are willing to sustain the activity and *how hard* they are going to pursue it" (Dörnyei & Skehan, 2003: 614). The issue of motivation has been considered as one of the most important variables that can affect how and to what extent a language is learned. It is thus not surprising that for decades researchers have been making efforts to comprehend the concept. Dörnyei (2005) differentiates three main phases in research into motivation in language learning: (1) the social psychological period, (2) the cognitive situated period and (3) the process-oriented period. The first phase is characterized by Gardner's motivation theory (1985) and Clément's theory of linguistic self-confidence (1980). The second phase was influenced by Deci and Ryan's Self-Determination Theory (1985) and Weiner's attribution theory (1992). The third phase stressed the significance of motivational changes (e.g. Ushioda, 1996; Williams & Burden, 1997; Dörnyei & Ottó, 1998; Dörnyei, 2000).

The fact that motivation is a dynamic factor has been acknowledged, among others, by Williams and Burden (1997), Dörnyei and Ottó (1998) and Ushioda (1998). For example, Ushioda (1998) claims that in the case of institutionalized learning motivation is not likely to remain stable over time but alter. This is because students' objectives are subject to change in reaction to negative or positive experiences linked with the target language and the process of learning it. It should be noted, however, that the dynamic dimension of motivation can also be described by Vygotsky's sociocultural theory (1978) and dynamic systems theory (Larsen-Freeman & Cameron, 2008). According to the latter, students' motives, effort and engagement are characterized by incessant changes related to the impact of internal and external factors, which are intricately interconnected and are themselves subject to substantial variations.

As far as anxiety is concerned, alike motivation, has been studied as a potential factor influencing foreign language learning success for many years. In general, anxiety is defined as "the subjective feeling of tension, apprehension, nervousness, and worry associated with an arousal of the autonomic nervous system" (Spielberger, 1983: 15). In the context of language learning, however, anxiety is viewed as the feeling of tension and apprehension (MacIntyre & Gardner, 1994), or, as a "distinct complex of self-perceptions, beliefs, feelings, and behaviours related to classroom language learning arising from the uniqueness of the language learning process" (Horwitz, Horwitz & Cope, 1986: 128).

Anxiety can be classified in three ways: *state*, *trait* and *situation-specific*. As for the first two types, they can be considered as the apprehension that people experience at specific moments in reaction to certain situations and as a characteristic of an individual's personality, respectively. As regards the third type, it can be viewed as the anxiety generated by a specific type of situation or event (Ellis, 2008: 954). It has to be added that language anxiety is seen as a situation-specific anxiety linked with the language learning context, suggesting that it "can play a significant causal role in creating individual differences in language learning" (Tallon, 2011: 75).

The SLA literature distinguishes various sources of language anxiety. It can be caused by (1) personal and interpersonal anxiety, (2) learner beliefs about language learning, (3) teacher beliefs about language teaching, (4) teacher-learner interactions, (5) classroom procedures and (6) testing (Young, 1991). What is more, research on anxiety distinguishes between *facilitative* anxiety and *debilitative* anxiety. The former is linked

with a positive impact anxiety can have on foreign language learning and the latter is connected with a negative effect of anxiety on foreign language learning (Alpert & Haber, 1960; Scovel, 1978; Ellis, 2008). It should also be added that the level of difficulty of a task may affect students who can develop facilitating or debilitating anxiety (MacIntyre, 1995: 92).

When it comes to boredom, it can be defined as a sense of emptiness and a frame of mind accompanied by the lack of activity, the lack of actions towards experiencing and learning about the world (Gurycka, 1977) or as a rather negative emotional state consisting in the feeling of inner emptiness and the lack of interest, usually caused by monotony, invariability of environment, the same activities and the absence of incentives (Buksik, 2009). Boredom is often understood as an affective state encompassing absence of stimulation, unpleasant feelings and low physiological arousal (Mikulas & Vodanovich, 1993).

According to component theories of emotional experiences (Kleinginna & Kleinginna, 1981; Scherer, 2000), boredom can be viewed as a type of emotion comprising five components: affective (i.e. unpleasant feelings), cognitive (i.e. alerted perception of time), motivational (i.e. a desire to change an activity), expressive (i.e. facial and bodily expressions showing a lack of excitement) and physiological (i.e. reduced arousal and overall tiredness). It is also important to note that boredom is not the opposite of interest or enjoyment in view of the fact that it is seen as a distinctive emotional experience that consists of multiple components (Pekrun, Götz, Daniels, Stupnisky & Perry, 2010).

There are two general perspectives on the causes of boredom: *situational* and *dispositional*. The former are caused by situational attributes, for example, specific characteristics of the classroom settings (Kanevsky & Keighley, 2003) and the latter are the outcomes of individuals' inclinations to understand a given condition as boring in nature (Vodanovich, 2003). According to Kanevsky & Keighley (2003), a true learning situation can be presented by a stimulating classroom environment that is not boredom provoking. It has to be pointed out, however, that individual characteristics of students and their interests may play an important role in perceiving various activities as inherently boing. In addition, boredom can be caused by specific aspects of instructional design (e.g. little diversity), aspects of the teacher personality (e.g. teacher burnout) and students themselves (Götz, Frenzel & Haag, 2006).

2.2. Empirical investigations into (changes in) motivation, anxiety and boredom in language learning

To the best of the present author knowledge, there currently exist no published empirical investigations into changes in boredom in foreign/second language learning by means of computer technology. This makes a review of such literature impossible. In lieu thereof, a short discussion of two research projects that have focused on boredom in a traditional language classroom will be offered. In addition, despite the fact that quite a large body of research on motivation and anxiety in learning a second/foreign language by means of computer technology has been published (e.g. Deutschmann, Panichi & Molka-Danielsen, 2010; Peterson, 2010; Wang & Shao, 2012), only one study (Kruk, 2013) investigated the changes in motivation in learning the target language by means of Internet resources and virtual worlds and some studies examined motivation, anxiety and learning a foreign language in virtual worlds (e.g. Ho, Rappa & Chee, 2009; Wehner, Gump & Downey, 2011; Balcikanli 2012 and Wehner, 2014).

As far as boredom in learning a second or foreign language is concerned, only two such studies investigated the problem directly (Beerman & Cronjäger, 2011 and Chapman, 2013). The study carried out Beerman and Cronjäger (2011) comprised data from 548

German secondary school learners who studied French as a foreign language. The purpose of the study was to investigate the subjects' perceptions of the value of French language teaching linked with their experiences of joy, boredom and anxiety. The outcome showed a significant and negative correlation of boredom with their favorable perceptions of the target language instruction. In addition, the researchers found that with time the subjects experienced more boredom and less joy while studying French. As for the study conducted by Chapman (2013), it aimed at investigating occurrences of boredom among 57 university-level learners of German as a foreign language and their teachers. The data were collected by means of questionnaires, field notes and semi-structured interviews with selected subjects. Among other things, the results of the study showed a connection between the subjects' interpretation of their reported experiences of boredom during class time and their attitude toward their teachers. In addition, it was found that a meaningful predictor of boredom was not related to a language activity or its feature, but to the students' attitude toward their teachers.

As noted above, Kruk (2013) examined the impact of Internet resources and a browser-based virtual world on the subjects' motivation and its changes over a three-week period. The study comprised thirteen third grade students of Polish senior high school. The data were collected by a variety of tools: a background questionnaire, interest grids, overall assessment of lessons questionnaire, an evaluation sheet and learners' logs. The analysis of the data showed that the intensity of motivation tended to change over time (i.e. both during single lessons and from one lesson to the next). It is interesting to note, however, that the students showed more interest and engagement while performing online and virtual world activities and that the fluctuations in the level of motivation were less susceptible to changes during that time. Conversely, when asked to do the coursebook activities (i.e. traditional ones) their motivation proved to be more susceptible to changes. As Kruk concludes, the observed fluctuations in motivational intensity could be the direct result of the treatment employed and the activities the participants were requested to perform.

Wehner et al. (2011) attempted to examine the relationship between motivation, virtual worlds and language learning. The research looked at how the use of *Second Life* affected the motivation of two courses of second semester Spanish students at university level. The researchers utilized an attitude/motivation test battery in order to see if there was a difference in the motivations between two groups. One group used *Second Life* as part of instruction and the other group participated in traditional curriculum. Despite the fact that the two groups did not differed significantly the overall trend in motivations revealed that the students who used *Second Life* were more motivated than the students who were taught traditionally. What is more, the results demonstrated that levels of anxiety between the groups varied more than any of the other variables. All in all, the findings indicate that virtual worlds could be a valuable resource to enhance motivation and lower anxiety.

In another study, Balcikanli (2012) investigated the use of *Second Life* as a language learning environment among American and Turkish students (i.e. American college students learning Turkish as a foreign language in the USA and Turkish students learning English as a foreign language in Turkey). The researcher found that *Second Life* contributed to authentic interactions as well as provided a less threatening learning environment.

Finally, Wehner (2014) attempted to examine the relationship between motivation, anxiety and virtual worlds with the aim of seeing how participation in activities in *Second Life* interacted in two individual students, Jessica and Melissa. Wehner used a case study approach. She observed and interviewed her subjects in order to determine how these variables acted together in the subjects' online experiences. The researcher

found that avatar presence affected participants' anxiety; however, the amount of that affect was determined by their pre-existing motivations for learning the Spanish language and the richness and credibility of their Ideal L2 Self. What is more, for both students an avatar served as a face-saving device, but this was more evident in Jessica in view of the fact that she engaged in conversations with *Second Life* users.

Virtual worlds have been gaining increased attention in second/foreign language education in recent years. It should be noted, however, that little research has been conducted on how the use of virtual worlds affects motivation and anxiety and no research projects have dealt with the issue of boredom and its change in virtual worlds.

3. The study

3.1. Research questions

The study set out to investigate the changes in motivation, language anxiety and boredom in learning English in *Second Life*. In more specific terms, the study sought to address the following research questions:

1. What is the level of the subjects' motivation to learn English in *Second Life* as well as their level of foreign language anxiety and their experience of boredom?
2. Do the students' motivation to learn English in *Second Life* as well as their foreign language anxiety and the experience of boredom change during sessions in *Second Life*?
3. If there are changes in the level of the participants' motivation to learn English in *Second Life* as well as in the levels of the declared foreign language anxiety and the experience of boredom, are there any patterns?
4. If there are changes in the level of the students' motivation to learn English in *Second Life* as well as in the levels of their foreign language anxiety and the experience of boredom, what causes these fluctuations?

3.2. Participants

The participants of the study were 16 second year students of English philology, all of whom were females. The subjects were regular students, had classes during the week and studying was their main occupation. Their main age was 21.44 years, with a range of 20 to 26 years. On average, they had been learning the English language for 12.6 years. Some of the students contacted foreign speakers of English using Internet communicators; however, none of them used *Second Life* or any other virtual world for this purpose before. Most of the subjects read Internet websites in English and watched movies in English or with English/Polish subtitles. When asked to evaluate their command of English on a scale from 2 (fail) to 5 (very good), 73% claimed they represented level 4, the rest, level 3.

3.3. Procedures, data collection and analysis

The study was conducted over the period of a summer semester. During that time the subjects were asked to use *Second Life* in order to practice their language skills in their own time. Since the participants of the study did not use *Second Life*, or any other virtual world for the purpose of studying a foreign language or any other purpose before the study, they were provided with necessary information concerning the world in question during an orientation session. Among other things, the students were shown how to create an account, choose an avatar and move around the world as well as they were instructed in how to communicate with other avatars by means of a text chat or voice function.

As far as the data collection instruments are concerned, they included a background questionnaire and a session log. The background questionnaire was filled out by the students at the start of the study and queried them about their age, the length of their

English instruction, their self-assessment of the target language proficiency, their out-of-class exposure to the target language and the use of virtual worlds (e.g. *Second Life*) in order to learn a foreign language. As for the session log, it comprised three parts: *before* (filled out by the subjects before each session), *during* (completed by the students during each session) and *after* (filled out by the students after each session). The first part required the students to provide their name and date of the session, write a topic and aim/aims of their visit to the virtual world. The second part consisted of three grids. The subjects were requested to self-rate their level of motivation, foreign language anxiety and boredom every a few minutes on a scale ranging from 1 (minimum) to 7 (maximum). In addition, the students were requested to indicate the amount of time spent in *Second Life* during each session. The last part of the session log asked the participants of the study to describe their activities in *Second Life*, summarize what they learned during a particular visit to this virtual world, reflect on the their learning and plan their future activities there.

The self-ratings were analysed quantitatively and a paired samples *t*-test was used to compare the results. The significance value was set at $p \leq .05$ for all analyses. The students' responses/entries to the third part of the session log were analysed qualitatively. This type of analysis involved identification of items or themes in the data. First the researcher transcribed the data on a computer word processor and then read them several times in order to search for the most typical and frequently occurring information.

3.4. Results

Table 1 outlines the participants' *Second Life* usage statistics. The table shows that the subjects visited the world in question 78 times and spent there in total 3.089 minutes. The average number of visits and the average amount of time spent in *Second Life* equalled 5 and 193.06 minutes, respectively.

	Student	Number of sessions	Total amount of time spent in *Second Life* (minutes)
	S1	5	131
	S2	4	370
	S3	3	75
	S4	6	206
	S5	4	110
	S6	4	148
	S7	4	104
	S8	6	311
	S9	7	405

	S10	6	209
	S11	4	210
	S12	5	135
	S13	3	75
	S14	5	145
	S15	4	165
	S16	8	290
Total		78	3.089

Table 1. The students' *Second Life* usage statistics.

What is the level of the subjects' motivation to learn English in Second Life as well as their level of foreign language anxiety and their experience of boredom?

As can be seen from Table 2, the students were quite willing to learn English in *Second Life* (their overall motivation equalled 4.51 or 64.43%); however, they also experienced some boredom (their total experience of boredom amounted to 3.25 or 46.43%). The analysis of the gathered data also demonstrated that the participants of the study were not particularly anxious during their visits to *Second Life* (the overall level of their language anxiety totalled 2.54 or 36.29%). In addition, the values of standard deviation for the declared levels of motivation and boredom were quite small and almost identical (they amounted to 0.97 and 0.96, respectively). This shows that the group as a whole was quite uniform in this respect. It should be noted, however, that the values of standard deviation concerning the declared level of foreign language anxiety were higher than those related to motivation and boredom (a difference of 0.35 and 0.36, respectively), which may indicate some individual variation.

	Mean (Standard deviation)		
Time points	**Motivation**	**Anxiety**	**Boredom**
Start of session (SoS)	5.28 (0.80)	2.60 (1.45)	3.03 (0.97)
Middle of session (MoS)	4.75 (0.96)	2.49 (1.13)	2.97 (0.73)
End of session (EoS)	3.49 (1.15)	2.54 (1.38)	3.77 (1.18)
Total	**4.51 (0.97)**	**2.54 (1.32)**	**3.25 (0.96)**

Table 2. Mean scores for the level of the students' motivation, the level of foreign language anxiety and boredom.

Such results find support in the data derived from session logs. This is because the analysis revealed that the students regarded their visits and activities performed in *Second Life* as interesting. What is more, they found their visits enjoyable and relaxing. This is visible in the following comments:

- *I had a chance to meet some interesting people, exchange messages, and, what is more, I have proven myself that I can speak with native speakers without any trouble.*
- *My activities were very enjoyable. I've never expected a virtual world to have such a big amount of very well prepared various parties. Those activities were very useful. We have to not only know where we can learn but also where we can relax and have fun.*
- *It's a good way to relax. You can spend some time here when you feel bored. It's a great opportunity to check your skills.*
- *In fact at some point I really had fun. I listened to really good music and met nice people who were eager to talk to me.*
- *It was a very interesting experience because apart from dancing I was also talking, drinking and eating with those people in the club.*

Do the students' motivation to learn English in Second Life as well as their foreign language anxiety and the experience of boredom change during sessions in Second Life?

As can be seen from the graphical representation in Figure 1 and the numerical data included in Table 2, which offer the mean scores for the group on sessions in *Second Life*, there were changes in the reported level of motivation to learn English in the world in question as well as in the levels of foreign language anxiety and boredom. It should be noted that the most pronounced to change turned out to be motivation and boredom. As for as motivation is concerned, it was the highest at the beginning of the sessions (SoS) and the lowest at the end of the visits (EoS) with the difference between these time points standing at 1.79 or 25.57%. In addition, a *t*-test which was performed on the data revealed that there were statistically significant differences in the means between SoS and the middle of sessions (MoS) ($t(15) = 2.652$, $p = 0.018$) as well as MoS and EoS ($t(15) = 4.830$, $p = 0.000$) and SoS and EoS ($t(15) = 5.354$, $p = 0.000$). Cohen's *d* reached the level of 0.66, 1.34 and 1.21, respectively, which testifies to large effect sizes. When it comes to the changes in the levels of boredom experienced by the subjects in *Second Life*, they were quite stable from the beginning of sessions to the middle of sessions (the difference in the means equalled 0.06 or 0.86%, $p > 0.05$); however, the degree of boredom increased at the end of the visits to *Second Life* (the difference between MoS and EoS amounted to 0.08 or 11.43%). A *t*-test which was performed on the data revealed that there was a statistically significant difference in the means between MoS and EoS ($t(15) = -2.332$, $p = 0.034$, $d = 0.73$) as well as SoS and EoS ($t(15) = -2.924$, $p = 0.010$, $d = 0.58$). Finally, the levels of foreign language anxiety from the beginning of sessions to the end of them proved to be the least susceptible to change (the largest difference in the mean scores, although not statistically significant, was observed between SoS and MoS and equalled 0.11 or 1.57%).
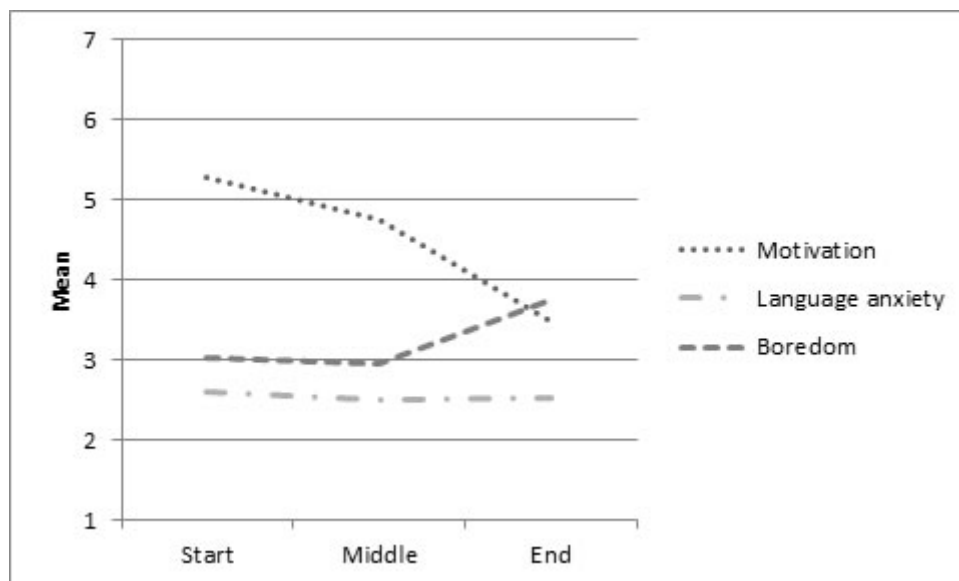
Figure 1. Changes in the students' motivation, foreign language anxiety and boredom.

If there are changes in the level of the participants' motivation to learn English in Second Life as well as in the levels of the declared foreign language anxiety and the experience of boredom, are there any patterns?

The analysis of the data demonstrated that the subjects' motivation to learn the English language during their visits to *Second Life* and the experience of boredom showed similar, although contradictory or upturned patterns (i.e. the students' declared levels of motivation and boredom were the highest at the start of sessions and the end of their visits, respectively). It should also be noted that the level of the reported motivation kept decreasing from SoS to EoS while the levels of boredom remained almost unchanged between SoS and MoS. The degree of boredom increased suddenly at the end of the sessions (i.e. on EoS). When it comes to the levels of foreign language anxiety, they remained quite stable throughout the visits (i.e. from SoS to EoS) and turned out to be quite low, with the mean score never exciding 2.60 on a 1-7 scale.

If there are changes in the level of the students' motivation to learn English in Second Life as well as in the levels of their foreign language anxiety and the experience of boredom, what causes these fluctuations?

Before moving on to present the remaining research area that the study sought to investigate, it is interesting to note that the students were the most willing to use *Second Life* in order to have conversations in English. They referred to this type of activity in 55 session logs (70.51%). What is more, the participants of the study also liked exploring *Second Life*. They mentioned this activity in 34 session logs (43.59%). It has to be added that the exploration of this virtual world was mostly performed during their initial visits; however, the subjects used it as an additional activity during which they were searching for new places and avatars in order to converse with them. It should also be noted that only a few students explicitly pointed to practicing reading (referred to in 4 logs) and listening (mentioned in 4 logs) skills as well as vocabulary (stated in 6 logs) and learning about English culture (detected in 6 logs).

As indicated earlier in this section and shown in Table 2 and Figure 1, there were changes in the degree of the declared motivation and boredom. The analysis of the data obtained from the session logs revealed that despite the fact that the students were quite willing to use *Second Life* in order to practice English (for example, each student was able to set a goal or goals before entering the virtual world in question as well as to

choose a topic for a conversation or activities to be conducted there), the students' initial enthusiasm faded during their visits due to the unwillingness to join or continue conversations on the part of some residents of *Second Life*, approaching unfriendly or impolite users, difficulties with understanding the language produced by *Second Life* users or being understood by them, the unexpected termination of conversations and some technical problems experienced by some students (they mostly related to slow Internet connection and hardware requirements). As a consequence, some subjects could find the end of their visits to *Second Life* as disappointing, unsatisfying or simply boring. The following excerpts illustrate these points:

- *I tried to put forward the theme of studying conditions because it's interesting what conditions are there in other countries. Unfortunately, these conversations weren't satisfying even though I was very willing to talk. (…) sometimes people don't want to speak about more serious topics than every day issues.*
- *What really upset me was that people weren't able to answer me. It was obvious for them that there are shops in Second Life and people want to buy something and they think these things are really necessary for them. (…) I didn't get any valuable information.*
- *We were talking about our daily life. Unfortunately I couldn't understand everything what he was talking about.*
- *I've met a person. I wanted to talk with him but he didn't want to talk with me. Finally, I've talked with a man from Chile. It was difficult because he didn't understand my questions.*
- *I've learned that you have to be very careful about who you are talking to. The first person I talked to was rather unpleasant and discouraged me from further talking with other users.*
- *After a few minutes it seemed to me a bit boring.*
- *My visit to Virtlantis was rather an enjoyable experience. My only problem was that at the end of my session I started to have problems with my Internet connection and had to end my visit earlier than I originally planned.*
- *I was bored in places in which there were few users and most of the time I had to walk around and look for people to talk with.*
- *I was bored when successive users didn't want to talk with me (…).*

When it comes to the low level of the declared foreign language anxiety at the start, middle and the end of sessions, the analysis of the gathered data showed that the participants of the study very infrequently made explicit comments concerning the way how anxious they felt during their visits to *Second Life*. Instead, as noted earlier in this section, the subjects perceived *Second Life* and the way they practiced the target language as relaxing and comfortable. Nevertheless, some references to possible causes of tension or nervousness could be detected in the data. For example, some of the students felt anxious about the way their interlocutors behaved or talked to them. The following extracts provide examples of these types of statements:

- *(…) the conversation could have been enjoyable if the user wasn't kind of rude.*
- *(…) people rather are not very friendly, they are aggressive.*
- *Sometimes I have a problem with strange people who ask strong and not proper questions.*

4. Discussion and conclusion

The results of the study showed that, on the whole, the students declared quite high level of motivation to learn English in *Second Life* and a relatively low level of boredom. What is more, they were not particularly anxious during their visits to the world in question. These findings could be explained by the fact that the participants of the study found *Second Life* to be a valuable and a relaxing place to practice the target language. This is because they often described their experiences and activities as useful, enjoyable, nice, stimulating or comforting. In addition, the outcomes of the study may indicate a beneficial effect of employing the virtual world *Second Life* in learning a

foreign language outside of school. It should be noted, however, that these conclusions can only be tentative given the small numbers of participants and the fact that they were novice users of this virtual world.

The findings of the study also revealed that both the reported motivation as well as the experience of boredom fluctuated from the start of sessions to the end of the visits. In contrast, the levels of foreign language anxiety declared by the subjects remained almost unchanged. What is more, some of the changes in the levels of motivation and boredom turned out to be statistically significant. The reported changes in the levels of boredom experienced by the participants of the study during their visits to *Second Life* as well as their pattern somehow mirrored (although invertedly) those related to the levels of declared motivation. This might point to the existence of a relationship between motivation and boredom as well as the way the two constructs complement each other. In a word, the more willing, engaged and interested the students are in performing a language task the less boredom they might experience. As for the reported foreign language anxiety, its low and stable level does not appear to be affected by neither motivation nor boredom. A plausible explanation of this steady level of the reported anxiety could lie in the very nature of learning the target language in the computer assisted environment. This is because empirical investigations into the use of online learning, virtual worlds in language learning and studies on computer-mediated communication (CMC) indicate that the use of computer technology can reduce levels of language anxiety and produce a stress-free setting for language learners (e.g. Peterson, 2011; Majid, Sharil, Luaran & Nadzri, 2012; Grant, Huang & Pasfield-Neofitou, 2013).

As regards the possible causes of the changes in the levels of motivation and boredom, the high level of motivation and the low level of boredom declared by the students at the beginning of sessions, these could be explained by the subjects' willingness to use *Second Life* as a medium through which they could practice the target language at that time in order to have conversations with the residents of this virtual world, perform language activities or explore the world. In addition to this, the opportunity to choose a topic for conversation or to create a goal of a visit could also have played a part in motivating the students and reducing the feeling of boredom during the performance of a language activity. As for the decrease in the level of the observed motivation and the increase of boredom at the end of sessions, these were found to be related to the reluctance to join or carry on conversations by *Second Life* users, meeting impolite or aggressive users, problems with comprehending the language produced by the residents of *Second Life* as well as difficulties with being understood by them. In addition to this, the students felt less motivated at the end of their visits to *Second Life* due to the sudden end of conversations as well as problems related to computer hardware and slow Internet connection. As a result, some students could find the end of their visits to *Second Life* as disappointing, unsatisfying or simply boring. As for the probable source of anxiety, the subjects' tension and apprehension may be explained by the fact of meeting and talking with aggressive users.

Although the study has provided interesting insights into the changes in motivation, language anxiety and boredom in learning English in *Second Life*, it is not immune from limitations. One weakness concerns the small sample size which reduces generalizability of the findings. Another limitation is related to the design of this study, the data collection instrument and potential flaws it contained. This is because the data were mainly gathered by means of the session log. For example, the tool employed the self-rating procedure in which the participants were asked to indicate their willingness to use *Second Life* in language learning, show the level of language anxiety and boredom. This procedure might have been somehow unnatural for them and thus could have impinged

on the ratings. It also has to be added that more research tools should be used (e.g. interviews with the learners) in order to collect more data that could shed more light on the changes in motivation, language anxiety and boredom. Finally, a novelty factor may have played a role. This is because some of the students may have perceived *Second Life* as something unique which, in turn, may in itself have influenced their self-assessment of motivation, anxiety and boredom.

In light of those weaknesses just reported more research is needed in this area, such that would involve larger samples comprising male and female students as well as groups of younger and older language learners representing different types of school. In addition, future studies should employ a variety of instruments of data collection (e.g. group or individual interviews) and combine quantitative and qualitative procedures in analysing gathered data.

Despite the limitations of the study reported above it is still possible to offer some pedagogical implications. One of them relates to the fact that teachers should encourage their students to use *Second Life* (or any other virtual world) in order to practice their language skills outside of school, or, if possible, during foreign language classes. This is because, as the results of the present study demonstrated, the subjects' level of motivation and the experience of boredom were, on the whole, quite high and relatively low, respectively. Another tentative pedagogical implication emerges on the basis of the analysis of the results of the study related to the changes in the levels of motivation, language anxiety and boredom. Taking the causes of the decrease in motivation and the increase in the experience of boredom enumerated in the previous section into account, teachers should, for example, set up a website, write a blog or conduct short discussions during regular classes devoted to problems students may experience in virtual worlds, create a variety of language tasks or provide students with links to various websites that offer ideas for language activities. In addition to this, a social networking portal (e.g. Facebook) "can function as a Web2 scaffolding for virtual world language learning community of practice" (Sobkowiak, 2015) so as to allow students exchanges their ideas related to language learning in virtual worlds, suggest interesting places to visit in order to practice language skills and tips for solving different problems users can encounter while being there. Finally, students as well as teachers should also know how to deal with aggressive and spiteful behaviour, or grieving. For example, Sobkowiak (2012: 44) suggests persuading the griever to behave sensibly or ignoring him/her.

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